

Lwarp

LATEX HTML5

The **lwarp** package

LATEX to HTML

v0.896 – 2021/04/08

© 2016–2021 Brian Dunn
bd@BDTechConcepts.com

Abstract

The **lwarp** package converts LATEX to HTML by using LATEX to process the user's document and directly generate HTML tags. External utility programs are only used for the final conversion of text and images. Math may be represented by SVG images or MATHJAX. More than 500 LATEX packages and classes are supported, of which more than 90 also support MATHJAX.

Documents may be produced by DVI or PDF LATEX, LuaLATEX, XeLATEX; by several CJK engines, classes, and packages; or by customized systems such as `perltx` and `pythontex`. A `texlua` script automates compilation, index, glossary, and batch image processing, and also supports `latextmk`. Configuration is semi-automatic at the first manual compile. Support files are self-generated. Print and HTML versions of each document may coexist.

Assistance is provided for HTML import into EPUB conversion software and word processors.

Requirements include the commonly-available POPPLER utilities (included with MiKTeX) and PERL. Detailed installation instructions are included for each of the major operating systems and T_EX distributions.

A quick-start tutorial is provided, as well as extensive documentation for special cases, a general index, and a troubleshooting index. Automatic error testing is provided for configuration files, package load order, and image generation.

SVG math and many other generated images include LATEX expressions in the alt tags. MATHJAX may be used with advanced equation numbering under the direct control of **lwarp**.

Complicated tables are supported, which copy/paste well into LIBREOFFICE WRITER.

Supported classes and packages include `memoir` and `koma-script`, `cleveref`, `caption`, `mdframed`, `siunitx`, and many popular packages for tabulars, floats, graphics, theorems, the title page, bibliography, indexing, footnotes, and editorial work, as well as a number of CJK-related classes and packages.

T_EX is a self-modifying tokenized macro-expansion language. Since **lwarp** is written directly in LATEX, it is able to interpret the document's meaning at a deeper level than external conversions which merely approximate T_EX. HTML5 and css3 are leveraged to provide advanced features such as `booktabs` trim, multicolumns, side-by-side minipages, and JAVASCRIPT-free navigation.

For a list of supported features, see table 2: Supported packages and features.

To update existing projects, see section 1: Updates.

Lwarp is still in development. Changes are likely.

License:

This work may be distributed and/or modified under the conditions of the LaTeX Project Public License, either version 1.3 of this license or (at your option) any later version. The latest version of this license is in <http://www.latex-project.org/lppl.txt> and version 1.3 or later is part of all distributions of LaTeX version 2005/12/01 or later.

Support TeX development

TeX and related projects:

- are mostly open-sourced and a volunteer effort;
- benefit students, academics, scientists, engineers, and businesses;
- help drive education, public and private research, and commercial activity;
- are used in the fields of mathematics, science, engineering, and humanities;
- are international in reach;
- span decades of development;
- are enduring — many older packages are still actively used and maintained;
- are largely backwards compatible;
- are portable across all the major computing platforms;
- are usable even on older computers and away from internet access;
- are continuing to maintain relevance with modern improvements;
- require no yearly subscription fees;
- and are supported by an active community of knowledgeable volunteers.

Please consider helping by joining and/or contributing to the TeX Users Group, a United States 501(c)(3) tax-exempt charitable organization. Contributions are accepted by credit card, check, or Pay Pal, via the United Way, or by USA or European bank transfer. Membership in TUG supports the development of TeXLive, the major TeX distribution.

Donations may be directed towards individual projects:

TUG Bursary Fund: Assistance for attending annual TUG meetings.

CTAN: The Comprehensive TeX Archive Network — Central storage for TeX.

TeX Development Fund: Support for specific projects.

EduTeX: Teaching and using TeX in schools and universities.

GUST e-foundry fonts: Enhanced for math and additional language groups.

LaTeX Project: Modernizing the L^AT_EX core.

Libre Font Fund: Fonts, tools (FontForge), and distribution (the Open Font Library).

LuaTeX: Combining the pdfTeX engine and the Lua language.

MetaPost: Postscript graphics.

MacTeX: TeX for Mac.

PDF Accessibility: Modern PDF standards.

Other: Additional projects may be specified.

To make a contribution:

<https://www.tug.org/donate.html>

For country-specific TeX users groups:

<http://tug.org/usergroups.html>

For users of MiK^TE_X:

<https://miktex.org/donations.html>

Contents

Support T<small>EX</small> development	2
List of Figures	43
List of Tables	43
1 Updates	44
2 Introduction	63
2.1 Typesetting conventions	65
2.2 Supported packages and features	66
3 Alternatives	73
3.1 internet class	73
3.2 TEX4HT	73
3.3 Translators	73
3.4 AsciiDoc and Asciidoctor	74
3.4.1 ASCIIDOCTOR-L <small>ATEX</small>	74
3.5 PANDOC	74
3.6 Word processors	74
3.7 Commercial systems	74
3.8 Comparisons	74
4 Installation	76
4.1 Installing the l warp package	78
4.2 Installing the <i>lwarpmk</i> utility	79
4.2.1 Using a local copy of <i>lwarpmk</i>	81
4.3 Installing additional utilities	81
5 Tutorial	83
5.1 Starting a new project	83
5.2 Compiling the print version with <i>lwarpmk</i>	87
5.3 Compiling the HTML version with <i>lwarpmk</i>	88
5.4 Generating the SVG images	89
5.5 Using MATHJAX for math	90

5.6	Changing the <code>css</code> style	91
5.7	Customizing the <code>HTML</code> output	91
5.8	Using <i>latextmk</i>	92
5.9	Using <code>Xe^AT_EX</code> or <code>Lu^AT_EX</code>	93
5.10	Using <code>DVI L_ET_EX</code>	93
5.11	Using a glossary	94
5.11.1	<code>gloss</code> package	94
5.11.2	<code>glossaries</code> package	94
5.12	Cleaning auxiliary files	95
5.13	Cleaning auxiliary and output files	95
5.14	Cleaning the images from the <code><project>-images</code> directory	95
5.15	Converting <code>PDF</code> or <code>EPS</code> images to <code>SVG</code>	95
5.16	Creating <code>HTML</code> from an incomplete compile	95
5.17	Processing multiple projects in the same directory	95
5.18	Using the <code>make</code> utility	96
5.19	What next?	97
6	Converting an existing document	98
7	Additional details	99
7.1	Localization	99
7.2	Accessibility	99
7.3	Shell escape	101
7.4	Font and <code>UTF-8</code> support	101
7.4.1	Indexes, glossaries, and encoding	103
7.5	<code>lwarp</code> package loading and options	104
7.6	Customizing the <code>HTML</code> output	109
7.6.1	Example <code>HTML</code> file naming	115
7.7	Customizing the <code>css</code>	115
7.8	Assigning <code>css</code> classes and styles	117
7.9	Selecting the operating system.	117
7.10	Selecting actions for print, <code>HTML</code> , or <code>MATHJAX</code> output	117

7.11	Commands to be placed into the <code>\warpprint</code> environment	118
7.12	Title page	119
7.13	HTML page meta descriptions	120
7.14	HTML homepage meta title	120
7.15	HTML page meta author	120
8	Special cases and limitations	121
8.1	Things to avoid	121
8.1.1	Invalid HTML	122
8.2	Formatting	122
8.2.1	Text formatting	122
8.2.2	Small caps	122
8.2.3	Horizontal and vertical space and rules	122
8.2.4	Text alignment	123
8.2.5	Accents	123
8.2.6	<code>textcomp</code> package	123
8.2.7	Superscripts and other non-math uses of math mode	123
8.2.8	Empty <code>\item</code> followed by a new line of text or a nested list:	123
8.2.9	Filenames and URLs in lists or footnotes	124
8.2.10	<code>relsize</code> package	124
8.3	Boxes and minipages	124
8.3.1	<code>Marginpars</code>	124
8.3.2	<code>Save Boxes</code>	124
8.3.3	<code>Minipages</code>	124
8.3.4	Side-by-side minipages	125
8.3.5	Framed minipages and other environments	125
8.3.6	<code>fancybox</code> package	127
8.3.7	<code>mdframed</code> package	128
8.3.8	<code>tcolorbox</code> package	128
8.4	Section names	129

8.5	Cross-references	130
8.5.1	Page references	130
8.5.2	cleveref and varioref packages	130
8.5.3	Hyperlinks, hyperref , and url	130
8.5.4	Footnotes, endnotes, and page notes	131
8.5.5	xr , xr-hyper , and xcite packages	132
8.6	Front and back matter	132
8.6.1	Custom classes with multiple authors and affiliations	132
8.6.2	Starred chapters and sections	133
8.6.3	abstract package.	133
8.6.4	titling and authblk	133
8.6.5	tocloft package	133
8.6.6	appendix package	134
8.6.7	pagenote package	134
8.6.8	endnotes package	134
8.6.9	BibTeX	134
8.6.10	xcite package	134
8.6.11	gloss package.	135
8.6.12	glossaries package	135
8.6.13	nomencl package	136
8.6.14	Indexing overview	136
8.6.15	Indexing with makeidx , makeindex , xindy , xindex , gindex	136
8.6.16	Indexing with index	138
8.6.17	Indexing with splitidx	139
8.6.18	Indexing with imakeidx	140
8.6.19	Indexes with memoir	144
8.6.20	Using a custom makeindex style file	147
8.6.21	Using a custom xindy style file	147
8.6.22	Using a custom xindex style file	148
8.6.23	Additional indexing limitations	149

8.6.24	Index positions, toc, tocbibind	149
8.7	Math	150
8.7.1	Math in section names	150
8.7.2	Rendering tradeoffs	150
8.7.3	svg option	151
8.7.4	MATHJAX option	152
8.7.5	Customizing MATHJAX	152
8.7.6	MATHJAX limitations	153
8.7.7	Catcode changes	154
8.7.8	Complicated inline math objects	154
8.7.9	Complicated display math objects	155
8.7.10	Theorems	155
8.7.11	ntheorem package	155
8.7.12	mathtools package	156
8.7.13	siunitx package	156
8.7.14	units and nicefrac packages	157
8.7.15	physics package	157
8.8	Graphics	157
8.8.1	tikz package	158
8.8.2	grffile package	159
8.8.3	color package	159
8.8.4	xcolor package	159
8.8.5	epstopdf package	159
8.8.6	pstricks package	160
8.8.7	pdftricks package	160
8.8.8	psfrag package	160
8.8.9	pstool package	160
8.8.10	asymptote package	161
8.8.11	overpic package	161
8.8.12	Multimedia packages	161

8.9	Tabbing	162
8.10	Tabular	162
8.10.1	tabular environment	162
8.10.2	multirow package	164
8.10.3	longtable package	165
8.10.4	threeparttablex package	166
8.10.5	supertabular and xtab packages	166
8.10.6	colortbl package	166
8.10.7	ctable package	167
8.10.8	bigdelim package	167
8.11	Floats	167
8.11.1	Float contents alignment	167
8.11.2	float, trivfloat, and/or algorithmicx together	167
8.11.3	caption and subcaption packages	168
8.11.4	subfig package	168
8.11.5	floatrow package	168
8.11.6	keyfloat package.	169
8.12	KOMA-SCRIPT classes	169
8.13	MEMOIR class	169
8.14	International languages	171
8.15	Miscellaneous packages	171
8.15.1	verse and memoir	171
8.15.2	newclude package	172
8.15.3	babel package	172
8.15.4	polyglossia package	172
8.15.5	todonotes and luatodonotes packages	173
8.15.6	fixme	173
8.15.7	acro package	173
8.15.8	chemfig package	173
8.15.9	chemformula package	173

8.15.10	mhchem package	173
8.15.11	kotex package	174
9	Compiling using custom shell commands	175
9.1	Command options	175
9.2	Literal character macros	175
9.3	<i>latexmk</i>	176
9.4	perltex package	177
9.5	pythontex package	177
9.6	Other packages	177
9.7	make program	178
9.8	UTF-8 locale	178
10	EPUB conversion	179
11	Word-processor conversion	181
11.1	Activating word-processor conversion	181
11.2	Additional modifications	182
11.3	Recommendations	184
11.4	Limitations	185
12	Modifying l warp	186
12.1	Creating a development system	186
12.2	Modifying a package for l warp.	188
12.2.1	Adding a package to the <i>l warp.dtx</i> file	188
12.3	Modifying a class for l warp	189
12.4	Testing l warp	189
12.5	Modifying <i>l warpmk</i>	189
13	Troubleshooting	191
13.1	l warp package error conditions and warnings.	191
13.1.1	Configuration file <i>l warpmk.conf</i>	191
13.1.2	Image generation with <i>l warpmk limages</i>	191
13.1.3	Default bitmapped font	192
13.1.4	Packages	192

13.1.5	Compiling	192
13.2	Using the <code>l warp</code> package	193
13.2.1	Debug tracing output	197
13.3	Compiling the <code>l warp.dtx</code> file	197
14	Trademarks	198
1	<code>l warp.sty</code>	199
15	Implementation	199
16	Section depths and <code>HTML</code> headings	200
17	Source code	201
18	Detecting the <code>T E X</code> engine – <code>pdflatex</code> , <code>lualatex</code> , <code>xelatex</code>	202
19	Early package requirements	202
20	Package load order	202
20.1	Tests of package load order	203
20.2	Error for disallowed packages and classes loaded before <code>l warp</code>	205
20.3	Enforcing package loading after <code>l warp</code>	206
21	MD5 hashing	217
22	<code>pdfL T E X</code> T1 and <code>UTF-8</code> encoding	217
23	Unicode input characters	218
24	Avoid a bitmapped font	219
25	Upright quotes	219
26	Avoid bad font combinations	219
27	Miscellaneous tools	220
27.1	Variables	220
27.2	Lengths and units	220
27.3	Counters	221
27.4	Patching	221
27.5	Chinese text isolation	221
27.6	Inserting vertical space	222
27.7	Argument selection	222
27.8	Inside boxes	222

27.9	Global boxes	223
27.10	Converting a macro name to a cs name	223
27.11	Title case	224
27.12	LetLtxMacros	224
27.13	Absorbing a star	224
28	Operating-System portability	224
28.1	Literal characters	225
28.2	Common portability code	226
28.3	UNIX, LINUX, and MAC OS	226
28.4	MS-WINDOWS	226
29	Package options	227
29.1	Additional options support	231
29.2	Conditional compilation	233
30	Required packages	235
31	Loading packages	241
32	File handles	247
33	Include a file	248
34	Copying a file	249
35	Debugging messages	249
36	Defining print and HTML versions of macros and environments	250
37	HTML-conversion output modifications	255
37.1	User-level controls	255
37.2	Heading adjustments	257
38	Remembering original formatting macros	258
39	Accents	260
40	Configuration files	262
40.1	Decide whether to generate configuration files	262
40.2	<project>.html.tex	263
40.3	<i>l warpmk</i> configuration files	263
40.3.1	Helper macros	263

40.3.2	<code>lwarpmk.conf</code>	269
40.3.3	<code><project>.lwarpmkconf</code>	269
40.4	<code>lwarp.css</code>	269
40.5	<code>lwarp_sagebrush.css</code>	301
40.6	<code>lwarp_formal.css</code>	306
40.7	<code>sample_project.css</code>	310
40.8	<code>lwarp.ist</code>	310
40.9	<code>lwarp.xdy</code>	311
40.10	<code>lwarp_one_limage.cmd</code>	311
40.11	<code>lwarp_mathjax.txt</code>	312
40.12	<code>lwarpmk.lua</code> – <code>lwarpmk</code> option	316
41	Stacks	334
41.1	Assigning depths	334
41.2	Closing actions	335
41.3	Closing depths	335
41.4	Pushing and popping the stack	336
42	Data arrays	338
43	Localizing catcodes	339
44	Localizing dynamic math	340
45	HTML entities	341
46	HTML filename generation	342
47	Homepage link	344
48	Previous/next navigation links	346
49	\LWRPrintStack diagnostic tool	347
50	Closing stack levels	348
51	PDF pages and styles	348
52	HTML tags, spans, divs, elements	350
52.1	Mapping L ^A T _E X sections to HTML sections	350
52.2	Hook while processing tags	350
52.3	Babel-French tag modifications	350

52.4	HTML output formatting	352
52.5	HTML tags	352
52.6	Block tags and comments	355
52.7	Div class and element class	356
52.8	Single-line elements	357
52.9	HTML5 semantic elements	357
52.10	High-level block and inline classes	358
52.11	Closing HTML tags	360
53	Paragraph handling	361
54	Paragraph start/stop handling	364
55	Indentfirst	366
56	Page headers and footers	367
57	css	368
58	MATHJAX script	368
59	Title, HTML meta author, HTML meta description	369
60	Footnotes	370
60.1	Regular page footnotes	371
60.2	Minipage footnotes	371
60.3	Titlepage thanks	371
60.4	Regular page footnote implementation	371
60.5	Minipage footnote implementation	374
60.6	Printing pending footnotes	375
61	Marginpars	376
62	Tracking internal cross references	377
63	Splitting HTML files	379
63.1	Sanitizing expressions for HTML	384
63.2	Customizing MATHJAX	386
64	Sectioning	394
64.1	User-level starred section commands	394
64.2	Book class commands.	395

64.3	Sectioning support macros	395
64.4	Pre- and post- sectioning names	403
64.5	\section and friends.	403
65	Starting a new file	405
66	Starting HTML output	409
67	Ending HTML output	412
68	Nullifying foreground/background hooks	414
69	Title page	414
69.1	Setting the title, etc.	415
69.2	\if@titlepage.	416
69.3	Changes for \affiliation.	416
69.4	Printing the thanks	417
69.5	Printing the title, etc. in HTML	417
69.6	Printing the title, etc. in print form	419
69.7	\maketitle for HTML output	419
69.8	\published and \subtitle	422
70	Abstract	423
71	Quote and verse	424
71.1	Attributions	424
71.2	Quotes, quotations	424
71.3	Verse	425
71.3.1	L<small>A</small>T<small>E</small>X core verse environment	426
71.3.2	verse and memoir	426
72	Verbatim and tabbing	426
73	Theorems	429
74	Lists	431
74.1	List environment	431
74.2	Itemize	435
74.3	Enumerate	435
74.4	Description	435

74.5	Patching the lists	437
75	Tabular	438
75.1	Limitations	438
75.2	Temporary package-related macros	440
75.2.1	arydshln	441
75.3	Token lookahead	441
75.4	Tabular variables	441
75.4.1	Multicolumn variables	445
75.4.2	Longtable variables	445
75.4.3	Midrule variables	445
75.5	Handling &, @, !, and bar	445
75.5.1	Handling &	447
75.5.2	Filling an unfinished row	448
75.6	Handling \\	450
75.7	Looking ahead in the column specifications	451
75.8	Parsing @, >, <, !, bar columns	451
75.9	Parsing 'l', 'c', or 'r' columns	455
75.10	Parsing 'p', 'm', or 'b' columns	456
75.11	Parsing 'w' columns	456
75.12	Parsing '*' columns	456
75.13	Parsing 'D' columns	456
75.14	Expanding the star column specifications	457
75.15	Parsing the column specifications	458
75.16	colortbl and xcolor tabular color support	463
75.17	Starting a new row	464
75.18	Printing vertical bar tags	465
75.19	Printing @ or ! tags	465
75.20	Data opening tag	466
75.21	Midrules	468
75.22	Cell colors	473

75.23	Multicolumns	477
75.23.1	Parsing multicolumns	477
75.23.2	Multicolumn factored code	480
75.23.3	Multicolumn	483
75.23.4	Longtable captions	484
75.23.5	Counting HTML tabular columns	486
75.24	Multirow if not loaded	488
75.25	Multicolumnrow	488
75.26	Utility macros inside a table	489
75.27	Special-case tabular markers	489
75.28	Checking for a new table cell	490
75.29	\mrowcell	493
75.30	\mcolrowcell	493
75.31	HTML tabular environment	494
76	Cross-references	500
76.1	Setup	502
76.2	New l warp labels.	502
76.3	Labels	504
76.4	References	506
76.5	Hyper-references	509
77	FLOATS	513
77.1	Float environment	513
77.2	Float tracking	516
77.3	Caption inside a float environment	517
77.4	Caption and LOF linking and tracking	518
78	Table of Contents, LOF, LOT	521
78.1	Reading and printing the TOC	522
78.2	High-level TOC commands	525
78.3	Side TOC	525
78.4	Low-level TOC line formatting	526

79	Index and glossary	530
80	Bibliography presentation	538
81	Restoring original formatting	539
82	Nullifying filename formatting	541
83	Math	544
83.1	Limitations	544
83.2	HTML alt tag names	544
83.3	Inline and display math	545
83.4	MATHJAX support	559
83.5	Equation environment	562
83.6	\displaymathnormal and \displaymathother	565
83.7	AMS Math environments	566
83.7.1	Support macros	566
83.7.2	Environment patches	567
84	Lateximages	569
84.1	Description	570
84.2	Support counters and macros	571
84.3	Font size	571
84.4	Equation numbers	572
84.5	HTML alt tags	573
84.6	lateximage environment	573
85	center, flushleft, flushright	580
86	Preloaded packages	581
87	siunitx	583
88	Graphics print-mode modifications	584
88.1	General limitations	584
88.2	Print-mode modifications	586
89	xcolor boxes	586
90	chemmacros environments	589
91	cleveref	590

92	Preexisting label and reference definitions	590
93	picture environment	591
94	Minipages and Boxes	591
94.1	Computed lengths	592
94.2	Virtual page size	592
94.3	Footnote handling	593
94.4	Minipage handling	593
94.5	\parbox, \mbox, \makebox, \framebox, \fbox, \raisebox	597
95	Direct formatting	602
96	Skips, spaces, font sizes	612
97	\phantomsection	620
98	\LaTeX and other logos	620
99	Starting and stopping l warp	624
100	Loading everyshi patches	624
101	Loading textcomp patches	625
102	Loading amsmath, amsthm patches, centernot	625
103	Loading KOMA-SCRIPT class patches	625
104	Loading MEMOIR class patches	625
105	ut* class patches	626
106	CTeX patches	627
107	kotexutf patches	628
108	babel and polyglossia warnings	628
109	MATHJAX warnings	629
2	l warp-2in1.sty	633
3	l warp-2up.sty	633
4	l warp-a4.sty	633
5	l warp-a4wide.sty	633
6	l warp-a5comb.sty	634
7	l warp-abstract.sty	634

8	l warp-academicons.sty	636
9	l warp-accents.sty	637
10	l warp-accessibility.sty	638
11	l warp-accsupp.sty	638
12	l warp-acro.sty	639
13	l warp-acronym.sty	641
14	l warp-adjmulticol.sty	642
15	l warp-addlines.sty	643
16	l warp-afterpage.sty	644
17	l warp-algorithm2e.sty	644
18	l warp-algorithmicx.sty	648
19	l warp-alltt.sty	648
20	l warp-amscdx.sty	649
21	l warp-amsmath.sty	650
22	l warp-amsthm.sty	654
23	l warp-anonchap.sty	659
24	l warp-anyfontsize.sty	659
25	l warp-appendix.sty	660
26	l warp-ar.sty	660
27	l warp-arabicfront.sty	662
28	l warp-array.sty	662
29	l warp-arydshln.sty	663
30	l warp-asymptote.sty	665
31	l warp-atbegshi.sty	665
32	l warp-attachfile.sty	666
33	l warp-attachfile2.sty	667
34	l warp-authblk.sty	669

35	l warp-autobreak.sty	670
36	l warp-autonum.sty	671
37	l warp-awesomebox.sty	672
38	l warp-axessibility.sty	673
39	l warp-axodraw2.sty	674
40	l warp-backnaur.sty	674
41	l warp-backref.sty	675
42	l warp-balance.sty	675
43	l warp-bbding.sty	676
44	l warp-biblatex.sty	680
45	l warp-bibunits.sty	685
46	l warp-bigdelim.sty	685
47	l warp-bigfoot.sty	686
48	l warp-bigstrut.sty	687
49	l warp-bitpattern.sty	687
50	l warp-blowup.sty	688
51	l warp-bm.sty	688
52	l warp-booklet.sty	688
53	l warp-bookmark.sty	689
54	l warp-booktabs.sty	689
55	l warp-bophook.sty	691
56	l warp-bounddvi.sty	692
57	l warp-boxedminipage.sty	692
58	l warp-boxedminipage2e.sty	692
59	l warp-braket.sty	692
60	l warp-breakurl.sty	693
61	l warp-breqn.sty	693

62	l warp-bsheaders.sty	695
63	l warp-bussproofs.sty	695
64	l warp-bxpaper size.sty	696
65	l warp-bytefield.sty	696
66	l warp-cancel.sty	696
67	l warp-canoniclayout.sty	697
68	l warp-caption.sty	697
69	l warp-caption3.sty	699
70	l warp-cases.sty	702
71	l warp-ccicons.sty	702
72	l warp-centernot.sty	703
73	l warp-changebar.sty	703
74	l warp-changelayout.sty	704
75	l warp-changepage.sty	704
76	l warp-changes.sty	705
77	l warp-chappg.sty	710
78	l warp-chapterbib.sty	710
79	l warp-chemfig.sty	710
80	l warp-chemformula.sty	712
81	l warp-chemgreek.sty	718
82	l warp-chemmacros.sty	718
190	chemmacros	718
190.1	Changes to the user's document	719
190.2	Code	719
190.3	Loading modules	719
190.4	New environments	719
190.5	Acid-base	720
190.6	Charges	722

190.7	Nomenclature	722
190.8	Particles	724
190.9	Phases	725
190.10	Mechanisms	725
190.11	Newman	727
190.12	Orbital	728
190.13	Reactions	728
190.14	Redox	729
190.15	Scheme	730
190.16	Spectroscopy	730
190.17	Thermodynamics	734
83	lwarf-chemnum.sty	736
84	lwarf-chkfloat.sty	737
85	lwarf-chngpage.sty	737
86	lwarf-cite.sty	737
87	lwarf-citeref.sty	738
88	lwarf-CJK.sty	738
89	lwarf-CJKutf8.sty	739
90	lwarf-classicthesis.sty	739
91	lwarf-cleveref.sty	739
92	lwarf-clrdblpg.sty	743
93	lwarf-cmbright.sty	743
94	lwarf-cmdtrack.sty	744
95	lwarf-colonequals.sty	744
96	lwarf-color.sty	745
97	lwarf-colortbl.sty	745
98	lwarf-continue.sty	747
99	lwarf-copyrightbox.sty	747

100	<i>l warp-crop.sty</i>	748
101	<i>l warp-ctable.sty</i>	748
102	<i>l warp-cuted.sty</i>	751
103	<i>l warp-cutwin.sty</i>	751
104	<i>l warp-dblfloatfix.sty</i>	752
105	<i>l warp-dblfnote.sty</i>	752
106	<i>l warp-dcolumn.sty</i>	752
107	<i>l warp-decimal.sty</i>	752
108	<i>l warp-diagbox.sty</i>	753
109	<i>l warp-dingbat.sty</i>	754
110	<i>l warp-DotArrow.sty</i>	755
111	<i>l warp-dotlessi.sty</i>	756
112	<i>l warp-dprogress.sty</i>	756
113	<i>l warp-draftcopy.sty</i>	756
114	<i>l warp-draftfigure.sty</i>	757
115	<i>l warp-draftwatermark.sty</i>	757
116	<i>l warp-drftcite.sty</i>	758
117	<i>l warp-easy-todo.sty</i>	758
118	<i>l warp-ebook.sty</i>	759
119	<i>l warp-econometrics.sty</i>	759
120	<i>l warp-ed.sty</i>	762
121	<i>l warp-ellipsis.sty</i>	762
122	<i>l warp-embrac.sty</i>	763
123	<i>l warp-emptypage.sty</i>	764
124	<i>l warp-endfloat.sty</i>	764
125	<i>l warp-endheads.sty</i>	764
126	<i>l warp-endnotes.sty</i>	765

127	<i>l warp-engtlc.sty</i>	766
128	<i>l warp-enotez.sty</i>	770
129	<i>l warp-enumerate.sty</i>	773
130	<i>l warp-enumitem.sty</i>	773
131	<i>l warp-epigraph.sty</i>	773
132	<i>l warp-epsf.sty</i>	774
133	<i>l warp-epsfig.sty</i>	775
134	<i>l warp-epstopdf.sty</i>	775
135	<i>l warp-epstopdf-base.sty</i>	776
136	<i>l warp-eqlist.sty</i>	777
137	<i>l warp-eqparbox.sty</i>	777
138	<i>l warp-errata.sty</i>	778
139	<i>l warp-eso-pic.sty</i>	779
140	<i>l warp-esvect.sty</i>	780
141	<i>l warp-etoc.sty</i>	780
142	<i>l warp-eurosym.sty</i>	783
143	<i>l warp-everypage.sty</i>	783
144	<i>l warp-everyshi.sty</i>	783
145	<i>l warp-extarrows.sty</i>	784
146	<i>l warp-extramarks.sty</i>	784
147	<i>l warp-fancybox.sty</i>	785
148	<i>l warp-fancyhdr.sty</i>	790
149	<i>l warp-fancyref.sty</i>	791
150	<i>l warp-fancytabs.sty</i>	791
151	<i>l warp-fancyvrb.sty</i>	792
152	<i>l warp-fbox.sty</i>	799
153	<i>l warp-fewerfloatpages.sty</i>	801

154	l warp-figcaps.sty	801
155	l warp-figsize.sty	802
156	l warp-fitbox.sty	802
157	l warp-fix2col.sty	803
158	l warp-fixmath.sty	803
159	l warp-fixme.sty	803
160	l warp-fixmetodonotes.sty	804
161	l warp-flafter.sty	805
162	l warp-flippdf.sty	805
163	l warp-float.sty	805
164	l warp-floatflt.sty	807
165	l warp-floatpag.sty	808
166	l warp-floatrow.sty	808
167	l warp-fltrace.sty	813
168	l warp-flushend.sty	814
169	l warp-fnbreak.sty	814
170	l warp-fncychap.sty	814
171	l warp-fnlineno.sty	815
172	l warp-fnpara.sty	815
173	l warp-fnpos.sty	815
174	l warp-fontawesome.sty	816
175	l warp-fontawesome5.sty	817
176	l warp-fontaxes.sty	818
177	l warp-fontenc.sty	818
178	l warp-footmisc.sty	819
179	l warp-footnote.sty	820
180	l warp-footnotebackref.sty	821

181	l warp-footnotehyper.sty	821
182	l warp-footnoterange.sty	821
183	l warp-footnpag.sty	821
184	l warp-foreign.sty	821
185	l warp-forest.sty	822
186	l warp-fouridx.sty	822
187	l warp-fourier.sty	823
188	l warp-framed.sty	824
189	l warp-ftcap.sty	827
190	l warp-ftnright.sty	827
191	l warp-fullminipage.sty	827
192	l warp-fullpage.sty	827
193	l warp-fullwidth.sty	828
194	l warp-fvextra.sty	828
195	l warp-fwlw.sty	831
196	l warp-gensymb.sty	831
197	l warp-gentombow.sty	832
198	l warp-geometry.sty	832
199	l warp-ghsystem.sty	833
200	l warp-gindex.sty	833
201	l warp-gloss.sty	834
202	l warp-glossaries.sty	835
203	l warp-gmeometric.sty	837
204	l warp-graphics.sty	837
312	graphics	837
312.1	Graphics extensions	838
312.2	Length conversions and graphics options	838
312.3	Printing HTML styles	841

312.4	\includegraphics	841
312.5	Boxes	847
205	l warp-graphicx.sty	849
206	l warp-grffile.sty	850
207	l warp-grid.sty	850
208	l warp-grid-system.sty	850
209	l warp-gridset.sty	851
210	l warp-hang.sty	851
211	l warp-hanging.sty	853
212	l warp-hepunits.sty	853
213	l warp-hhline.sty	855
214	l warp-hhtensor.sty	855
215	l warp-hypbmsec.sty	856
216	l warp-hypcap.sty	856
217	l warp-hypdestopt.sty	857
218	l warp-hypernat.sty	857
219	l warp-hyperref.sty	857
220	l warp-hyperxmp.sty	867
221	l warp-hyphenat.sty	868
222	l warp-idxlayout.sty	869
223	l warp-ifoddpage.sty	869
224	l warp-imakeidx.sty	870
225	l warp-impnattypo.sty	874
226	l warp-index.sty	874
227	l warp-inputrc.sty	876
228	l warp-intopdf.sty	876
229	l warp-isomath.sty	876

230	l warp-isotope.sty	877
231	l warp-jurabib.sty	878
232	l warp-karnaugh-map.sty	880
233	l warp-keyfloat.sty	883
234	l warp-keystroke.sty	888
235	l warp-kpfonts.sty	889
236	l warp-kpfonts-otf.sty	891
237	l warp-layaureo.sty	892
238	l warp-layout.sty	892
239	l warp-layouts.sty	893
240	l warp-leading.sty	895
241	l warp-leftidx.sty	896
242	l warp-letterspace.sty	896
243	l warp-lettrine.sty	896
244	l warp-libertinust1math.sty	897
245	l warp-lineno.sty	904
246	l warp-lips.sty	906
247	l warp-listings.sty	906
248	l warp-listliketab.sty	913
249	l warp-lltjext.sty	913
250	l warp-longtable.sty	914
251	l warp-lpic.sty	917
252	l warp-lscape.sty	917
253	l warp-ltablex.sty	917
254	l warp-ltcaption.sty	918
255	l warp-ltxgrid.sty	918
256	l warp-ltxtable.sty	918

257	l warp-lua-check-hyphen.sty	919
258	l warp-lua-visual-debug.sty	919
259	l warp-luacolor.sty	919
260	l warp-luamplib.sty	920
261	l warp-luatexko.sty	920
262	l warp-luatodonotes.sty	922
263	l warp-luavlna.sty	924
264	l warp-lyluatex.sty	924
265	l warp-magaz.sty	926
266	l warp-makeidx.sty	927
267	l warp-manyfoot.sty	927
268	l warp-marginal.sty	929
269	l warp-marginfit.sty	929
270	l warp-marginfix.sty	930
271	l warp-marginnote.sty	930
272	l warp-marvosym.sty	931
273	l warp-mathalpha.sty	931
274	l warp-mathastext.sty	932
275	l warp-mathcomp.sty	933
276	l warp-mathdesign.sty	933
277	l warp-mathdots.sty	935
278	l warp-mathfixs.sty	935
279	l warp-mathpazo.sty	936
280	l warp-mathptmx.sty	936
281	l warp-mathspec.sty	937
282	l warp-mathtools.sty	939
283	l warp-mattens.sty	945

284	l warp-maybemath.sty	947
285	l warp-mcaption.sty	947
286	l warp-mdframed.sty	947
394	mdframed	947
394.1	Limitations	948
394.2	Package loading	948
394.3	Patches	948
394.4	Initial setup	949
394.5	Color and length HTML conversion	949
394.6	Environment encapsulation	950
394.7	Mdframed environment	951
394.8	Titles and subtitles	952
394.9	New environments	954
287	l warp-mdwmath.sty	956
288	l warp-media9.sty	957
289	l warp-memhfixc.sty	959
290	l warp-menukeys.sty	959
291	l warp-metalogo.sty	960
292	l warp-metalogox.sty	960
293	l warp-mhchem.sty	961
294	l warp-microtype.sty	963
295	l warp-midfloat.sty	964
296	l warp-midpage.sty	965
297	l warp-minibox.sty	965
298	l warp-minitoc.sty	966
299	l warp-minted.sty	966
300	l warp-mismath.sty	967
301	l warp-mleftright.sty	971

302	l warp-morefloats.sty	971
303	l warp-moreverb.sty	971
304	l warp-movie15.sty	972
305	l warp-mparhack.sty	974
306	l warp-multibib.sty	974
307	l warp-multicap.sty	974
308	l warp-multicol.sty	975
309	l warp-multicolrule.sty	976
310	l warp-multimedia.sty	976
311	l warp-multiobjective.sty	977
312	l warp-multirow.sty	978
313	l warp-multitoc.sty	982
314	l warp-musicography.sty	982
315	l warp-nameauth.sty	985
316	l warp-nameref.sty	986
317	l warp-natbib.sty	987
318	l warp-nccfancyhdr.sty	988
319	l warp-nccfoots.sty	988
320	l warp-nccmath.sty	989
321	l warp-needspace.sty	990
322	l warp-newpxmath.sty	990
323	l warp-newtxmath.sty	991
324	l warp-newtxsf.sty	992
325	l warp-nextpage.sty	993
326	l warp-nfssext-cfr.sty	994
327	l warp-nicefrac.sty	1000
328	l warp-niceframe.sty	1001

329	l warp-nicematrix.sty	1001
330	l warp-noitcrl.sty	1004
331	l warp-nolbreaks.sty	1004
332	l warp-nomencl.sty	1004
333	l warp-nonfloat.sty	1005
334	l warp-nonumonpart.sty	1005
335	l warp-nopageno.sty	1005
336	l warp-notes.sty	1006
337	l warp-notespages.sty	1006
338	l warp-nowidow.sty	1007
339	l warp-ntheorem.sty	1007
447	ntheorem	1007
447.1	Limitations	1008
447.2	Options	1008
447.3	Remembering the theorem style	1009
447.4	HTML cross-referencing	1012
447.5	\newtheoremstyle	1012
447.6	Standard styles	1012
447.7	Additional objects	1014
447.8	Renewed standard configuration	1014
447.9	amsthm option	1015
447.10	Ending a theorem	1017
447.11	\NoEndMark	1018
447.12	List-of	1018
447.13	Symbols	1018
447.14	Cross-referencing	1019
340	l warp-octave.sty	1019
341	l warp-orcidlink.sty	1020
342	l warp-overpic.sty	1021

343	l warp-pagegrid.sty	1021
344	l warp-pagenote.sty	1022
345	l warp-pagesel.sty	1022
346	l warp-paralist.sty	1022
347	l warp-parallel.sty	1023
348	l warp-parcolumns.sty	1025
349	l warp-parnotes.sty	1027
350	l warp-parskip.sty	1028
351	l warp-pbox.sty	1028
352	l warp-pdfcol.sty	1029
353	l warp-pdfcolfoot.sty	1029
354	l warp-pdfcolmk.sty	1029
355	l warp-pdfcolparallel.sty	1030
356	l warp-pdfcolparcolumns.sty	1030
357	l warp-pdfcomment.sty	1031
358	l warp-pdfcrypt.sty	1031
359	l warp-pdflandscape.sty	1032
360	l warp-pdfmarginpar.sty	1032
361	l warp-pdfpages.sty	1032
362	l warp-pdfprivacy.sty	1035
363	l warp-pdfrender.sty	1035
364	l warp-pdfsync.sty	1035
365	l warp-pdftricks.sty	1035
366	l warp-pdfx.sty	1036
367	l warp-perpage.sty	1036
368	l warp-pfnote.sty	1038
369	l warp-phfqt.sty	1038

370	l warp-physics.sty	1038
371	l warp-physunits.sty	1039
372	l warp-picinpar.sty	1040
373	l warp-pifont.sty	1042
374	l warp-pinlabel.sty	1042
375	l warp-placeins.sty	1043
376	l warp-plarydshln.sty	1043
377	l warp-plext.sty	1043
378	l warp-plextrydshln.sty	1044
379	l warp-plextcolortbl.sty	1045
380	l warp-plimsoll.sty	1045
381	l warp-prelim2e.sty	1045
382	l warp-prettyref.sty	1046
383	l warp-preview.sty	1046
384	l warp-psfrag.sty	1046
385	l warp-psfragx.sty	1047
386	l warp-pst-eps.sty	1047
387	l warp-pstool.sty	1048
388	l warp-pstricks.sty	1048
389	l warp-pxatbegshi.sty	1049
390	l warp-pxeveryshi.sty	1049
391	l warp-pxfonts.sty	1049
392	l warp-pxftnright.sty	1050
393	l warp-pxjahyper.sty	1050
394	l warp-quotchap.sty	1050
395	l warp-quoting.sty	1051
396	l warp-ragged2e.sty	1052

397	l warp-realscripts.sty	1052
398	l warp-refcheck.sty	1055
399	l warp-register.sty	1056
400	l warp-relsize.sty	1057
401	l warp-repeatindex.sty	1058
402	l warp-repltext.sty	1059
403	l warp-resizegather.sty	1059
404	l warp-returntogrid.sty	1059
405	l warp-rlepsf.sty	1060
406	l warp-rmathbr.sty	1060
407	l warp-rmpage.sty	1060
408	l warp-romanbar.sty	1061
409	l warp-romanbarpageumber.sty	1061
410	l warp-rotating.sty	1061
411	l warp-rotfloat.sty	1062
412	l warp-rviewport.sty	1063
413	l warp-savetrees.sty	1063
414	l warp-scalefnt.sty	1063
415	l warp-scalerel.sty	1064
416	l warp-schemata.sty	1064
417	l warp-scrextend.sty	1065
418	l warp-scrhack.sty	1069
419	l warp-scrlayer.sty	1069
420	l warp-scrlayer-notecolumn.sty	1070
421	l warp-scrlayer-scrpage.sty	1071
422	l warp-scrpage2.sty	1072
423	l warp-section.sty	1073

424	l warp-sectionbreak.sty	1074
425	l warp-sectsty.sty	1074
426	l warp-selectp.sty	1075
427	l warp-semantic-markup.sty	1075
428	l warp-seqsplt.sty	1076
429	l warp-setspace.sty	1077
430	l warp-shadethm.sty	1078
431	l warp-shadow.sty	1079
432	l warp-shapepar.sty	1079
433	l warp-showidx.sty	1079
434	l warp-showkeys.sty	1080
435	l warp-showtags.sty	1080
436	l warp-shuffle.sty	1080
437	l warp-sidecap.sty	1081
438	l warp-sidenotes.sty	1082
439	l warp-simplebnf.sty	1083
440	l warp-SIunits.sty	1085
441	l warp-siunitx.sty	1093
442	l warp-skmath.sty	1107
443	l warp-slantsc.sty	1113
444	l warp-slashed.sty	1113
445	l warp-soul.sty	1114
446	l warp-soulpos.sty	1115
447	l warp-soulutf8.sty	1116
448	l warp-splitbib.sty	1116
449	l warp-splitidx.sty	1117
450	l warp-srcltx.sty	1119

451	l warp-srctex.sty	1119
452	l warp-stabular.sty	1119
453	l warp-stackengine.sty	1120
454	l warp-stackrel.sty	1121
455	l warp-statex2.sty	1122
456	l warp-statistics.sty	1126
457	l warp-statmath.sty	1131
458	l warp-steinmetz.sty	1133
459	l warp-stfloats.sty	1134
460	l warp-struktex.sty	1134
461	l warp-subcaption.sty	1135
462	l warp-subfig.sty	1135
463	l warp-subfigure.sty	1140
464	l warp-subsupscripts.sty	1140
465	l warp-supertabular.sty	1141
466	l warp-svg.sty	1143
467	l warp-swfigure.sty	1144
468	l warp-syntonly.sty	1144
469	l warp-tabfigures.sty	1144
470	l warp-tablefootnote.sty	1145
471	l warp-tbls.sty	1145
472	l warp-tabularx.sty	1145
473	l warp-tabulary.sty	1146
474	l warp-tagpdf.sty	1146
475	l warp-tascmac.sty	1148
476	l warp-tcolorbox.sty	1150
477	l warp-tensor.sty	1156

478	l warp-termcal.sty	1157
479	l warp-textarea.sty	1158
480	l warp-textcomp.sty	1158
481	l warp-textfit.sty	1162
482	l warp-textpos.sty	1162
483	l warp-theorem.sty	1163
484	l warp-thinsp.sty	1167
485	l warp-thm-listof.sty	1167
486	l warp-thm-restate.sty	1168
487	l warp-thmbox.sty	1168
488	l warp-thmtools.sty	1169
489	l warp-threadcol.sty	1169
490	l warp-threeparttable.sty	1170
491	l warp-threeparttablex.sty	1170
492	l warp-thumb.sty	1171
493	l warp-thumbs.sty	1172
494	l warp-tikz.sty	1172
495	l warp-tikz-imagelabels.sty	1173
496	l warp-titleps.sty	1174
497	l warp-titleref.sty	1177
498	l warp-titlesec.sty	1177
499	l warp-titletoc.sty	1179
500	l warp-titling.sty	1181
501	l warp-tocbasic.sty	1185
502	l warp-toctbibind.sty	1185
503	l warp-toctodata.sty	1187
504	l warp-tocenter.sty	1189

505	l warp-tocloft.sty	1189
506	l warp-tocstyle.sty	1195
507	l warp-todo.sty	1195
508	l warp-todonotes.sty	1196
509	l warp-topcapt.sty	1198
510	l warp-tram.sty	1198
511	l warp-transparent.sty	1198
512	l warp-trimclip.sty	1199
513	l warp-trivfloat.sty	1200
514	l warp-truncate.sty	1200
515	l warp-turnthepage.sty	1201
516	l warp-twoup.sty	1201
517	l warp-txfonts.sty	1201
518	l warp-txgreeks.sty	1202
519	l warp-typearea.sty	1202
520	l warp-typicons.sty	1203
521	l warp-ulem.sty	1203
522	l warp-umoline.sty	1205
523	l warp-underscore.sty	1206
524	l warp-unicode-math.sty	1206
525	l warp-units.sty	1210
526	l warp-unitsdef.sty	1211
527	l warp-upgreek.sty	1212
528	l warp-upref.sty	1212
529	l warp-url.sty	1213
530	l warp-ushort.sty	1213
531	l warp-uspace.sty	1213

532	l warp-varioref.sty	1214
533	l warp-verse.sty	1214
534	l warp-versonotes.sty	1216
535	l warp-verbars.sty	1216
536	l warp-vmargin.sty	1216
537	l warp-vowel.sty	1217
538	l warp-vpe.sty	1217
539	l warp-vwcol.sty	1218
540	l warp-wallpaper.sty	1220
541	l warp-watermark.sty	1220
542	l warp-widetable.sty	1221
543	l warp-widows-and-orphans.sty	1221
544	l warp-witharrows.sty	1221
545	l warp-wrapfig.sty	1223
546	l warp-xbmks.sty	1224
547	l warp-xcolor.sty	1224
655	xcolor	1224
655.1	Limitations	1225
655.2	xcolor definitions: location and timing	1225
655.3	Package loading	1227
655.4	Remembering and restoring original definitions	1227
655.5	\normalcolor	1227
655.6	HTML color style	1227
655.7	HTML border	1229
655.8	High-level macros	1229
655.9	Row colors	1233
548	l warp-xexchangebar.sty	1235
549	l warp-xellipsis.sty	1235

550	l warp-xetexko.sty	1236
551	l warp-xevlna.sty	1236
552	l warp-xfakebold.sty	1236
553	l warp-xfrac.sty	1237
554	l warp-xltabular.sty	1239
555	l warp-xltextra.sty	1240
556	l warp-xmpincl.sty	1240
557	l warp-xpiano.sty	1240
558	l warp-xpinyin.sty	1241
559	l warp-xr.sty	1242
560	l warp-xr-hyper.sty	1243
561	l warp-xtab.sty	1243
562	l warp-xunicode.sty	1245
563	l warp-xurl.sty	1246
564	l warp-xy.sty	1246
565	l warp-zhlineskip.sty	1247
566	l warp-zwpagelayout.sty	1248
567	l warp-patch-komascript.sty	1249
568	l warp-patch-memoir.sty	1251
676	patch-memoir	1251
676.1	Packages	1252
676.2	Label handling	1253
676.3	Page layout	1254
676.4	Text and fonts	1257
676.5	Titles	1257
676.6	Abstracts	1258
676.7	Document divisions	1258
676.8	Pagination and headers	1261

676.9	Paragraphs and lists	1262
676.10	Contents lists	1263
676.11	FLOATS AND CAPTIONS	1267
676.12	Footnotes and page notes	1270
676.13	Decorative text	1272
676.14	Poetry	1272
676.15	BOXES, VERBATIMS AND FILES	1273
676.16	CROSS REFERENCING	1273
676.17	BACK MATTER	1274
676.18	MISCELLANEOUS	1276
676.19	CCAPTION EMULATION	1276
676.20	FINAL PATCHWORK	1279
569	l warp-common-multimedia.sty	1279
570	l warp-common-mathjax-letters.sty	1284
571	l warp-common-mathjax-newpxmath.sty	1291
572	l warp-common-mathjax-nonunicode.sty	1297
573	l warp-common-mathjax-overlaysymbols.sty	1300
	Change History	1301
682	Chg Hist	1301
	Index of Objects	1340
	General Index	1364
	Troubleshooting Index	1369
	Index of Indexes	1376

List of Figures

1	tutorial.tex listing	84
---	----------------------	----

List of Tables

1	Typesetting conventions	65
2	L ^A T _E X l warp package – Supported features	66
3	Required software programs	77
4	Configuration files created by print version	86
5	Localization settings	99
6	Accessibiltiy settings	100
7	L warp package options	105
8	HTML settings	110
9	Literal character macros	176
10	Section HTML headings for word-processor conversion	184
11	Section depths and HTML headings	200
12	Tabular baseline	459
13	Tabular HTML column conversions	459
14	Cross-referencing data structures	501
15	Float data structures	513
16	CSS related to the sidetoc	525
17	amsthm package – css styling of theorems and proofs	654
18	Ntheorem package – css styling of theorems and proofs	1007
19	Theorem package – css styling of theorems and proofs	1163

1 Updates

The following is a summary of updates to `l warp`, highlighting new features and any special changes which must be made due to improvements or modifications in `l warp` itself.

For a detailed list of the most recent changes, see the end of the Change History on page [1339](#).

v0.896: Back references, accessibility.



- Due to changes in cross referencing, execute `l warpmk clean` before recompiling.

- Increased sectioning nesting stack depth. Error if overflow stack.
- Fixed footnotes at the end of the document, or inside a description label.
- Added an error if using braces inside `\usepackage` options.

MATHJAX
theorems

- Fixed footnotes in bracket display math with MATHJAX.
- L^AT_EX theorems, `amsthm`, `ntheorem`, `theorem`: Print theorem footnotes following theorems.

accessibility

- Added HTML `<main>` element to each page.
- Added ARIA math role to SVG math images, and note role to margin notes, footnotes, etc.

packages

- Improved citation backreferences for various packages.
- `chemfig`: Updated to v1.6a.
- `bigdelim`: Updated to v2.8.
- `xetexko`: Updated to v3.1.
- `hyperxmp`: Fix: Accept and discard additional keys.
- `hyperef`: Fix: Added `*autorefname` macros.
- `biblatex`: Fix: Back references.
- `tocloft`: Fix: `\cftpagenumbersoff`, `\cftpagenumberson`.
- `threeparttablex`: Fix: `\TPTL@tnotex`.
- `amsthm`: Fix: Footnotes inside environment optional argument.
- `listings`: Fixed labels. Accepts but ignores escapes w/o error.
- `pdflscape`: Fix: Added `landscape` environment.
- Added `ccicons`, `classicthesis`, `orcidlink`.
- Added `enotez`.
- Verified support for `doi`, `doipubmed`.

v0.895: Vector packages, greatly improved MATHJAX for `siunitx`.

core

- Fixed quotes in HTML tags while using old font packages with X_LA^TE_X and Lua_LA^TE_X.

MATHJAX
packages

- Added `\ifblank` and `\ifstreq` to MATHJAX emulation.
- `multirow`: Allow `\par` per v2.7.

- **acro:** Updated to v3.5.
- **fancyhdr:** Updated to v4.0.
- **changes:** Updated to v4.0.1.
- **epsfig, rotating:** Now work inside `\teximage`.
- **amscdx:** Verified to work with SVG math. Warning added about use with MATHJAX.
- Added MATHJAX emulation for `isomath`, `mattens`, `maybemath`, `skmath`, `tensor`.
- Improved MATHJAX emulation for `siunitx` `\ang`, `\num`, `\SI`.
- Added `epsf`, `impnattytypo`, `isotope`, `lpic`, `luavlna`, `mdwmath`, `pinlabel`, `rlepsf`, `tikz-imagelabels`, `xevlna`.
- Verified to work as-is: `tensind`.

v0.894: MATHJAX additions and improvements.

- | | |
|-----------------|---|
| MATHJAX | <ul style="list-style-type: none">• Improved warning message for enabling SVG graphics for select math expressions while using MATHJAX.• Accept and ignore a star for <code>\hspace</code>.• Ignores <code>\arabic</code>, <code>\number</code>, <code>\noalign</code>. |
| packages | <ul style="list-style-type: none">• Added MATHJAX emulation for <code>backnaur</code>, <code>colortbl</code>, <code>nicematrix</code>.• <code>booktabs</code>: MATHJAX emulation now absorbs and discards <code>trim</code>.• <code>menukeys</code>: Updated to v1.6.1. |

v0.893: Minor fixes, more packages.

- | | |
|-----------------|--|
| MATHJAX | <ul style="list-style-type: none">• Added MATHJAX emulation for <code>\mathnormal</code>. |
| packages | <ul style="list-style-type: none">• Fixed <code>pstricks pspicture*</code>.• Fixed <code>tikz</code> font macros.• <code>braket</code>: Now uses the MATHJAX extension.• Added <code>esvect</code>, <code>fixmath</code>, <code>keystroke</code>, <code>mathastext</code>, <code>menukeys</code>, <code>picinpar</code>, <code>plimsoll</code>, <code>repltext</code>, <code>selectp</code>, <code>seqsplit</code>, <code>simplebnf</code>, <code>statistics</code>, <code>swfigure</code>.• Added MATHJAX emulation for <code>mathspec</code>.• Verified to work as-is for <code>apxproof</code>, <code>syntaxdi</code>, <code>venndiagram</code>. |

v0.892: `minted`, `fvextra`, MATHJAX `\left/\right`.

- | | |
|-----------------|---|
| MATHJAX | <ul style="list-style-type: none">• <code>fourier</code>, <code>libertinustlm</code>, <code>newpxmath</code>, <code>newtxmath</code>, <code>newtxsf</code>, <code>unicode-math</code>: Added MATHJAX <code>\left/\right</code> support for additional delimiters. |
| packages | <ul style="list-style-type: none">• <code>textpos</code>: Updated to v1.10.• <code>xcolor</code>: Fixed optional args for <code>\fcolorbox</code> and related.• Added <code>fvextra</code>, <code>minted</code>. |

v0.891: MATHJAX additions and improvements.

- core**
 - Now displays inline \verb text as \texttt{.}
 - Fixed alltt and verbatims with L^AT_EX lists.
 - Now generates an error if nested each of warpHTML, warpprint, warpMathJax inside itself.
- MATHJAX packages**
 - Added MATHJAX *textmacros* extension, allowing formatting inside \text{.}
 - biblatex, hyperref: Added back page references.
 - fancyvrb: Fixed BVerbatim with a label.
 - listings: Fixed MATHJAX with captions, improved HTML sanitation.
 - babel-french: Fixed \texorpdfstring conflict.
 - Now honors Greek package options for mathdesign, mathpazo, mathptmx, newpxmath, newtxmath.
 - Improved MATHJAX for colonequals, mathdesign, mathdots, mathfixs, mathtools, multiobjective, nicefrac, shuffle, units.
 - unicode-math: Added Greek macros, as well as macros for the first several categories listed in **texdoc unimath-symbols**. Improved symbol shape macros with Greek. Improved documentation.
 - Added bussproofs, cmbright, fourier, kpfonts, kpfonts-otf, libertinust1math, scalerel, txgreeks.

v0.89: Additional MATHJAX support.

- core**
 - Adapted to upcoming L^AT_EX kernel changes.
 - Allows load of amsmath before l warp.
- l warpmk**
 - Also removes *.bbl when cleaning aux files.
- MATHJAX packages**
 - MATHJAX: Neutralized \protect, \mathcode and related, ligatures. Fixed nested environments.
 - caption: Updated for v3.5, fix for label sep.
 - thmtools: Updated for v0.72. Fixed swapnumber, margin.
 - Improved MATHJAX for centernot, mathtools, mismath, Slunits, siunitx, statmath.
 - Added MATHJAX emulation for accents, hepunits, hhtensor, mathalpha, mathdesign, mathpazo, mathptmx, mleftright, newpxmath, newtxmath, newtxsf, pxfonts, shuffle, txfonts, upgreek, ushort.
 - Verified to work as-is: authoraftertitle.

v0.88: Indexing, boxing, theorems.

- core**
 - Now has programmed support for more than 500 packages and classes, of which more than 60 also support MATHJAX.
 - Fixed: \ref*, and also added MATHJAX emulation.
 - If starting a new paragraph, \hrulefill creates a <div> with a thin horizontal line across the page. Use instead of \hrule.
 - Fixed: Use \chaptername where appropriate.

- Fixed: Inline links causing extraneous paragraphs.
 - Added `\warpmk -v` to print the version number.
 - Added the `IndexRef` option to control the display of index entries. See section 7.5.
 - Added `\IndexPageSeparator` and `\IndexRangeSeparator` for custom index styles.
 - Added support for `gindex`, `xindex`.
 - Verified to work as-is with `varindex`.
 - packages**
 - `cleveref`, `varioref`: Fix for starred macros.
 - `varioref`: Removed page-related text from HTML output.
 - `xfakebold`: Updated to v0.08, using `pdfrender`.
 - `caption`, `scrextend`: Fixed `\caption*`.
 - Added `fbox`, `shadethm`, `tcolorbox`, `termcal`, `thmbox`, `thmtools`.
- v0.87:** MATHJAX, bibliography packages.
- core**
 - Added boolean `FixSmallCaps` for fonts which render small caps as all caps.
 - Fixed `\bibliography` to use the HTML version's `.bb1` file. Previously the HTML bibliography relied on the print version's `.bb1`, thus would fail if the print document had not yet been created.
 - MATHJAX**
 - ⚠ Removed**
 - \DeclareIfstar**
 - packages**
 - Added `\ifstar` and `\ifnextchar` to MATHJAX, and removed `\DeclareIfstar`. See section 8.7.5.
 - `physics`: Now supports the MATHJAX v3 extension.
 - `mathtools`: Improved `\underbrakcet`, `\overbracket` for MATHJAX.
 - `nccmath`: Improved `\underrel` for MATHJAX.
 - `mhchem`: Now supports the MATHJAX v3 extension for `\ce` inside math.
 - `cancel`: Now supports the MATHJAX v3 extension.
 - `embrac`: Neutralized kerning for improved HTML conversion.
 - Added `citeref`, `drftcite`, `jurabib`, `multibib`, `splitbib`.
 - Verified to work as-is with `bibtopic`, `collref`, `mciteplus`.
- v0.86:** MATHJAX major updates.
- core**
 - Fixed: Filename if named files with *, parens, period in section name.
 - Fixed: Labels in `eqnarray`, `lateximage`.
 - MATHJAX**
 - Updated to MATHJAX v3. New repository.
 - Fixed forward references for MATHJAX.
 - Improved MATHJAX equation number formatting, now compatible with `amsmath \numberwithin` for chapters, sections, subsections, as well as `amsmath subequations`. See section 8.7.5.
 - Added `\DeclareIfstar` to define starred T_EX macros in MATHJAX. See section 8.7.5.
 - Generates an error if `\MathJaxFilename` file does not exist.
 - packages**
 - `mathtools`, `nccmath`, `physics`: Added starred macros for MATHJAX.
 - `nccmath`: Fixed `\nr`, `\displaybreak` for MATHJAX.
 - `xcolor`: Fixed `\textcolor` with `babel-french`.

v0.85: fontspec**packages**

- **fontspec**: Fixed core font change macros for world languages.

⚠ acro formats

- **acro**: Due to v3 changes, when defining acronym formats, use `\textbf` instead of `\bfseries`, etc.
- Fixed `idxlayout`, `mathtools`, `titlesec`, `url`.

v0.84: Previous/next page links, numerous fixes.**docs**

- Added documentation of `BlockClass` and `\InlineClass` for css `<div>`s and ``s. See section [7.8](#).

⚠ home page footer changed**core**

- Added `\LinkPrevious`, `\LinkNext` page links. See section [7.6](#).
- Added `\FirstPageBottom`. Home page no longer shares `\PageBottom`. See section [7.6](#).

⚠

- Improved coexistence with `comment`, support for nested environments.
- No longer requires but still supports the `caption` package.
- Improved filenames and `HTML` titles when using special characters.
- Change: Append `-0` to section named `Index` previously `_index` to distinguish from `index.html`.
- Fixed style tags for `\multicolumn`, `\multirow`.
- Fixed spacing in `tabbing`.
- Fixed `\textrimage` for: `quote`, `quotation`, `verse`, `center`, `flushleft`, `flushright`, `<par>` tags, packages `verbatim`, `alltt`, `epigraph`.
- Fixed `textcomp` due to integration into `LATEX` kernel.
- Fixed `\itshape`, etc. Adapted to `LATEX fontaxes` integration.
- Fixed `\@fnsymbol`.
- Warns about section names with dollar-delimited math.
- Warns about a `` containing a float, caption, section, `mdframed`, or other `<div>` object.
- Only warn about `XATEX` logo and `graphics` if actually used `\Xe`.
- **l warpmk clean** also removes `comment_*.cut`.

l warpmk**packages**

- `scrextend`, `scrartcl`, `scrbook`: Added `\titlehead`, `\subject`, `\subtitle`, `\publishers`.
- `titling`: Fixed `\printthanks`.
- `memoir`, `abstract`: Fixed for updated `memoir`.
- `memoir`: Fixed `\newcomment`, `pagenotes`, `crossreferences`. Fixed setting a recursive name.
- Fixed or improved: `amsthm`, `backref`, `biblatex`, `fixme`, `nfssext-cfr`, `ntheorem`, `parcolumns`, `realscripts`, `rotfloat`, `titling`.
- Added `boxedminipage`, renamed from `boxedminipage2e` per author.
- Verified to work as-is with `mcite`.

v0.83: memoir fixes.

- | | |
|----------|---|
| packages | <ul style="list-style-type: none"> • memoir: Various fixes and updates. • physunits: Updated to v1.0.4. |
|----------|---|

v0.82: MATHJAX notes, xpinyin improvements, various updates.

- | | |
|----------|---|
| MATHJAX | <ul style="list-style-type: none"> • Improved footnotes with MATHJAX. • Added MATHJAX emulation for <code>endnotes</code>, <code>marginnote</code>, <code>nccfoots</code>, <code>pagenote</code>, <code>parnotes</code>, <code>sidenotes</code>. |
| packages | <ul style="list-style-type: none"> • xpinyin: Added pinyin with modern HTML. • luatexko: Added <code>\dotemph</code>, <code>\ruby</code>, <code>\uline</code>, etc. • soul: Fixed <code>\<</code>. • chemfig: Updated to v1.5. • draftwatermark: Updated to v2.0. • ulem: Fixed: <code>\dashuline</code>. • amsmath: Fixed: <code>\intertext</code> with MATHJAX. • endnotes: Fixed: Marks in print mode. • tocvsec2, tableof: Verified to work as-is. • Added etoc (nullified). |

v0.81: MATHJAX speedup and additional emulations.

- | | |
|----------|--|
| core | <ul style="list-style-type: none"> • Improved warning regarding SVG math sizing/baselines and <code>graphics/graphicx</code>. See section 8.7. |
| MATHJAX | <ul style="list-style-type: none"> • Improved MATHJAX emulation processing speed. • Added MATHJAX emulation for <code>accsupp</code>, <code>axessibiliy</code>, <code>colonequals</code>, <code>decimal</code>, <code>dotlessi</code>, <code>econometrics</code>, <code>englrc</code>, <code>multiobjective</code>, <code>physunits</code>, <code>Slunits</code>, <code>stackrel</code>, <code>statmath</code>. |
| packages | <ul style="list-style-type: none"> • axessibility: Updated to 2020/01/08 version. • gridset: Updated to v0.3. • Slunits: Fixed for math mode. • Added <code>DotArrow</code>, <code>nolbreaks</code>, <code>luamplib</code>, <code>returntogrid</code>, <code>stex2</code>, <code>tagpdf</code>. • Verified to work as-is with <code>icomma</code>, <code>mathpunctspace</code>, <code>textualcomma</code>. |

v0.80: MATHJAX, biblatex.

- | | |
|----------|--|
| MATHJAX | <ul style="list-style-type: none"> • Added docs and warning/info messages re: avoiding slow MATHJAX compilation. See section 8.7.5, Customizing MATHJAX. • Added MATHJAX emulation for <code>accessibility</code>, <code>autobreak</code>, <code>centernot</code>, <code>extarrows</code>, <code>fouridx</code>, <code>gensymb</code>, <code>leftidx</code>, <code>mathcomp</code>, <code>mathdots</code>, <code>mathfixs</code>, <code>mismath</code>, <code>nccmath</code>, <code>noitcrl</code>, <code>pdfcomment</code>, <code>relsize</code>, <code>rmathbr</code>, <code>subsubscripts</code>, <code>xfrac</code>. • Improved MATHJAX emulation for <code>unicode-math</code>. |
| packages | <ul style="list-style-type: none"> • biblatex, url: Now create hyperlinks. • amsmath: Fix to center starred environments. |

- `xcolor`, `graphics`: Made more macros robust.
- `colortbl`: Fix: Rule color in a `\lateximage`.
- `chemmacros`: Updated to v5.10.
- Added `fewerfloatpages`, `ghsysten`, `hhline`, `mismath`, `nccmath`.

v0.79: MATHJAX, nested `tabular`.

- | | |
|-----------------------|---|
| <code>MATHJAX</code> | • Added or improved MATHJAX emulation for <code>amsmath</code> , <code>ar</code> , <code>arydshln</code> , <code>bm</code> , <code>bigdelim</code> , <code>bigstrut</code> , <code>booktabs</code> , <code>braket</code> , <code>mathtools</code> , <code>multirow</code> , <code>physics</code> , <code>siunitx</code> , <code>slashed</code> , <code>unicode-math</code> , <code>xfakebold</code> . |
| <code>core</code> | <ul style="list-style-type: none"> • Warn if using certain packages not supported by MATHJAX. • <code>tabular</code>: Now may be nested. • <code>minipage</code>, <code>\parbox</code>, <code>fminipage</code>, <code>\makebox</code>, <code>\framebox</code>: Fix: Adjust for virtual page size. • Uses new <code>iftex</code>. |
| <code>packages</code> | <ul style="list-style-type: none"> • <code>graphicx</code>: Fix: Negative angles. • <code>caption</code>: Fix: <code>\captionlistentry</code> with <code>longtable</code>. • <code>multirow</code>: Fix: Centered vertical alignment. • <code>siunitx</code>: Fix: <code>\square</code>, <code>\cubed</code>. • <code>booktabs</code>: Fix: <code>memoir</code> with <code>\lateximage</code>. • <code>babel</code> and <code>polyglossia</code>: Added troubleshooting warnings. • <code>fontawesome</code>, <code>fontawesome5</code>: Supports text color and size. • <code>transparent</code>: Fix: <code>\latextime</code>. • <code>epigraph</code>: Updated to v1.5e. • <code>xurl</code>: Updated to v0.08. • <code>subcaption</code>: Fixed with <code>memoir</code>. • <code>floatrow</code>: Fix: <code>\linewidth</code>. No longer require <code>float</code>, <code>graphics</code>. • <code>floatflt</code>, <code>wrapfig</code>, <code>niceframe</code>: Fix: Adjust for virtual page size. • Added <code>widetable</code>, <code>witharrows</code>, <code>steinmetz</code>. • Added <code>awesomebox</code>, <code>catoptions</code>. • Added <code>svg</code>, supports <code>svg-extract</code>. • Added <code>parcolumns</code>, <code>pdfcolparcolumns</code>, • Added <code>parallel</code>, <code>pdfcolparallel</code>. • Added <code>pdfcol</code>, <code>pdfcolfoot</code>, <code>pdfcolmk</code>. |

v0.78: Fixes for support files, alt tags, hyperlinks, and the 2019/10 L^AT_EX release.

- | | |
|-----------------------|--|
| <code>docs</code> | <ul style="list-style-type: none"> • Docs: Improved documentation regarding package options. See section 8.1. • Fix to overwrite existing support files using new <code>filecontents</code> environment. |
| <code>packages</code> | <ul style="list-style-type: none"> • <code>breqn</code>: Previously broken by the 2019/10 L^AT_EX update, but now working again. • <code>graphics</code>: Fix for <code>\includegraphics</code> alt tags. • <code>babel-french</code>: Fix for hyperlinks. • <code>media9</code>, <code>movie15</code>, <code>multimedia</code>: Fix for the 2019/10 L^AT_EX update. • <code>accessibility</code>: Added. |

v0.77: Updates to fix recently-broken packages.

- `booktabs`: Updated to v1.6180339.
- `chemformula`: Updated to v4.15.

v0.76: MATHJAX, updates for L^AT_EX 2019/10 release.

docs • Docs: Expanded documentation regarding the use of multiple projects in the same directory. See section 5.17.

MATHJAX • MATHJAX: Updated to v2.7.6.

packages • `xr`: Updated to v5.05.
• `xr-hyper`: Updated to v6.1.
• Verified works as-is with `xcite`.
• `acro`: Updated to v2.10.

⚠ broken • Currently broken in print mode by the 2019/10 L^AT_EX update, and waiting for fixes: `breqn`, `grffile`, `multimedia`, `movie15`.

v0.75: `keyfloat`, `wrapfig`

packages • `\minipage`: Fix for `\linewidth`.
• `keyfloat`: Improved color control.
• `wrapfig`: Fix for `\linewidth`.

v0.74: Docs, SVG math, `lwarpmk`, HTML alt and title text, `lyluatex`

docs • Added to the tutorial the section **What next?**. See section 5.19.

• Added documentation about localization options. See section 7.1.

• Added documentation about accessibility options. See section 7.2.

• Renamed and updated HTML alt text macros:

Old	New
(hard coded as “image”)	<code>\ImageAltText</code>
<code>\mathimagine</code>	<code>\MathImageAltText</code>
<code>\packagediagramname</code>	<code>\PackageDiagramAltText</code>

• Added `\ImageAltText` for the default HTML alt text for an image. See section 7.6.

• Added `\ThisAltText`, which may be used to assign a one-time HTML alt tag to the very next image generated by `l warp`, such as a `lateximage`, `picture`, `tikzpicture`, an image generated by various chemistry or engineering packages, or an SVG math image. This macro also adds a title tag to a reference or hyperlink. See section 7.6.

svg math • Adjusted `\LateximageFontSizeScale` default from .75 to 1.

• Fix: Font control for SVG math.

misc • Fix: Ignores negative `\hspace`.

• Warning if `SideTOCDepth < FileDepth`.

lwarpmk • `lwarpmk clean` removes additional files.

- **lwarpmk**: **lwarpmk epstopdf** and **lwarpmk pdftosvg** now honor directories.
- packages**
- **lyluatex**: Split images by `system` or per `fullpage`, improved margins and scaling.
 - Tested to work as-is with `mathspec`, `unicode-math`.
- v0.73:** `\include`, `memoir`, `koma-script`, `caption`, `xy`, `datatool`, music scores.
- Fix for `\include`.
 - Warning for a `tabular` inside a ``.
 - `\color`: Added `HTML` support for rules and frames, but not inline text. Use `\textcolor` if possible.
 - Improved many `HTML` tags, reducing `tidy` warnings. See Change History.
- packages**
- **memoir**: Fixes for `\frontmatter*` and `\mainmatter*`. Added `\book`.
 - **koma-script**: Fix for starred captions in the `toc`.
 - **caption**: Fix for starred captions.
 - **datatool**: Added pie, bar, and plot charts.
 - **threeparttable**: Added `measuredfigure`.
 - **intopdf**: Updated to v0.2.1.
 - **tocdata**: Updated to v2.03.
 - **quotchap**: Updated to v1.2.
 - **versonotes**: Updated to v0.4.
 - **backnaur**: Now uses `SVG` images. Updated to v3.1.
 - **xy**: Fix for `\xybox`, improved `xy`, also now compatible with `qcircuit`.
 - **fancyvrb**: Fix for label `HTML` tags.
 - Added `stackengine`.
- music**
- Added `lyluatex`. (Music scores.)
 - **musicography**: Updated to 2019/05/28. Added support for `lateximages`.
- v0.72:** Font control, `\multicolumn`, `xr` and `xr-hyper`.
- ⚠️ images**
- Due to internal changes, images for inline `SVG` math and `lateximages` will have new hash values, and will have to be regenerated using
 Enter ⇒ **lwarpmk cleanimages**
 and
 Enter ⇒ **lwarpmk limages**
- packages**
- **Docs**: Color-codes package names in the table of supported packages and features, table 2, according to each package's level of support by **lwarf**.
 - `\multicolumn`: Fix for paragraph columns.
 - `xr`, `xr-hyper`: Fixes for references, `\externaldocument`.
 - `soulutf8`: Fix: Loads `soul` for emulation.
 - `boxedminipage2e`: Added support for `lateximages`.
 - `zhlineskip`: Updated to v1.0e.
 - Added `fontaxes`, `slantsc`, `tabfigures`.
 - Added `nfssext-cfr`, thus supporting `cfr-lm` and several other font packages.
 - Added `backnaur`, `hypbmsec`, `minibox`, `pdfcrypt`, `shapepar`.

v0.71: Error handling, multimedia, tabular.

- **tabular:** Added support for ‘*’ columns. Fix for paragraph tags.
- **quotation:** Fix for HTML tag.
- **Docs:** Added a section about error conditions tested by **l warp**. See section 13.1.
- **l warpmk:** If file **l warpmk.conf** is an older version, or the incorrect operating system, displays the print command to use to recompile.

packages

- **chemfig:** Updated for v1.4.
- **endfloat:** Updated for v2.7.
- **textpos:** Updated for v1.9.1.

multimedia

- Added **media9**, **movie15**, **multimedia**.

v0.70: Error handling, MATHJAX, mathtools.

- Error handling for “Label(s) changed.” Refuses to **l warpmk l images** until recompile first.
- Fix: If Computer Modern font is used, ensures **cm-super** or **lmodern** is used.
- Fixes for **\makebox**.
- Fixes for **\parbox** inside a ****.
- **MATHJAX:** Updated to v2.7.5. Loads the **autoload-all.js** extension. Added **\MathJaxFilename** to select custom scripts.

packages

- **textcomp, xunicode:** Fix for **\textinterrobang**.
- **mhchem:** Works with MATHJAX. See section 401.
- **changes:** Updated to v3.1.2.
- Added **autonum**, **changelayout**, **inputrc**, **mathtools**, **metalogox**.

v0.69: Error handling, many fixes, improved keyfloat/tocdata.

- Fix for HTML corruption of **lateximage** displays.
- **\makebox, \framebox:** Fix for **(<width,height>)** arguments.
- **fminipage:** Honors **\minipagefullwidth**.
- packages**
- **array, longtable:** Fix for **\tabularnewline**.
- **tabularx, tabulary:** Fix to require the **array** package.
- **supertabular, xtab:** Fix to clear caption after use.
- **graphics:** Added a warning if used the **\includegraphics scale** option.
- **multirow:** Added an error if didn’t use **\mrowcell** or **\mcrowcell** when using **\multirow** or **\multicolumnrow**.
- **keyfloat:** Updated for v2.00, additional improvements.
- Added **ctable**, **eqlist**, **eqparbox**, **ftcap**, **listliketab**, **minitoc**, **tocdata**, **topcapt**.

v0.68: Error handling, tabulars, footnotes.

- lwarpmk*
 - *lwarpmk*: Improved error handling for image generation if compile was incomplete.
 - *tabular*: Fix for \warpprintonly.
- packages*
 - *longtable*: Improved flexibility for \endhead, etc. Improved error reporting if \endhead, etc. incorrect for *l warp*.
 - *threeparttable*: Fix for caption type.
 - *hyperref*: Fix for options with braces.
 - *morefloats*: Fix to be loaded early for print output.
 - *listings*: Updated for v1.7.
 - Added *bigfoot*, *fnpara*, *footnotebackref*, *manyfoot*, *tablefootnote*, *threeparttablex*.
 - Added *layouts*, *niceframe*, *perpage*, *showtags*.
 - Prevented *alg*, *algorithmic*, *pdfcprot*, *fncylab*.

v0.67: Filename generation, symbol fonts.

- docs*
 - Documentation fix for <project>-images, <project>-images.txt.
 - Added discussion regarding section names. See section 8.4.
- filenames*
 - Added \FilenameNullify and \FilenameSimplify for filename generation. See section 8.4.
 - Core, *textcomp*, *xunicode*: Nullified additional symbols during filename generation.
- packages*
 - *color*: Fix for version number warnings.
 - Added *academicons*, *bding*, *dingbat*, *eurosym*, *fontawesome*, *fontawesome5*, *marvosym*, *pifont*, *typicons*.
 - Added *changes*, *easyReview*, *fitbox*, *foreign*, *gloss*, *karnaugh-map*, *multicap*, *nomencl*, *notes*, *struktex*, *umoline*, *xfakebold*.
 - Tested to work as-is with *askmaps*, *curves*, *euro*, *karnaughmap*, *tikz-karnaugh*.

v0.66: xr, multiple projects, image names/directory, HTML formatting

⚠ Reset the configuration

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using **pdflatex filename.tex** or similar, after which *lwarpmk* may then be used with the new configuration files.

lateximage

- Adds options *ImagesDirectory* and *ImagesName* to assign directory and name prefixes for *lateximage* images. The new defaults include the jobname, allowing the image directories for multiple projects to coexist.

⚠ existing projects

- To reuse existing *lateximage* directories, add *l warp* options

```
\usepackage[
    ImagesDirectory={lateximages},
    ImagesName={lateximage-}
]{l warp}
```

If not reused, the existing *lateximages* directory and *lateximages.txt* file may be removed.

- filenames
 - Added \FilenameLimit to control the maximum length of the filenames generated by lwarf.

⚠ Possible filename changes

WINDOWS

floats

lists, table notes

tabular

indexing

minipage

colors

HTML

docs

packages

- Added \FilenameLimit to control the maximum length of the filenames generated by lwarf.

- Improved filename generation when special characters or macros are used in section names.

- Fix for **lwarfmk cleanimages** with WINDOWS.

- Fixes for floats in the home page.

- Improved css for definition lists, table notes.

- tabular**: Fixes for \par in column specifier, minipage inside tabular.

- Indexing**: Fix for a long line of multiple entries.

- \minipagefullwidth: Fix for global changes.

- Added \UseMinipageWidths and \IgnoreMinipageWidths. See section [8.3.3](#).

- Improved \fbox, \fboxBlock, \fminipage to use current text color.

- Improved HTML output formatting.

- Added discussion regarding invalid HTML. See section [8.1.1](#).

- Added discussion regarding math in section names, \imagegraphics scale option. See section [6](#).

- Added discussion regarding international languages in section names. See section [8.14](#).

- caption**: Fix for options clash.

- xr, xr-hyper**: Now compatible.

- subcaption**: Improved horizontal spacing.

- multicol**: Fix for minipage inside multcols.

- multicolrule**: Updated for v1.2.

- tocbasic**: Minor update.

- acronym**: Fix for acronym in float caption.

- kotexutf**: Patch with *pdflatex* and new lwarf labels.

- extramarks, fancyhdr**: Updated for v3.10.

- memoir**: Added docs regarding version numbers. See section [8.13](#).

- zref**: No longer required.

- Added ar, ed, indentfirst, nameauth, truncate.

- Verified to work as-is with **changelog**.

- Prevented colortab, epsf, hyper, picinpar, picins, sistyle, ucs.

v0.65: css layout, alt tags, Japanese.

page layout

- Moved the sidetoc to the left side, allowing improved css for margin notes.

- Improved page layout css.

image alt tags

- graphicx \includegraphics**: Added the alt key to assign an alt tag to an image. Default is “image”, assigned to pass validation.

duplicate HTML files

- Detects and causes an error if duplicate HTML file names are generated, caused by identical or similar sectioning names.

fixes

- Fix for **tabular***.

- Fix for tabular border colors.
 - Fixes \quad, \enskip, and figure captions to pass validation.
 - Added `ltj*` classes, `bounddvi`, `gentombow`, `lltjext`, `plarydshln`, `plext`, `plexarydshln`, `plextcolortbl`, `pxatbegshi`, `pxeveryshi`, `pxftnright`, `pxjahyper`, `tascmac`.
 - Verified to work with `plarray`, `plautopatch`, `plexarray`, `plexdelarray`, `pxgentombow`, `plsiunitx`, `pxpdfpages`, `pxpgfrcs`, `pxpgfmark`.
 - Added support for `fontspec` \textspec and \sishape.
 - Added `multicol`'s \docolaction.
 - Added `embrac`, `footnoterange`, `multicolrule`, `versonotes`.
- v0.64:** Koma-Script, Japanese, Chinese.
- Added `utarticle` and related classes.
 - Improved `ujarticle` and related classes.
 - Fix for `biblatex` with C_TE_X and other classes.
 - Fixes for `scrlayer`, `scrlayer-scrpage`.
 - `addlines`: Updated to v0.3.
 - Added `bsheaders`, `gmeometric`, `marginal`, `rmpage`, `scrpage2`.
- v0.63:** mdframed, Chinese, Japanese, Korean
- Added \linkhomename: A user-definable name for the **Home** link.
 - Documented \sidetocname: A user-definable name for the sidetoc.
 - Fix: \LinkHome for print output.
 - Moved package load checks to the l warp core to reduce the number of l warp-* files.
 - `mdframed`: Fix with `amsthm`, improved titles and font control. Improved rule widths.
 - Fixes for xeCJK.
 - Added `xpinyin`, `zhlineskip`.
 - Verified to work with `cjkpunct`, `upzkinsoku`, `zhspacing`.
 - Verified to work with `zxjatype`, `luatexja`, `luatexja-fontspec`.
 - Added `bxjsarticle` and related classes.
 - Added `ltjsarticle` and related classes.
 - Added p_LA_TE_X, up_LA_TE_X, `ujarticle` and related classes.
 - Prevented `utarticle` and related classes.
 - Prevented `bxcjkatype`.
 - Verified to work with `kotex`, `xetexko`, `luatexko`.

v0.62: MiK_TE_X docs, HTML title, CT_EX, xeCJK, bitpattern.

- docs
 - Docs: Setting a UTF-8 locale. See section 9.8.
 - MiK_TE_X: Docs for *MiK_TE_X Console* and *miktex-poppler-bin*.
- MiK_TE_X
 - HTML <title>
 - HTML subpage titles: Added \HTMLTitleBeforeSection and \HTMLTitleAfterSection to select whether the HTML <title> displays the website name before or after the section name. See section 7.6.
- HTML <title>
 - Fix for package options handling.
 - Fixes for horizontal white space between fminipage, fcolorminipage, colorboxBlock, fcolorboxBlock.
 - Logos: Fix for X_TE_X logo, improved css, made robust, improved search-engine optimization.
 - \\[\$1]: Additional HTML
 if \$1 > 0 pt.
 - Fixes for \includgraphics filename, and with FormatWP.
 - Fix: css for \textup.
 - Fix: Added \slshape.
- Chinese
 - Added ctex package and related classes, xeCJK.
 - Prevented CJK, CJKutf8 unless xeCJK, ctex are used.
- packages
 - chemfig: Docs for new macro \polymerdelim.
 - asymptote: Docs for compilation.
 - chngpage: Fix to load l warp-changepage.
 - algorithm2e: Fix with non-book classes.
 - register: Updated to v1.8.
 - nicefrac: Improved font control and css, honors nice and ugly.
 - units: Improved font control and css, honors tight and loose.
 - xfrac: Improved css.
 - textcomp and xunicode: Fix conflicts with \textcircled.
 - ulem: Improved compatibility with CJKulem, lateximage.
 - MATHJAX and siunitx: Removed inoperable extension.
 - Added bitpattern, pdfcomment, pdfmarginpar, tram, unitsdef, xchangebar.
 - Added musicography, octave, semantic-markup.
 - Added 2in1, flippdf, notespages, rviewport, twooup.

v0.61: Custom compilation, EPS-related packages, documentation, indexes.

- docs
 - Split index into multiple indexes.
 - Improved documentation regarding font selection. See section 7.4.
 - Added documentation regarding debugging options. See section 35.
 - Added documentation regarding HTML entities inside program listings. See section 8.2.1.
- custom compiling
 - Added options to specify the shell commands to execute for **l warpmk print** and **l warpmk html**, allowing the use of l warp with perltex, pythontex, etc. If not specified, these are set automatically depending on the L_AT_EX engine, --shell-escape, and l warp options. See section 9.

⚠ changed names

- Changed macro names to match `\displaymathother`, `\displaymathnormal`:

	Old	New
	<code>\StartDynamicMath</code>	<code>\inlinemathother</code>
	<code>\StopDynamicMath</code>	<code>\inlinemathnormal</code>

fixes

- Fix: Paragraph tags in a `tabular`.
- Fix: `supertabular` and `xtab` captions.
- Fix: dvi L^AT_EX `\includegraphics` EPS images.
- Fix: `newfloat` lists.
- Fix: css footnotes text align, minipage tabular and footnote margins.

packages

- Added `epsfig`, `psfrag`, `psfragx`, `pstool`.
- Added `copyrightbox`, `pdfprivacy`, `thinsp`, `threadcol`, `uspace`.
- Added `chkfloat`, `cmdtrack`, `dprogress`, `lua-visual-debug`, `refcheck`, `srcltx`, `srctex`, `vpe`, `xbmks`.

v0.60: Fixes for `longtable`, `listings`.

fixes

- `longtable`, etc.: Fixes for slowdown and memory management for very long tables.
- `listings`: Fix for HTML entities, and also when used inside a list.
- `diagbox`: Fix for incorrect HTML par tags.

packages

- Added `2up`, `booklet`.
- Added `bophook`, `draftfigure`, `fullminipage`, `grid-system`, `layaureo`.
- Added `leading`, `widows-and-orphans`.
- Added `fancytabs`, `thumb`, `thumbs`.

v0.59: DVI `latex`, MATHJAX, `asymptote`, `pdftricks` and `pstricks`, `epstopdf`, `brqen`.

⚠ Reset the configuration

- Due to changes in `lwarpmk`, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which `lwarpmk` may then be used with the new configuration files.

lwarpmk

- Added an error if `lwarpmk.conf`'s format has changed and the document must be recompiled.
- Added a warning if the `lwarpmk.conf` configuration file appears to be for the wrong operating system, in case files are transferred between systems.
- Added

`lwarpmk epstopdf <list-of-EPS-files>`

to quickly convert a document's EPS images to PDF or SVG. See section 8.8.

DVI `latex`

- Added support for DVI `latex`. See section 7.5.

`latextmk`

- Fix for --shell-escape with `latextmk`.

math

- Updated MATHJAX script to v2.7.4.
- Fix: MATHJAX chapter number removed from non-numeric tagged equations.
- Added MATHJAX support for `nicefrac`, `units`.
- Fix for `\[` and `\]` with `\displaymathnormal`.

images

- Fix for `\includegraphics` filename expansion.

- `\includegraphics` now works with `.pdf` and `.eps` filename extensions.
 - Moved `amsmath` out of the `l warp` core.
 - Fix for `chemformula \NMR`.
 - Added `asymptote`, `pdftricks`, `pstricks`, `pst-eps`.
 - Added `breqn`, `Slunits`.
 - Added `bxpapersize`, `canoniclayout`, `draftcopy`, `fnbreak`, `nccfancyhdr`.
 - Added `accsupp`, `axessibility`.
 - Added `xunicode`.
 - Improved and now supports `epstopdf`.
 - Tested to work as-is: `eepic`, `sepfootnotes`.
- docs**
- Added information about setting up a development version of `l warp`.

v0.58: Extensive improvements in indexing, glossaries. Adds PDF-inclusion packages.

 **Reset the configuration**

- Due to changes in `l warpmk`, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which `l warpmk` may then be used with the new configuration files.

***l warpmk*
glossaries**

- `l warpmk`: Added the `-p` option to specify the project name.
- `l warpmk`: Now uses `makeglossaries` for glossary generation, allowing the processing of multiple glossaries at once.
- Added `l warp` option `GlossaryCmd` to specify the shell command used by `l warpmk printglossary` and `l warpmk htmlglossary`. Defaults to `makeglossaries`.

index and glossary

- Docs: Extra indexing options. See section [8.6.14](#).
- Added support for `makeindex`. (Previously supported only `xindy`.) Also added indexing packages listed below.
- Added `l warp` options `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to specify shell commands used by `l warpmk printindex`, `l warpmk htmlindex`, and `latexmk`. May be preset with the `makeindex` or `xindy` `l warp` options. See section [7.5](#).
- Added `l warp` options `makeindex` and `xindy` to set `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to sensible values for a typical single index. See section [7.5](#).
- Added `l warp` option `makeindexStyle` to tell `l warpmk` to use a custom style instead of `l warp.ist`. See section [8.6.20](#).

misc. fixes

- Fix for index entries with `\see`, `\sealso`, `\emph`, `\textbf`, etc.
- Replaced each `\csuse` with `\nameuse` for improved error detection.
- Additional internal print/HTML macro selection improvements.

packages

- Fix: `\printindex` finishes pending `\index` writes first.
- Fixes for `memoir`: `makeidx`, `ccaption`, multiple indexes, `\specialindex`.
- Fixes for `komascript`: Indexing improvements.
- Added `imakeidx`, `index`, `repeatindex`, `splitidx`.
- Added `attachfile`, `attachfile2`, `intopdf`, `pdfpages`, `pdfx`.
- Added `cases`.
- Tested to work as-is: `notes2bib`, `hvindex`.

v0.57: algorithm2e, float styles, tabular packages, internal improvements.

MathJax

- Added support for MATHJAX equations with \footnote, \footnotemark.
- Added \StartDefiningMath and \StopDefiningMath for use when defining macros in the preamble which contain \$. See section 8.7.7.
- Added \inlinemathother and \inlinemathnormal to delimit math expressions which depend on a variable condition such as a counter. Such expressions will not be hashed for reuse, and will be converted to svg math images even when MATHJAX is enabled. See section 8.7.8.

⚠ new name

lateximage alt tags

- Renamed \EndDefiningTabulars to \StopDefiningTabulars.
- Improved localization for lateximage HTML alt tags. For svg math images, the alt tag under some conditions will be set to \MathImageAltText, which defaults to math image. For packages, the alt tag is set using the package name followed by \PackageDiagramAltText, which defaults to diagram. Ex:

(-xy- diagram)

See section 7.6.

misc. fixes

- Fix: Improved print/HTML macro selection.

• Fix: \href text catcodes.

• Fix: \subref text.

• Fixes: Colored \rule and \boxframe.

• float, rotfloat: Adds support for float styles ruled and boxed.

• float: Fix: Do not create \l@<type> until \listof is used.

• marginnote: Fix: Long optional argument.

• ellipsis: Adds \midwordellipsis.

• breakurl: Fix for text catcodes.

• Added algorithm2e, register, ltablex, xltabular, xellipsis, trimclip, errata, vowel, xpiano.

• Prevents glossary.

• Tested to work as-is with gauss, phonrule, piano, Slunits, tikzcodeblocks.

v0.56: Shell escape, tabular packages.

l warpmk

- Added

l warpmk pdftosvg <list-of-PDF-files>

to quickly convert a document's PDF images to svg, for use with HTML. See section 8.8.

• Added support for --shell-escape. See section 7.3.

tabular

• Added support for array w and W columns.

• Fix: \multicolumn parameter handling.

• Added support for double \hlines, \midrules, and vertical rules.

• Added support for arydshln dashed lines with HTML tabular, but reverts to plain rules for lateximage and svg math array.

misc. fixes

• Fix: \thinspace.

• Fix: paralist compact environments.

- [packages](#)
- Added `parnotes`, `quoting`, `lua-check-hyphen`, `tocenter`, `underscore`.
 - Added `bibunits`.
 - Tested to work as-is with `babelbib`, `bodegraph`, `fast-diagram`, `nicematrix`, `structmech`.

v0.55: Various fixes.

- [misc fixes](#)
- Fix: Extraneous space in file links, which also prevented *Calibre* EPUB conversions.
 - Fix: Float optional argument regression.
 - Fix: `\ForceHTMLTOC` with `\phantomsection`.
 - Fix: Overfull boxes in `lateximages`.
 - Fix: QED symbols in `lateximage`.
- [packages](#)
- `koma-script`: Fix: Figure with `\centering`, etc.
 - Added `clrdblpg`.

v0.54: Float `\centering`, improved image checks.

⚠ Reset the configuration

- Due to changes in `lwarfmk`, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which `lwarfmk` may then be used with the new configuration files.

[lwarfmk](#)

- `lwarfmk limages` checks for the presence of the HTML version of the document and valid image references before attempting to create the `latexitimages`.

[BIBTeX](#)

- `lwarfmk`: Improved error message if configuration file does not exist.
- Added documentation for avoiding error with BibTeX and `\etalchar`. See section 8.6.9.

[polyglossia](#)

- Added documentation regarding `polyglossia`. See section 8.15.4.

[macros in section names](#)

- Added documentation regarding the use of macros in section names. See section 8.1.

[document encoding](#)

- Renamed and added package options:

Old Package Option	New Package Option
<code>xdyFilename</code>	<code>xindyStyle</code>
<code>IndexLanguage</code>	<code>xindyLanguage</code>
—	<code>xindyCodepage</code>
—	<code>pdftotextEnc</code>

Use these options along with `inputenc` or `inputenx` to process documents in an encoding other than UTF-8. See section 7.4.

- Floats now honor `\centering`, `\raggedright`, `\raggedleft`, and their `ragged2e` equivalents, when placed directly after:

```
\begin{floattype}
\centering
```

[misc. fixes](#)

- `tikz`: `\pgfpicture`, `fit`, `align`, `font`.
- `ragged2e`: `\centering` etc.
- `hyperref`: `\hypertarget` was creating duplicate of `\label`.

- `hyperref`: Active chars inside `\hyperref`, `\hyperlink`.
- `hyperref`: `\ref` inside `\hyperlink` caused a nested HTML link.
- `glossaries`: Fix when not using `babel` or `polyglossia`.
- `textcomp`: `\textperthousand`.
- `LATEX` core verse environment: line spacing.
-  `packages` • Removed `\citetitle`, adjusted `\attribution`.
- `memoir`: Minor update for v3.7g.
- Added `inputenx`, `bibunits`, `chngpage`, `forest`, `magaz`, `gridset`.
- Prevents loading `ae`, `aecc`, `t1enc`, and `wasysym`.

v0.53: Improved image checks.

- l warpmk***
- `l warpmk`: Added a warning about corrupted images due to the need to recompile the document one more time.
 - `l warpmk`: Added the `l warpmk cleanimages` command.
 - Added documentation for `l warpmk cleanimages` and `l warpmk pdftohtml`.

v0.52: Improved footnotes, SVG math.

- documentation**
- Improved install instructions regarding `l warp_baseline_marker.png`.
 - Added documentation regarding footnotes in section headings, and footnotes with `\VerbatimFootnotes` from `fancybox`, `fancyvrb`. See section 8.5.4.
 - Added documentation regarding font selection when using Xe`LATEX` or Lua`LATEX` with `fontspec` and traditional font packages. See section 7.4.

- SVG math**
- Fix: Limit the number of background tasks when generating `lateximages`.
 - Added user-adjustable SVG math font scaling. See section 84.3.
 - Added warnings if `l warp_baseline_marker.png` is not present, or if `graphicx` or `graphics` is not loaded.
 - Improved `\ensuremath` hashing expansion.
 - Fix: `equation*` with `split`.
 - Tabbing now works inside a `lateximage`. Use for math in tabbing.

- MathJax**
- Fix: MATHJAX script was not executing in some conditions.
 - Added `\CustomizeMathJax` to add custom functions. See section 8.7.

- footnotes**
- Fix: Footnote numbering when using `HTMLDebugComments`.
 - Fix: Footnote paragraph tags.
 - Fix: `FootnoteDepth` defaults to `\subsubsection`.

- misc. fixes**
- Fix: `\kill` in a `lateximage`.
 - Fix: `\FileDepth`, misc. others, when input encoding is not `utf8`.
 - Fix: `\texorpdfstring` in a section name.

- packages**
- `hyperref` emulation: Fix for #, %, &, ~, _ characters in URLs.
 - `fancybox`, `fancyvrb`: Initial support for `\VerbatimFootnotes`.
 - `nicefrac`: Added with fix for `\ensuremath`.
 - `graphicx`: Fix for option defaults. Added v1.1a/b options.
 - `endfloat`: Updated for v2.6.
 - `url`: Fixes for active characters.

2 Introduction

The `lwarp` project aims to allow a rich \LaTeX document to be converted to a reasonable HTML5 interpretation, with only minor intervention on the user's part. No attempt has been made to force \LaTeX to provide for every HTML -related possibility, and HTML cannot exactly render every possible \LaTeX concept. Where compromise is necessary, it is desirable to allow the print output to remain typographically rich, and compromise only in the HTML conversion.

Several "modern" features of HTML5 , css3 , and svg are employed to allow a fairly feature-rich document without relying on the use of JAVASCRIPT . Limited testing on older browsers shows that these new features degrade gracefully.

`lwarp` is a native \LaTeX package, and operates by either patching or emulating various functions. Source-level compatibility is a major goal, but occasional user intervention is required in certain cases.

As a package running directly in \LaTeX , `lwarp` has some advantages over other methods of HTML conversion. \TeX itself is still used, allowing a wider range of \TeX trickery to be understood. Lua expressions are still available with Lua\TeX . Entire categories of \LaTeX packages work as-is when used with `lwarp`: definitions, file handling, utilities, internal data structures and calculations, specialized math-mode typesetting for various fields of science and engineering, and anything generating plain-text output. Blocks of PDF output may be automatically converted to svg images while using the same font and spacing as the original print document, directly supporting Tikz and picture . Numerous packages are easily adapted for HTML versions, either by loading and patching the originals, or by creating nullified or emulated replacements, and all without resorting to external programming. As a result, several hundred packages have already been adapted (table 2), and an uncounted number more work as-is.

Packages have been selected according to several criteria: perceived importance, popularity lists, recent CTAN updates, CTAN topics, mention in other packages, support by other HTML conversion methods, and from sample documents taken from public archives. These include some "obsolete" packages as well.¹

Assistance is also provided for modifying the HTML output to suit the creation of EPUB documents, and for modifying the HTML output to ease import into a word processor.

`pdflatex`, `xelatex`, or `lualatex` may be used, allowing `lwarp` to process the usual image formats. While generating HTML output, svg files are used in place of PDF . Other formats such as PNG and JPG are used as-is.

¹An amazing number of decades-old packages are still in use today.

svg images may be used for math, and are also used for picture, Tikz, and similar environments. The svg format has better browser and e-book support than MathML (as of this writing), while still allowing for high-quality display and printing of images (again, subject to potentially bug-ridden² browser support).

Furthermore, svg images allow math to be presented with the same precise formatting as in the print version. Math is accompanied by <alt> tags holding the L^AT_EX source for the expression, allowing it to be copy/pasted into other documents.³ Custom L^AT_EX macros may be used as-is in math expressions, since the math is evaluated entirely inside L^AT_EX. An MD5 hash is used to combine multiple instances of the same inline math expression into a single image file, which then needs to be converted to svg only a single time.

The MATHJAX JavaScript display engine may be selected for math display instead of using svg images. Subject to browser support and Internet access, MATHJAX allows an HTML page to display math without relying on a large number of external image files.⁴ lwarp maintains L^AT_EX control for cross-referencing and equation numbering, and attempts to force MATHJAX to tag equations accordingly.

A *texlua* program called *lwarpmk* is used to process either the print or HTML version of the document. A few external utility programs are used to finish the conversion from a L^AT_EX-generated PDF file which happens to have HTML5 tags, to a number of HTML5 plain-text files and accompanying images.

lwarp automatically generates the extra files necessary for the HTML conversion, such as css and .xdy files, and configuration files for the utility *lwarpmk*. Also included is a parallel version of the user's source document, <sourcename>-html.tex, which selects HTML output and then inputs the user's own source. This process allows both the printed and HTML versions to co-exist side-by-side, each with their own auxiliary files.

When requesting packages during HTML conversion, lwarp first looks to see if it has its own modified version to use instead of the standard L^AT_EX version. These lwarp-packagename.sty files contain code used to emulate or replace functions for HTML output.

²FIREFOX has had an on-again/off-again bug for quite some time regarding printing svgs at high resolution.

³There seems to be some debate as to whether MathML is actually an improvement over L^AT_EX for sharing math. The author has no particular opinion on the matter, except to say that in this case L^AT_EX is much easier to implement!

⁴One svg image file per math expression, except that duplicate inline math expressions are combined into a single file according to the MD5 hash function of its contents. A common scientific paper can easily include several thousand files, and in one case the MD5 hash cut the number of files in half and the rendering time by 30%.

2.1 Typesetting conventions

Font weight, family, and style are used to indicate various objects:

Table 1: Typesetting conventions

package	\LaTeX package.
program	Program's executable name.
option	Program or package option.
filename	File name in the operating system.
BRAND NAME	Proper name for a program, operating system, etc.
commands	Commands to be entered by the user.
code	Program code.
\macro	\LaTeX macro.
environment	\LaTeX environment.
counter	\LaTeX counter.
boolean	\LaTeX boolean.
<element>	HTML element.
attribute	HTML attribute.
User Interface	A user-interface item.
ACRO	Acronym.

2.2 Supported packages and features

Table 2 lists some of the various L^AT_EX features and packages which may be used.

Package names are colored according to their support level:

name: Supported as-is.

name: Modified to work with HTML output, and perhaps also as print output in SVG math or `lateximage` environments.

name: Emulated for HTML output.

name: Ignored for HTML output, but provides source-level compatibility.

MJ: Supported as-is for MATHJAX, subject to limitations.

MJ: Emulated for MATHJAX using custom macros, subject to limitations.

MJ: Ignored by MATHJAX, but may be used in the document source. May be converted to SVG images.

Table 2: L^AT_EX l warp package – Supported features

Category	Status and supported features.
Engines:	DVI L ^A T _E X, pdfL ^A T _E X, XeL ^A T _E X, LuaL ^A T _E X, upL ^A T _E X
Compiling:	<i>latexmk</i> , <i>perltex</i> , <i>pythontex</i> , <i>make</i> , etc.
Classes:	article, book, report, scrartcl, scrbook, scrreprt, memoir, CJK-related as listed below.
Koma-script:	<i>scrextend</i> , <i>scrhack</i> , <i>scrlayer</i> . Others as listed below.
Memoir:	memhfixc
Languages:	<i>babel</i> , <i>cjkpunct</i> , <i>imnattypo</i> , <i>luavlna</i> , <i>polyglossia</i> , <i>xeCJK</i> , <i>xevlna</i> .
Chinese:	C _T E _X , <i>ctex</i> , <i>upzhkinsoku</i> , <i>xpinyin</i> , <i>zhlineskip</i> , <i>zhspacing</i> .
Japanese:	upL ^A T _E X, LuaT _E X-ja, gentombow, <i>ltjtext</i> , <i>plarray</i> , <i>plarydshln</i> , <i>plautopatch</i> , <i>plex</i> , <i>plexarray</i> , <i>plexarydshln</i> , <i>plextcolorbl</i> , <i>plexdelarray</i> , <i>pxatbegshi</i> , <i>pxeveryshi</i> , <i>pxftnright</i> , <i>pxgentombow</i> , <i>pxjahyper</i> , <i>pxpdfpages</i> , <i>pxpgfrcs</i> , <i>pxpgfmark</i> , <i>tascmac</i> , <i>zxjatype</i> . <i>bxjsarticle</i> and related, <i>ltjsarticle</i> and related, <i>luatexja</i> , <i>luatexja-fontspec</i> , <i>ujarticle</i> and related, <i>utarticle</i> and related.
Korean:	<i>kotex</i> , <i>luatexko</i> , <i>xetexko</i> .

l warp Supported Functions – continued

Category	Status
Page layout:	2in1, 2up, a4, a4wide, a5comb, addlines, anysize, atbegshi , blowup, booklet, bophook, bounddvi, bxpapersize, canoniclayout, changelayout , changepage , chngpage, clrdblpg, continue, draftcopy, draftfigure, draftwatermark, ebook, everyshi, fancyhdr , fancytabs, flippdf, fullminipage, fullpage, fwlw, geometry, gmeometric, grid, grid-system , gridset, layaureo, layout, layouts, leading, lscape, ltxgrid, nccfancyhdr, notespages, nowidow, pagegrid, pagesel, parallel , parcolumns , pdfcolparallel, pdfcolparcolumns, pdfcrypt, pdflandscape, pdfprivacy, preview, ragged2e , returntogrid, rmpage, scrlayer-scrpage , scrpage2 , setspace , selectp, textarea, threadcol, thumb, thumbs, titleps, toccenter, turnthepage, twoup, typearea, underlin, vmargin, watermark, widows-and-orphans, zwpagelayout.
Sectioning:	Adds FileDepth for splitting the HTML output. Files may be numbered sequentially or named according to section name. Common short words and punctuation are removed from the filenames. anonchap , bsheaders , fncychap , hypbmsec , indentfirst , quotchap , section , sectionbreak , secdot , sectsty , titlesec , tocvsec2 .
Table of contents, figures, tables:	Supported, with hyperlinks. etoc, minitoc, multitoc, shorttoc , tableof , titletoc, tocbasic, tocbibind , tocdata , tocloft, tocstyle, tocvsec2 .
Title page:	\maketitle, titlepage, authblk, authoraftertitle, titling.
Front & back matter:	abstract , appendix .
Indexing:	makeindex , <i>xindy</i> , and <i>xindex</i> are supported, with hyperlinks. gindex , hvindex , idxlayout , imakeidx , index , makeidx , repeatindex , splitidx , varindex , <i>xindex</i> .
Glossary:	gloss , glossaries and <i>xindy</i> , nomencl .
Bibliography:	babelbib , bibtopic , backref , biblatex , bibunits , chapterbib , cite , citeref , collref , drftcite , hypernat , jurabib , mcite , mciteplus , multibib , natbib , notes2bib , splitbib , showtags .

l warp Supported Functions – continued

Category	Status
Cross-references:	bookmark, breakurl , cleveref , fancyref , hypdestopt , hyperref , perpage , prettyref , titleref , url , variorref , xcite , xr , xr-hyper , xurl , zref .
Margin notes:	marginal, marginfit, marginfix, scrlayer-notecolumn , versonotes .
Footnotes:	Adds FootnoteDepth to print footnotes at section breaks. MATHJAX emulation for \footnote, and also as marked in the following: bigfoot , dblfnote , endheads , endnotes ^{MJ} , enotez ^{MJ} , fixfoot , fnbreak , fnpara , fnpos , footmisc , footnote , footnotebackref , footnoterange , footnpag , manyfoot , marginnote ^{MJ} , nccfoots ^{MJ} , pagenote ^{MJ} , parnotes ^{MJ} , pdfcolfoot , pfnote , sepfootnotes , sidenotes ^{MJ} , tablefootnote .
Math:	Converted to SVG images with HTML <alt> tags containing the LATEX source for the math expression. MATHJAX supported as an alternative. amsmath ^{MJ} : AMS environments are supported. User-defined macros are available during conversion, due to native LATEX processing.
Theorems:	Native LATEX theorems, amsthm , apxproof , ntheorem , shadethm , theorem , thmbox , thmtools .
Additional math:	Math fonts via SVG images, accents ^{MJ} , amscd ^{MJ} , amscdx , autobreak ^{MJ} , autonum , backnaur ^{MJ} , bm ^{MJ} , braket ^{MJ} , breqn ^{MJ} , bussproofs ^{MJ} , cases ^{MJ} , centernot ^{MJ} , cmbright ^{MJ} , colonequals ^{MJ} , decimal ^{MJ} , delarray , DotArrow ^{MJ} , dotlessi ^{MJ} , dotlessj ^{MJ} , esvect ^{MJ} , extarrows ^{MJ} , fixmath ^{MJ} , fouridx ^{MJ} , fourier ^{MJ} , guass , hhtensor ^{MJ} , icomma ^{MJ} , isomath ^{MJ} , jkmath , kpfonts ^{MJ} , kpfonts-ott ^{MJ} , leftidx ^{MJ} , libertinustlmath ^{MJ} , mathalpha ^{MJ} , mathastext ^{MJ} , mathcomp ^{MJ} , mathdesign ^{MJ} , mathdots ^{MJ} , mathfixs ^{MJ} , mathpazo ^{MJ} , mathptmx ^{MJ} , mathpunctspace ^{MJ} , mathspec ^{MJ} , mathtools ^{MJ} , mattens ^{MJ} , maybemath ^{MJ} , mdwmath ^{MJ} , mismath ^{MJ} , mletright ^{MJ} , multiobjective ^{MJ} , nccmath ^{MJ} , nicematrix ^{MJ} , noitcrl ^{MJ} , newpxmath ^{MJ} , newtxmath ^{MJ} , newtxsf ^{MJ} , pb-diagram , pxfonts ^{MJ} , resizegather ^{MJ} , rmathbr ^{MJ} , scalarel ^{MJ} , shuffle ^{MJ} , skmath ^{MJ} , stackrel ^{MJ} , statex2 ^{MJ} , statistics , statmath ^{MJ} , subsubscripts ^{MJ} , tensind , tensor ^{MJ} , textualicomma ^{MJ} , txfonts ^{MJ} , txgreeks ^{MJ} , unicode-math ^{MJ} , upgreek ^{MJ} , ushort ^{MJ} , witharrows ^{MJ} , xfakebold ^{MJ} , xy . Many others work as-is.

l warp Supported Functions – continued

Category	Status
Display math with \displaymathother:	Complicated math objects in display math, such as tikz-cd , etc.
Units and fractions:	nicefrac ^{MJ} , Slunits ^{MJ} , siunitx ^{MJ} , units ^{MJ} , unitsdef , xfrac ^{MJ} .
Floats:	Appear where declared. capt-of , caption , cutwin , dblfloatfix , endfloat , fewerfloatpages , fix2col , flafter , float , floatflt , floatrow , fltrace , ftcap , hypcap , keyfloat , morefloats , multicap , newfloat , nonfloat , picinpar , placeins , rotfloat , stfloats , subcaption , subfig , subfigure , subfloat , swfigure , topcapt , trivfloat , wrapfig .
Tabular:	tabular environment, array ^{MJ} , arydshln ^{MJ} , bigdelim ^{MJ} , bigstrut ^{MJ} , booktabs ^{MJ} , colortbl ^{MJ} , cable , diagbox , hhline ^{MJ} , longtable , ltablex , ltxtable , multirow ^{MJ} , supertabular , tabularx , tabulary , threeparttable , threeparttablex , widetable , xltabular , xtab .
Graphics:	graphics and graphicx . \includegraphics supports width , height , origin , angle , and scale tags, and adds class . References to PDF files are changed to SVG , other image types are accepted as well. \rotatebox and \scalebox are supported as well as HTML can handle. rotating is emulated but all objects are unrotated in HTML . picture , tikz , and xy are converted to an SVG image. asymptote , curves , datatool , eepic , epsf , epsfig , epstopdf , figsize , fitbox , grffile , lpic , luamplib , media9 , movie15 , multimedia , overpic , pict2e , pinlabel , psfrag , psfrags , pst-eps , pstool , pstricks , rlepsf , rviewport , svg , svg-extract , tikz , tikz-3dplot , tikz-imagelabels , xy
xcolor :	Full package color names, any color models, and mixing . \textcolor , \colorbox , \fcolorbox . Enhanced for HTML compatibility.
Lists:	Standard L<small>A</small>T<small>E</small>X environments, enumerate , enumitem , eqlist , hang , listliketab , paralist .
Environments:	Standard L<small>A</small>T<small>E</small>X environments.
minipage , \parbox :	Some HTML5 -imposed limitations. Nested minipages are supported. eqparbox , minibox , pbox , shapepar .
Quotations:	copyrightbox , csquotes , epigraph , quoting , verse .

l warp Supported Functions – continued

Category	Status
Verbatim:	fancyvrb, fvextra, moreverb, shortvrb, verbatim.
Frames:	boxedminipage, boxedminipage2e, fancybox, fbox ^{MJ} , framed, mdframed, niceframe, shadow, tcolorbox ^{MJ} , verbbars.
Multi-columns:	adjmulticol, multicol, multicolrule, vwwcol.
Margins:	fullwidth, hanging, midpage.
Line numbering:	fnlineno, lineno.
Direct formatting:	\emph, \textsuperscript, \textbf, etc are supported. \bfseries, etc. are only supported in some cases. cancel ^{MJ} , ellipsis, embrac, enparen, hyphenat, lettrine, lips, lua-check-hyphen, luacolor, magaz, moresize, nolbreaks, normalcolor, pdfcol, pdfcolmk, pdfrender, realscripts, relsize ^{MJ} , scalefnt, seqsplit ^{MJ} , soul, soulpos, soulutf8, stackengine, textfit, thinsp, trimclip, truncate, ulem, umoline, underscore, uspace, xellipsis.
Acronyms:	acro, acronym.
Ordinals:	engord, fmtcount, nth.
Text ligatures:	Ligatures for symbols are supported. Ligatures for f, q, t are intentionally turned off because many simpler browsers do not display them correctly. Modern full-featured browsers re-create these ligatures on-the-fly.
Horizontal space:	HTML output for thin-unbreakable, unbreakable, \enskip, \quad, \qquad, \hspace.
Rules:	\rule with width, height, raise, text color.
HTML reserved characters:	\&, \textless, and \textgreater are converted to HTML entities.
Fonts:	Used as-is. Appear in SVG math expressions or embedded image environments. fontaxes, nfssext-cfr, slantsc, tabfigures. Tested to work as-is: Special font macros in cfr-lm and others which use nfssext-cfr. Also see the math section for math and MATHJAX support for math font packages.

l warp Supported Functions – continued

Category	Status
Symbols:	Native L ^A T _E X diacriticals, <code>academicons</code> , <code>amssymb</code> ^{MJ} , <code>bding</code> , <code>ccicons</code> , <code>chemgreek</code> , <code>dingbat</code> , <code>euro</code> , <code>eurosym</code> , <code>fontawesome</code> , <code>fontawesome5</code> , <code>gensymb</code> ^{MJ} , <code>latexsym</code> ^{MJ} , <code>marvosym</code> , <code>metabook</code> , <code>metalogox</code> , <code>pifont</code> , <code>textalpha</code> , <code>textcomp</code> , <code>textgreek</code> , <code>typicons</code> , <code>xunicode</code> .
Files:	<code>attachfile</code> , <code>attachfile2</code> , <code>hyperxmp</code> , <code>inputrc</code> , <code>intopdf</code> , <code>pdffpages</code> , <code>pdfx</code> , <code>xmpincl</code> .
Science and engineering:	<code>algorithm2e</code> , <code>algorithmicx</code> , <code>ar</code> ^{MJ} , <code>askmaps</code> , <code>axodraw2</code> , <code>bitpattern</code> , <code>blochsphere</code> , <code>bodegraph</code> , <code>bohr</code> , <code>bytefield</code> , <code>chemfig</code> , <code>chemformula</code> , <code>chemgreek</code> , <code>chemmacros</code> , <code>chemnum</code> , <code>circuitikz</code> , <code>econometrics</code> ^{MJ} , <code>elements</code> , <code>englcc</code> ^{MJ} , <code>fast-diagram</code> , <code>ghsystem</code> , <code>hepnicenames</code> , <code>heppennames</code> , <code>hepunits</code> ^{MJ} , <code>isotope</code> ^{MJ} , <code>karnaughmap</code> , <code>karnaugh-map</code> , <code>keystroke</code> , <code>listings</code> , <code>listingsutf8</code> , <code>linop</code> , <code>menukeys</code> , <code>mhchem</code> ^{MJ} , <code>minted</code> , <code>pgfgantt</code> , <code>phfqt</code> , <code>physics</code> ^{MJ} , <code>physunits</code> ^{MJ} , <code>plimsoll</code> ^{MJ} , <code>qcircuit</code> , <code>register</code> , <code>simplebnf</code> , <code>simpler-wick</code> , <code>slashed</code> ^{MJ} , <code>steinmetz</code> ^{MJ} , <code>structmech</code> , <code>struktex</code> , <code>syntaxdi</code> , <code>tikz-karnaugh</code> , <code>tikzcodeblocks</code> , <code>venndiagram</code>
Arts and humanities:	<code>foreign</code> , <code>forest</code> , <code>lyluatex</code> , <code>musicography</code> , <code>nameauth</code> , <code>octave</code> , <code>phonrule</code> , <code>piano</code> , <code>schemata</code> , <code>semantic-markup</code> , <code>tikz-dependency</code> , <code>vowel</code> , <code>xpiano</code>
Academic:	<code>academicons</code> , <code>classicthesis</code> , <code>doi</code> , <code>doipubmed</code> , <code>orcidlink</code> ^{MJ} , <code>termcal</code>
Admonitions:	<code>awesonebox</code> , <code>notes</code> .
Editorial:	<code>changebar</code> , <code>changelog</code> , <code>changes</code> , <code>easy-todo</code> , <code>easyReview</code> , <code>ed</code> , <code>errata</code> , <code>fixme</code> , <code>fixmetodonotes</code> , <code>pdfcomment</code> ^{MJ} , <code>pdfmarginpar</code> , <code>todo</code> , <code>todonotes</code> , <code>tram</code> , <code>xchangebar</code> .
Accessibility:	<code>accessibility</code> ^{MJ} , <code>accsupp</code> ^{MJ} , <code>axessibility</code> ^{MJ} , <code>pdfcomment</code> ^{MJ} , <code>repltext</code> ^{MJ} , <code>tagpdf</code> .
Package handling:	<code>catoptions</code> .
Debug:	<code>chkfloat</code> , <code>cmdtrack</code> , <code>dprogress</code> , <code>lua-visual-debug</code> , <code>refcheck</code> , <code>srcltx</code> , <code>srctex</code> , <code>vpe</code> , <code>xbmks</code> .

l warp Supported Functions – continued

Category	Status
Working as-is:	Various utility, calculation, file, and text-only packages, such as <code>calc</code> , <code>fileerr</code> , <code>somedefs</code> , <code>trace</code> , <code>xspace</code> . Also, most math-only packages, including specialized typesetting for various fields of science and engineering.

3 Alternatives

Summarized below are several other ways to convert a \LaTeX or other document to HTML . Where an existing \LaTeX document is to be converted to HTML , `lwarp` may be a good choice. For new projects with a large number of documents, it may be worth investigating the alternatives before decided which path to take.

3.1 internet class

`cls internet` The closest to `lwarp` in design principle is the `internet` class by Andrew Stacey — an interesting project which directly produces several versions of markdown, and also HTML and EPUB . <https://github.com/loopspace/latex-to-internet>

3.2 TEX4HT

`Prog TeX4ht` <http://tug.org/tex4ht/>
`Prog htlatex`

This system uses native \LaTeX processing to produce a DVI file containing special commands, and then uses additional post-processing for the HTML conversion by way of numerous configuration files. In some cases `lwarp` provides a better HTML conversion, and it supports a different set of packages. `TeX4ht` produces several other forms of output beyond HTML , including ODT and a direct path to EPUB , and is still being developed.

3.3 Translators

These systems use external programs to translate a subset of \LaTeX syntax into HTML . Search for each on CTAN (<http://ctan.org>).

`Prog Hevea` **H^Ev^Ea:** <http://hevea.inria.fr/> (not on CTAN)
`Prog TtH` **T_TH:** <http://hutchinson.belmont.ma.us/tth/>
`Prog GELLMU` **GELLMU:** <http://www.albany.edu/~hammond/gellmu/>
`Prog LaTeXML` **L^TE_XML:** <http://dlmf.nist.gov/LaTeXML/>
`Prog Plastex` **PlasTeX:** <https://github.com/tiarno/plastex>
`Prog LaTeX2HTML` **L^TE_X2HTML:** <http://www.latex2html.org/>
and <http://ctan.org/pkg/latex2html>.
`Prog TeX2page` **TeX2page:** <http://ds26gte.github.io/tex2page/index.html>

Finally, Glad \TeX may used to directly insert \LaTeX math into HTML :

`Prog GladTeX` **Glad \TeX :** <http://humenda.github.io/GladTeX/>

3.4 AsciiDoc and Asciidoctor

AsciiDoc is one of the most capable markup languages, providing enough features to produce the typical technical-writing document with cross-references, and it writes \LaTeX and HTML.

Prog AsciiDoc **Asciidoctor:** <http://asciidoctor.org/> (More active.)

Prog AsciiDoctor **AsciiDoc:** <http://asciidoc.org/> (The original project.)

3.4.1 Asciidoctor- \LaTeX

The Asciidoctor-LaTeX project is developing additional \LaTeX -related features.

Asciidoctor-LateX:

<http://www.noteshare.io/book/asciidoctor-latex-manual>

<https://github.com/asciidoctor/asciidoctor-latex>

3.5 Pandoc

Prog Pandoc A markup system which also reads and writes \LaTeX and HTML.

Pandoc: <http://pandoc.org/>

(Watch for improvements in cross-references to figures and tables.)

3.6 Word processors

Prog Word It should be noted that the popular word processors have advanced through the years in

Prog LibreOffice their abilities to represent math with a \LaTeX -ish input syntax, unicode math fonts, and high-quality output, and also generate HTML with varying success. See recent developments in MICROSOFT® *Word*® and LIBREOFFICE™ *Writer*.

3.7 Commercial systems

Prog Adobe Likewise, several professional systems exist whose abilities have been advancing in the

Prog FrameMaker areas of typesetting, cross-referencing, and HTML generation. See ADOBE® *FrameMaker*®,

Prog InDesign ADOBE *InDesign*®, and MADCAP *Flare*™.

Prog Flare

3.8 Comparisons

AsciiDoc, Pandoc, and various other markup languages typically have a syntax which tries to be natural and human-readable, but the use of advanced features tends to require many combinations of special characters, resulting in a complicated mess of syntax. By

contrast, L^AT_EX spells things out in readable words but takes longer to type, although integrated editors exist which can provide faster entry and a graphic user interface. For those functions which are covered by the typical markup language it is arguable that L^AT_EX is comparably easy to learn, while L^AT_EX provides many more advanced features where needed, along with a large number of pre-existing packages which provide solutions to numerous common tasks.

Text-based document-markup systems share some of the advantages of L^AT_EX vs. a typical word processor. Documents formats are stable. The documents themselves are portable, work well with revision control, do not crash or become corrupted, and are easily generated under program control. Formatting commands are visible, cross-referencing is automatic, and editing is responsive. Search/replace with regular expressions provides a powerful tool for the manipulation of both document contents and structure. Markup systems and some commercial systems allow printed output through a L^AT_EX back end, yielding high-quality results especially when the L^AT_EX template is adjusted, but they lose the ability to use L^AT_EX macros and other L^AT_EX source-document features.

The effort required to customize the output of each markup system varies. For print output, L^AT_EX configuration files are usually used. For HTML output, a css file will be available, but additional configuration may require editing some form of control file with a different syntax, such as XML. In the case of lwarf, css is used, and much HTML output is adjusted through the usual L^AT_EX optional macro parameters, but further customization may require patching L^AT_EX code.

The popular word processors and professional document systems each has a large base of after-market support including pre-designed styles and templates, and often include content-management systems for topic reuse.

4 Installation

Table 3 shows the tools which are used for the L^AT_EX to HTML conversion. In most cases, these will be available via the standard package-installation tools.

Detailed installation instructions follow.

Table 3: Required software programs

Provided by your L^AT_EX distribution:

From T_EXLive: <http://tug.org/texlive/>.

L^AT_EX: *pdflatex*, *xelatex*, or *lualatex*.

The l warp package: This package.

The l warpmk utility: Provided along with this package. This should be an operating-system executable in the same way that *pdflatex* or *latexmk* is. It is possible to have the l warp package generate a local copy of *l warpmk* called *l warpmk.lua*. See table 4.

l uatex: Used by the *l warpmk* program to simplify and automate document generation.

xindy: The *xindy* program is used by l warp to create indexes. On a MiK^TE_X system this may have to be acquired separately, but it is part of the regular installer as of mid 2015.

l atexmk: Optionally used by *l warpmk* to compile L^AT_EX code. On a MiK^TE_X system, Perl may need to be installed first.

pdfcrop: Used to pull images out of the L^AT_EX PDF.

POPPLE_R PDF utilities:

pdftotext: Used to convert PDF to text.

pdfseparate: Used to pull images out of the L^AT_EX PDF.

pdftocairo: Used to convert images to svg.

These might be provided by your operating-system package manager, and MiK^TE_X provides *miktex-poppler-bin-** packages.

From POPPLER: poppler.freedesktop.org.

For MACOS[®], see <https://brew.sh/>, install *Homebrew*, then

Enter ⇒ **brew install poppler**

For WINDOWS, see Mik^TE_X *miktex-poppler-bin-**, or:

<https://sourceforge.net/projects/poppler-win32/> and:

<http://blog.alivate.com.au/poppler-windows/>

Perl:

This may be provided by your operating-system package manager, and may be required for some of the POPPLER PDF utilities.

strawberryperl.com (recommended), perl.org

Automatically downloaded from the internet as required:

MATHJAX: Optionally used to display math. From: mathjax.org

4.1 Installing the l warp package

There are several ways to install l warp. These are listed here with the preferred methods listed first:

Pre-installed: Try entering into a command line:

Enter ⇒ **kpsewhich l warp.sty**

If a path to l warp.sty is shown, then l warp is already installed and you may skip to the next section.

T E X Live: If using a T E X Live distribution, try installing via *tlmgr*:

Enter ⇒ **tlmgr install l warp**

MiK T E X:

1. For newer versions of MiK T E X, install or update l warp using the *MiK T E X Console* program.
2. For older versions of MiK T E X, to install l warp the first time, use the *MiK T E X Package Manager (Admin)*. To update l warp, use *MiK T E X Update (Admin)*.
3. Either way, also update the package *miktex-misc*, which will install and update the *l warpmk* executable.

Operating-system package: The operating-system package manager may already have l warp, perhaps as part of a set of T E X-related packages.

CTAN TDS archive: l warp may be downloaded from the Comprehensive T E X Archive:

1. See <http://ctan.org/pkg/l warp> for the l warp package.
2. Download the tds archive: l warp.tds.zip
3. Find the T E X local directory:

T E X Live:

Enter ⇒ **kpsewhich -var-value TEXMFLOCAL**

MiK T E X:

In the **Settings** window, **Roots** tab, look for a local tds root.

This should be something like:

/usr/local/texlive/texmf-local/

4. Unpack the archive in the tds local directory.
5. Renew the cache:

Enter ⇒ **mktexlsr**

— or —

Enter ⇒ **texhash**

Or, for WINDOWS MiK T E X, start the program called *MiK T E X Settings (Admin)* and click on the button called **Refresh FNDB**.

CTAN .dtx and .ins files: Another form of T E X package is .dtx and .ins source files. These files are used to create the documentation and .sty files.

1. See <http://ctan.org/pkg/lwarp> for the **l warp** package.
2. Download the zip archive **l warp.zip** into your own **l warp** directory.
3. Unpack **l warp.zip**.
4. Locate the contents **l warp.dtx** and **l warp.ins**
5. Create the **.sty** files:

Enter ⇒ **pdflatex l warp.ins**

6. Create the documentation:

```
pdflatex l warp.dtx (several times)
makeindex -s gglo.ist -o l warp.gls l warp.glo
makeindex -s gind.ist l warp.idx
pdflatex l warp.dtx (several times)
```

7. Copy the **.sty** files somewhere such as the **TEX Live** local tree found in the previous CTAN TDS section, under the subdirectory:

<texlocal>/tex/latex/local/l warp

8. Copy **l warp_baseline_marker.png** and **l warp_baseline_marker.eps** to the same place as the **.sty** files.

9. Copy the documentation **l warp.pdf** to a source directory in the local tree, such as:

<texlocal>/doc/local/l warp

10. Renew the cache:

Enter ⇒ **mktextslr**

— or —

Enter ⇒ **texhash**

Or, for Windows MiKTEX, start the program called *MiKTEX Settings (Admin)* and click on the button called **Refresh FNDB**.

11. See section 4.2.1 to generate your local copy of **l warpmk**.
12. Once the local version of **l warpmk.lua** is installed, it may be made available system-wide as per section 4.2.

Project-local CTAN .dtx and .ins files: The **.dtx** and **.ins** files may be downloaded to a project directory, then compiled right there, alongside the document source files. The resultant ***.sty** and **l warpmk.lua** files may be used as-is, so long as they are in the same directory as the document source. The files **l warp_baseline_marker.png** and **l warp_baseline_marker.eps** must also be copied as well. This approach is especially useful if you would like to temporarily test **l warp** before deciding whether to permanently install it.

Just testing!

4.2 Installing the **l warpmk** utility

(Note: If **l warpmk** is not already installed, it is easiest to use a local copy instead of installing it system-wide. See section 4.2.1.)

After the **l warp** package is installed, you may need to setup the **l warpmk** utility:

1. At a command line, try executing **lwarpmk**. If the *lwarpmk* help message appears, then *lwarpmk* is already set up. If not, it is easiest to generate and use a local copy. See section 4.2.1.
2. For MiK_TE_X, try updating the **miktex-misc** package. This may install the *lwarpmk* executable for you.

Otherwise, continue with the following:

3. Locate the file **lwarpmk.lua**, which should be in the **scripts** directory of the TDS tree. On a T_EX Live or MiK_TE_X system you may use

Enter ⇒ **kpsewhich lwarpmk.lua**

(If the file is not found, you may also generate a local copy and use it instead. See section 4.2.1.)

4. Create **lwarpmk**:

Unix: Create a symbolic link and make it executable:

- (a) Locate the T_EX Live binaries:

Enter ⇒ **kpsewhich -var-value TEXMFROOT**

This will be something like:

/usr/local/texlive/<year>

The binaries are then located in the **bin/<arch>** directory under the root:

/usr/local/texlive/<year>/bin/<architecture>/

In this directory you will find programs such as **pdflatex** and **makeindex**.

- (b) In the binaries directory, create a new symbolic link from the binaries directory to **lwarpmk.lua**:

Enter ⇒ **ln -s <pathtolwarpmk.lua> lwarpmk**

- (c) Make the link executable:

Enter ⇒ **chmod 0755 lwarpmk**

WINDOWS T_EX Live: Create a new **lwarpmk.exe** file:

- (a) Locate the T_EX Live binaries as shown above for UNIX.

- (b) In the binaries directory, make a *copy* of **runscript.exe** and call it **lwarpmk.exe**. This will call the copy of **lwarpmk.lua** which is in the **scripts** directory of the distribution.

WINDOWS MiK_TE_X: Create a new **lwarpmk.bat** file:

- (a) Locate the MiK_TE_X binaries. These will be in a directory such as:

C:\Program Files\MiK_TE_X 2.9\miktex\bin\x64

In this directory you will find programs such as **pdflatex.exe** and **makeindex.exe**.

- (b) Create a new file named **lwarpmk.bat** containing:

texlua "C:\Program Files\MiK_TE_X 2.9\scripts\lwarpmk.lua" %*

This will call the copy of **lwarpmk.lua** which is in the **scripts** directory of the distribution.

4.2.1 Using a local copy of *lwarpmk*

It is also possible to use a local version of *lwarpmk*:

1. When compiling the tutorial in section 5, use the `lwarpmk` option for the `lwarp` package:

```
\usepackage[lwarpmk]{lwarp}
```

2. When the tutorial is compiled with `pdflatex`, the file `lwarpmk.lua` will be generated along with the other configuration files.
3. `lwarpmk.lua` may be used for this project:

Unix:

- (a) Make `lwarpmk.lua` executable:

```
Enter ⇒ chmod 0755 lwarpmk.lua
```

- (b) Compile documents with

```
Enter ⇒ ./lwarpmk.lua html
```

```
Enter ⇒ ./lwarpmk.lua print
```

etc.

- (c) It may be useful to rename or link to a version without the `.lua` suffix.

WINDOWS:

Compile documents with either of the following, depending on which command shell is being used:

```
Enter ⇒ texlua lwarpmk.lua html
```

```
Enter ⇒ texlua lwarpmk.lua print
```

etc.

Or:

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print
```

etc.

4.3 Installing additional utilities

To test for the existence of the additional utilities:

Enter the following in a command line. If each programs' version is displayed, then that utility is already installed. See table 3 on page 77.

```
Enter ⇒ luatex --version
Enter ⇒ xindy --version
Enter ⇒ latexmk --version
Enter ⇒ perl --version
Enter ⇒ pdfcrop --version
Enter ⇒ pdftotext -v
Enter ⇒ pdfseparate --version
Enter ⇒ pdftocairo -v
```

To install *xindy*, *latexmk*, and *pdfcrop*:

The TeX utilities *xindy*, *latexmk*, and *pdfcrop* may be installed in *TexLive* with *tlmgr*, installed by *MiKTeX*, provided by your operating system's package manager, or downloaded from the *CTAN* archive:

<http://ctan.org/pkg/xindy>
<http://ctan.org/pkg/latexmk>
<http://ctan.org/pkg/pdfcrop>

Prog [requirement] pdftotext **To install the POPPLER utilities to a UNIX/LINUX system:**

The tools from the POPPLER project should be provided by your operating system's package manager.

To install the POPPLER utilities to a MACOS machine:

1. Install *Homebrew* from <https://brew.sh/>:

```
/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"
```

2. Install the POPPLER utilities:

Enter ⇒ **brew install poppler**

To install the POPPLER utilities to a WINDOWS machine:

If using MikTeX, install a *miktex-poppler-bin-** package. Otherwise:

1. See table 3 on page 77.
2. Download and extract the POPPLER utilities *pdftotext*, *pdfseparate*, and *pdfsepate* to a directory, such as Poppler.
3. In the **Start** window, type "Path" to search for results related to Path. Or, open the control panel and search for "Path".
4. Choose **Edit the system environment variables** in the control panel.
5. Choose the **Environment Variables** button.
6. Choose the **Path** variable, then the **Edit** button.
7. Choose the **New** button to make an additional entry.
8. Enter the bin directory of the POPPLER utilities, such as:
 C:\Users\<myname>\Desktop\Poppler\poppler-0.5_x86\poppler-0.5\bin
 Be sure to include \bin.
9. Click **Ok** when done.

Prog [requirement] perl **To install PERL to a WINDOWS machine:**

1. Download and install a version of PERL, such as STRAWBERRY PERL, to a directory without a space in its name, such as C:\Strawberry.
2. Edit the **Path** as seen above for the POPPLER utilities.
3. Enter the bin directory of the *perl* utility, such as:
 C:\Strawberry\perl\bin
 Be sure to include \bin.
4. Click **Ok** when done.

Any utilities installed by hand must be added to the PATH.

5 Tutorial

This section shows an example of how to create an lwarp document.

Need help? See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

5.1 Starting a new project

1. Create a new project directory called `tutorial`.
- File `tutorial.tex`
2. Inside the `tutorial` directory, create a new file called `tutorial.tex`. This may be done several ways:

Copy from the documentation PDF:

A listing is in fig. 1, which may be copied/pasted from the figure directly into your own editor, depending on the quality of the PDF viewer and editor, or:

Copy from the lwarp documentation directory:

Another copy may be found by entering into a command line:

Enter ⇒ `texdoc -l lwarp_tutorial.txt`

This should be in the `doc/latex/lwarp/` directory along with this PDF documentation. Copy `lwarp_tutorial.txt` directly into your `tutorial` directory, renamed as `tutorial.tex`.

⚠ Note: .txt suffix!

⚠ Bad formatting!

When using WINDOWS, use an editor other than NOTEPAD, since NOTEPAD does not accept the end-of-line from a UNIX text file.

3. Compile the project:

Enter ⇒ `pdflatex tutorial.tex`

(several times)

(`xelatex` or `lualatex` may be used as well. `lwarp` also supports dvi `latex` for use with `.eps` images.)

4. View the resulting `tutorial.pdf` with a PDF viewer.

A number of new files are created when `tutorial.tex` is compiled, as shown in table 4. These files are created by the `lwarp` package.

(Two of the new files are configuration files for the helper program `lwarpmk`. Whenever a print version of the document is created, the configuration files for `lwarpmk` are updated to record the operating system, L^AT_EX engine (`latex`, `pdflatex`, `xelatex`, or `lualatex`), the filenames of the source code and HTML output, and whether the additional helper program `latexmk` will be used to compile the document.)

Figure 1: tutorial.tex listing

Note: There are two pages!

```
% Save this as tutorial.tex for the lwarp package tutorial.

\documentclass{book}

\usepackage{iftex}

% --- LOAD FONT SELECTION AND ENCODING BEFORE LOADING LWARP ---

\ifPDFTeX
\usepackage{lmodern}           % pdflatex or dvi latex
\usepackage[T1]{fontenc}
\usepackage[utf8]{inputenc}
\else
\usepackage{fontspec}          % XeLaTeX or LuaLaTeX
\fi

% --- LWARP IS LOADED NEXT ---
\usepackage[
%   HomeHTMLfilename=index,      % Filename of the homepage.
%   HTMLFilename={node-},        % Filename prefix of other pages.
%   IndexLanguage=english,       % Language for xindy index, glossary.
%   latexmk,                   % Use latexmk to compile.
%   OSWindows,                 % Force Windows. (Usually automatic.)
%   mathjax,                   % Use MathJax to display math.
]{lwarp}
% \boolfalse{FileSectionNames} % If false, numbers the files.

% --- LOAD PDFLATEX MATH FONTS HERE ---

% --- OTHER PACKAGES ARE LOADED AFTER LWARP ---
\usepackage{makeidx} \makeindex
\usepackage{xcolor}           % (Demonstration purposes only.)
\usepackage{hyperref,cleveref} % LOAD THESE LAST!

% --- LATEX AND HTML CUSTOMIZATION ---
\title{The Lwarp Tutorial}
\author{Some Author}
\setcounter{tocdepth}{2}       % Include subsections in the \TOC.
\setcounter{secnumdepth}{2}     % Number down to subsections.
\setcounter{FileDepth}{1}       % Split \HTML files at sections
\booltrue{CombineHigherDepths} % Combine parts/chapters/sections
\setcounter{SideTOCDepth}{1}     % Include subsections in the side\TOC
\HTMLTitle{Webpage Title}      % Overrides \title for the web page.
\HTMLAuthor{Some Author}       % Sets the HTML meta author tag.
\HTMLLanguage{en-US}           % Sets the HTML meta language.
\HTMLDescription{A description.}% Sets the HTML meta description.
\HTMLFirstPageTop{Name and \fbox{HOMEPAGE LOGO}}
\HTMLPageTop{\fbox{LOGO}}
\HTMLPageBottom{Contact Information and Copyright}
\CSSfilename{lwarp_sagebrush.css}
```

```

\begin{document}

\maketitle % Or titlepage/titlingpage environment.

% An article abstract would go here.

\tableofcontents % MUST BE BEFORE THE FIRST SECTION BREAK!
\listoffigures

\chapter{First chapter}

\section{A section}

This is some text which is indexed.\index{Some text.}

\subsection{A subsection}

See \cref{fig:withtext}.

\begin{figure}\begin{center}
\fbox{\textcolor{blue!50!green}{Text in a figure.}}
\caption{A figure with text\label{fig:withtext}}
\end{center}\end{figure}

\section{Some math}

Inline math: $r = r_0 + vt - \frac{1}{2}at^2$  

followed by display math:  

\begin{equation}
a^2 + b^2 = c^2
\end{equation}

\begin{warpprint} % For print output ...
\cleardoublepage % ... a common method to place index entry into TOC.
\phantomsection
\addcontentsline{toc}{chapter}{\indexname}
\end{warpprint}
\ForceHTMLPage % HTML index will be on its own page.
\ForceHTMLTOC % HTML index will have its own toc entry.
\printindex

\end{document}

```

Table 4: Configuration files created by print version

tutorial.pdf: The PDF output from L^AT_EX. The print version of the document.

tutorial_html.tex: A small .tex file used to create a parallel HTML version of the document, which co-exists with usual the PDF version, and which will have its own auxiliary files. In this way, both PDF and HTML documents may co-exist side-by-side.

Auxiliary files: The usual L^AT_EX files .aux, .log, .out, .toc, .lof, .idx. When an HTML version of the document is created, _html versions of the auxiliary files will also be generated.

lwarpmk.conf: A configuration file for *lwarpmk*, which is used to automate the compilation of PDF or HTML versions of the document.

tutorial.lwarpmkconf: Another configuration file used by *lwarpmk*, which is only useful if you wish to have several projects residing in the same directory.

.css files: l warp.css, l warp_formal.css, l warp_sagebrush.css These files are standard for *l warp*, and are not meant to be modified by the user.

sample_project.css: An example of a user-customized css file, which may be used for project-specific changes to the *l warp* defaults.

l warp.ist: Used by *l warp* while creating an index using *makeindex*. This file should not be modified by the user. A custom file may be used instead, if necessary.

l warp.xdy: Used by *l warp* while creating an index using *xindy*. This file should not be modified by the user. A custom file may be used instead, if necessary.

l warp_one_limage.txt: For Windows only. Used to process SVG images in the background. Copied to *l warp_one_limage.cmd* when images are generated.

l warp_mathjax.txt: Inserted into the HTML files when MATHJAX is used to display math. Do not modify, see \MathJaxFilename instead.

comment_*_cut: Temporary files used by *l warp* to conditionally process blocks of text. These files may be ignored.

When the *l warpmk* option is given to the *l warp* package:

l warpmk.lua: A local copy of the *l warpmk* utility.

On UNIX-related operating systems this file must be made executable:

```
chmod u+x l warpmk.lua
```

This may be useful to have to archive with a project for future use.

5.2 Compiling the print version with *lwarpmk*

The *lwarpmk* utility program is used to compile either the printed or the HTML version of the document.

lwarpmk print is used to recompile a printed version of the document.

1. Re-compile the print version:

Enter ⇒ **lwarpmk print**

lwarpmk prints an introduction then checks to see if the document must be recompiled. If it seems that the files are up-to-date, then *lwarpmk* informs you of that fact and then exits.

2. Make a small change in the original document, such as adding a space character.
3. Recompile again.

Enter ⇒ **lwarpmk print**

The document is recompiled when a change is seen in the source. Several compilations may be necessary to resolve cross-references.

4. Force a recompile to occur.

Enter ⇒ **lwarpmk again**

Enter ⇒ **lwarpmk print**

lwarpmk again updates the date code for the file, triggering a recompile the next time the document is made.⁵

5. Process the index.⁶ ⁷

Enter ⇒ **lwarpmk printindex**

6. Recompile again to include the index.

Enter ⇒ **lwarpmk print**

7. To force a single recompile when needed, even if no changes were detected:

Enter ⇒ **lwarpmk print1**

Note that the HTML customization commands are ignored while making the print version.

⁵Although, when using the utility *latexmk* (introduced later), the changed date is ignored and an actual change in contents must occur to cause a recompile.

⁶The command **lwarpmk printglossary** is also available to process a glossary produced with the *glossaries* package. See section 8.6.12.

⁷Also see section 8.6.15 for index options.

5.3 Compiling the HTML version with *lwarfmk*

`lwarfmk html` is used to recompile an HTML version of the document.

1. Compile the HTML version:

Enter ⇒ **lwarfmk html**

- (a) *lwarfmk* uses L^AT_EX to process `tutorial_html.tex` to create `tutorial_html.pdf`.
- (b) *pdftotext* is then used to convert to the file `tutorial_html.html`. This file is a plain-text file containing HTML tags and content for the entire document.
- (c) *lwarfmk* manually splits `tutorial_html.html` into individual HTML files according to the HTML settings. For this tutorial, the result is `tutorial.html` (the home page), along with `First-chapter.html`⁸, `Some-math.html`, and the document's index in `_Index.html`.⁹

2. View the HTML page in a web browser.

Open the file `tutorial.html` in a web browser.

math Note that math is still displayed as its alt tag, which is the plain-text L^AT_EX source, until the images of the math expressions have been generated. Math may be displayed as SVG images or by a MATHJAX script, as seen in sections 5.4 and 5.5.

3. Force a recompile:

Enter ⇒ **lwarfmk again**

Enter ⇒ **lwarfmk html**

Enter ⇒ **lwarfmk print**

4. Process the HTML index and recompile:¹⁰¹¹

Enter ⇒ **lwarfmk htmlindex**

Enter ⇒ **lwarfmk html**

`_Index.html` is updated for the new L^AT_EX index.

5. Reload the web page to see the added index.

6. To force a single recompile when needed, even if no changes were detected:

Enter ⇒ **lwarfmk html1**

⁸`First-chapter.html` also contains the first section, even though the second section is its own HTML page. This behavior is controlled by the boolean `CombineHigherDepths`.

⁹`index.html` is commonly used as a homepage, so the document index is in `_Index.html`.

¹⁰The command `lwarfmk htmlglossary` is also available to process a glossary produced with the `glossaries` package. See section 8.6.12.

¹¹Also see section 8.6.15 for index options.

5.4 Generating the svg images

math as svg images

By default `lwarf` represents math as svg images, with the \LaTeX source included in `alt` attributes. In this way, the math is displayed as it was drawn by \LaTeX , and the \LaTeX source may be copied and pasted into other documents.

picture and Tikz

`lwarf` uses the same mechanism for `picture` and `Tikz` environments.

1. Create the svg images:

Enter \Rightarrow `lwarpmk limages`

Enter \Rightarrow `lwarpmk html`

2. Move to the tutorial's `HTML` math page and reload the document in the browser.
3. The math images are displayed using the same font and formatting as the printed version.
4. Copy/paste a math expression into a text editor to see the \LaTeX source.

⚠ adding/removing

When a math expression, `picture`, or `Tikz` environment is added or removed, the `svg` images must be re-created by entering `lwarpmk limages` to maintain the proper image-file associations. Inline `SVG` math may be hashed and thus not need to be recreated, but display math and objects such as `Tikz` may move to new image numbers when the document is changed.

recompile first

Before attempting to create the `svg` image files, `lwarpmk` verifies that the `HTML` version of the document exists and has correct internal image references.¹² If it is necessary to recompile the document's `HTML` version one more time, `lwarpmk` usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the \LaTeX recompile warnings.

⚠ HTML instead of images

If `HTML` appears where an `svg` image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

⚠ page counter

Incorrect `svg` images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

Expressing math as `svg` images has the advantage of representing the math exactly as \LaTeX would, but has the disadvantage of requiring an individual file for each math expression.

⚠ Lots of files!

For inline math, and some other objects, `lwarf` uses an MD5 hash on its \LaTeX source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as `picture` and `Tikz` require one image file each. For a document with a large amount of math, see section 5.5 to use `MATHJAX` instead.

¹²This becomes important when dealing with a document containing thousands of images.

5.5 Using MATHJAX for math

[math with MATHJAX](#) Math may also be represented using the MATHJAX JAVASCRIPT project.

1. In the tutorial's source code, uncomment the `mathjax` package option for `l warp`:

`mathjax, % Use MathJax to display math.`

2. Recompile

Enter ⇒ `l warpmk html`

3. Reload the math page.

⚠ MATHJAX requirements

MATHJAX requires web access unless a local copy of MATHJAX is available, and it also requires that JAVASCRIPT is enabled for the web page. The math is rendered by MATHJAX. Right-click on math to see several options for rendering, and for copying the L^AT_EX source.

While using MATHJAX has many advantages, it may not be able to represent complex expressions or spacing adjustments as well as L^AT_EX, and it may not support some math-related packages.

5.6 Changing the css style

For a formal css style, add to the preamble:

```
\usepackage{lwarf}
...
\CSSFilename{lwarf_formal.css}
...
\begin{document}
```

For a modern css style, `lwarf_sagebrush.css` is also provided:

```
\CSSFilename{lwarf_sagebrush.css}
```

See section [7.7](#) for more information about modifying the css styling of the document.

5.7 Customizing the HTML output

A number of settings may be made to control the HTML output, including filename generation, automatic compilation, math output, document splitting, meta data, and page headers and footers.

See section [7.6](#) for more information.

5.8 Using *latexmk*

latexmk is a L^AT_EX utility used to monitor changes in source files and recompile as needed.

1. In the tutorial's source code uncomment the *latexmk* option for the **lwarp** package:

`latexmk, % Use latexmk to compile.`

2. Recompile the printed version of the document.

`Enter ⇒ lwarpmk print`

lwarp updates its own configuration files (`lwarpmk.conf` and `tutorial.lwarpmkconf`) whenever the printed version of the document is compiled. These configuration files remember that *lwarpmk* should use *latexmk* to compile the document.

3. Recompile the document.

`Enter ⇒ lwarpmk print`

and/or

`Enter ⇒ lwarpmk html`

Changes are detected by comparing checksums rather than modification times, so *lwarpmk* again will not trigger a recompile, but *latexmk* has a much better awareness of changes than the *lwarpmk* utility does and it is likely to correctly know when to recompile. A recompile may be forced by making a small change to the source, and a single recompile may be forced with:

`Enter ⇒ lwarpmk print1`

and/or

`Enter ⇒ lwarpmk html1`

forced single-pass recompile

5.9 Using X_EL_AT_EX or L_UaL_AT_EX

X_EL_AT_EX or L_UaL_AT_EX may be used instead of L_AT_EX.

1. Remove the auxiliary files for the project:

Enter ⇒ **lwarfmk cleanall**

2. Use *xelatex* or *lualatex* to compile the printed version a single time.

Enter ⇒ **xelatex tutorial.tex**

— or —

Enter ⇒ **lualatex tutorial.tex**

When the compile occurs, the configuration files for *lwarfmk* are modified to remember which TeX engine was used. X_EL_AT_EX or L_UaL_AT_EX will be used for future runs of *lwarfmk*.

3. To recompile the document:

Enter ⇒ **lwarfmk print**

-and-

Enter ⇒ **lwarfmk html**

4. Also remember to update the indexes and recompile again:

Enter ⇒ **lwarfmk htmlindex**

Enter ⇒ **lwarfmk html**

Enter ⇒ **lwarfmk printindex**

Enter ⇒ **lwarfmk print**

5.10 Using dvi L_AT_EX

Traditional dvi LaTeX may also be used along with .eps image files. An svg version of each image must also be provided. *lwarfmk* may be used to convert image formats.

To convert EPS files to PDF:

Enter ⇒ **lwarfmk epstopdf *.eps** (or a list of files)

To convert PDF files to SVG:

Enter ⇒ **lwarfmk pdftosvg *.pdf** (or a list of files)

 **bitmapped fonts** See section 7.4 regarding font selection to avoid the use of bitmapped fonts.

5.11 Using a glossary

lwarf supports the `gloss` and `glossaries` packages, although this tutorial does not supply an example.

5.11.1 `gloss` package

See section [8.6.11](#).

5.11.2 `glossaries` package

To process the glossary for the print version:

Enter ⇒ **lwarfmk printglossary**

 (If `makeglossaries` is not found, see section [8.6.12](#).)

To process the glossary for the HTML version:

Enter ⇒ **lwarfmk htmlglossary**

In each case, the document will have to be recompiled afterwards:

Enter ⇒ **lwarfmk html1**

Enter ⇒ **lwarfmk html**

Enter ⇒ **lwarfmk print1**

Enter ⇒ **lwarfmk print**

See section [8.6.12](#) to set options for processing glossaries.

5.12 Cleaning auxiliary files

To remove the auxiliary files .aux, .toc, .lof, .lot, .idx, .ind, .log, and .gl*, and a few others:

Enter ⇒ **lwarfmk clean**

5.13 Cleaning auxiliary and output files

To remove the auxiliary files, and also remove the .pdf and .html files:

Enter ⇒ **lwarfmk cleanall**

5.14 Cleaning the images from the <project>-images directory

The <project>-images directory contains SVG images automatically generated for inline and display math, `tikz`, etc. To remove all the images from the <project>-images directory:

Enter ⇒ **lwarfmk cleanlimages**

5.15 Converting PDF or EPS images to SVG

HTML cannot display PDF or EPS images, so any external PDF graphics images must be converted to SVG format. `pdftocairo` and `epstopdf` may be used one image at a time, but `lwarfmk` also provides a way to convert PDF or EPS images in bulk:

Enter ⇒ **lwarfmk epstopdf *.eps** (or a list of files)

Enter ⇒ **lwarfmk pdftosvg *.pdf** (or a list of files)

Be sure to always provide SVG files for HTML output.

5.16 Creating HTML from an incomplete compile

During testing it may be useful to finish the HTML conversion even when the document had errors and did not compile successfully. To attempt an HTML conversion of an incomplete document:

Enter ⇒ **lwarfmk pdftohtml [-p project]**

5.17 Processing multiple projects in the same directory

⚠ **xr, xr-hyper, xcite**

It is possible to have several projects in the same directory. `lwarfmk` has an optional parameter which is the document to compile.

To create each project:

Enter ⇒ **pdflatex project_a**

Enter ⇒ **pdflatex project_b**

Each project is given its own configuration file:

project_a.lwarpmkconf, **project_b.lwarpmkconf**

To compile each project with **lwarkmk**:

Enter ⇒ **lwarpmk print -p project_a**

Enter ⇒ **lwarpmk print -p project_b**

Enter ⇒ **lwarpmk html -p project_a**

Enter ⇒ **lwarpmk html -p project_b**

To generate each project's images:

Enter ⇒ **lwarpmk limages -p project_a**

Enter ⇒ **lwarpmk limages -p project_b**

To clean each project's images:

Enter ⇒ **lwarpmk cleanlimages -p project_a**

Enter ⇒ **lwarpmk cleanlimages -p project_b**

To clean each project's auxiliary files:

Enter ⇒ **lwarpmk cleanall -p project_a**

Enter ⇒ **lwarpmk cleanall -p project_b**

If using **bibtex**, for example, the HTML version must also be processed:

Enter ⇒ **bibtex project_a.html**

5.18 Using the **make** utility

lwarpmk has an action which may be useful for integration with the common **make** utility:

lwarpmk pdftohtml [-p project]

make may be used to compile the code to PDF with HTML tags (**project_html.pdf**), then **lwarpmk** may be used to convert each target to HTML files.

5.19 What next?

How do I do something? See the [General Index](#).

Something do not work! See the [Troubleshooting Index](#) or section 13: [Troubleshooting](#).

Package options: See section 29, [Package options](#).

HTML and filename settings: See section 7.6, [Customizing the HTML output](#).

Footnote placement: See section 7.6, [Customizing the HTML output](#).

Title page, indexing, glossaries: See section 8.6, [Front and back matter](#).

Shell escape: See section 7.3, [Shell escape](#).

css customization: See section 7.7, [Customizing the css](#).

MATHJAX customization: See section 8.7.5, [Customizing MATHJAX](#).

Localization: (languages) — See section 7.1, [Localization](#).

Accessibility: (alt and title tags) — See section 7.2, [Accessibility](#).

Converting an existing document: See section 6, [Converting an existing document](#).

EPUB conversion: See section 10, [EPUB conversion](#).

Word processor conversion: See section 11, [Word-processor conversion](#).

6 Converting an existing document

To convert an existing document for use with l warp:

1. Arrange the document in the following order:

- (a) Declare the \documentclass.
- (b) Load text fonts.
- (c) Load inputenc or inputenx, fontenc, or fontspec.
- (d) Load l warp.
- (e) Load remaining packages.

2. Modify the document:

 **math in section names**

- (a) If using named HTML files, in section names use paren math $\backslash(x+y\backslash)$ instead of dollar math $\$x+y\$$. (Dollar math works, but appears in the filename.) Or, use a short name for the TOC entry without the math, or use \texorpdfstring from the hyperref package:

```
\section{Some math \texorpdfstring{\(1+2=3\)}{three}}
```

 **scale**

- (b) Avoid using the \includegraphics scale option. Change:

```
\includegraphics[scale=<xx>]{...}
```

to:

```
\includegraphics[width=<yy>\linewidth]{...}
```

 **tabular**

- (c) Possible changes to tabular environments include: * columns, multirow, longtable, supertabular, xtab, bigdelim. See section 8.10.1.

 **package options**

- (d) If using braces in package options, such as with caption, see section 8.1.

- (e) Possible option clashes with memoir. See section 8.13.

 **indexes**

- (f) If using indexes, see section 8.6.15.

- (g) If using many indexes, glossaries, .aux files, etc., see section 8.6.15 regarding morewrites. If morewrites is already used, be sure to add the setup with allocate=10.

- (h) Other changes as per Special cases and limitations, section 8.

3. Convert any PDF images to SVG. See section 8.8.

4. Manually compile the print version with *latex*, *pdflatex*, *lualatex*, or *xelatex*.

5. l warpmk print to finish the print version.

6. l warpmk html to create the HTML version.

7. l warpmk limages to create the SVG images of any SVG math, lateximage, Tikz, etc.

See the General Index for “how-to”, and the Troubleshooting Index if something doesn’t work. A Troubleshooting section is also available. The Index of Objects contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

Need help?

Table 5: Localization settings

Object names: L^AT_EX provides redefinable names for various objects, and **lwarp** adds a few more. Use \renewcommand to change these.

\abstractname: This macro is honored by **lwarp**.

\linkhomename: Displayed by the link to the homepage.

\linkpreviousname: Displayed by the link to the previous page

\linknextname: Displayed by the link to the next page.

\sidetocname: Displayed at the head of the sidetoc.

HTML settings: See table 8 and section 7.6 for details.

\HTMLLanguage: The language to declare for each web page.

\ImageAltText, \MathImageAltText, \PackageDiagramAltText, \AltTextOpen, \AltTextClose: The defaults used for HTML alt text for images. See section 7.2.

\CSSFilename: The name of the css file to use.

\MathJaxFilename: The name of the MATHJAX script to use.

Package options:

ImagesName and ImagesDirectory: These options control the filenames used by **lwarp** when it automatically generates images. See table 7 and section 7.5.

xindyStyle, xindyLanguage, xindyCodepage: When using *xindy*, these options may be set according to local use. See section 8.6.21.

pdftotextEnc: To adjust the encoding of *pdftotext*.

7 Additional details

7.1 Localization

Regional localization is supported by **lwarp** via the package options and macros shown in table 5.

7.2 Accessibility

lwarp provides several methods for improving access to the document using tools such as text-only browsers, copy/paste, text-to-speech readers, or Braille readers. **lwarp** can use the HTML alt text attribute for images, as described below. **lwarp** can also use the HTML title attribute, which usually generates a pop-up text. **lwarp** can add this to a reference or hyperlink. **lwarp** also uses standard HTML5 elements which are pre-assigned ARIA roles for increased accessibility, and **lwarp** assigns the math role for SVG math images, and the note role for footnotes, end notes, margin paragraphs and notes, etc. MATHJAX also has provisions for improved accessibility as well. See table 6.

Table 6: Accessibiliy settings

\ImageAltText: The default HTML alt text for \includegraphics and \textrm{images}. Set with \renewcommand.

\includegraphics alt key: For \includegraphics, lwarp adds the alt key/value. For example:

```
\includegraphics[alt={Some text.}]{filename}
```

svg math: For simple SVG math, lwarp places the L^AT_EX math expression in the alt text, so that the L^AT_EX expression may be copied and pasted to another document as plain text.

\MathImageAltText: For complicated SVG math, such as enclosed in \InlineMathOther/\InlineMathNormal, or \DisplayMathOther/\DisplayMathNormal, the HTML alt text will be set to \MathImageAltText. Set with \renewcommand.

MATHJAX: For MATHJAX, the accessibility tools provided by MATHJAX are enabled by default by lwarp's MATHJAX scripts.

\PackageDiagramAltText: Various packages create diagrams which lwarp converts into SVG images. These are given alt text set to \PackageDiagramAltText. Set with \renewcommand.

\ThisAltText: The HTML alt text of the next image may be set with:

```
\ThisAltText{Custom text about the image.}
<SVG math, Tikz, picture, etc.>
```

The next single image will be generated with the given text, and the following images will revert to back to their defaults.

\ThisAltText may also be used to assign an HTML title to the next reference or hyperlink.

```
\ThisAltText{Custom text about the link.}
Text ... \ref{label_name} ... text.
```

See section 7.6.

\AltTextOpen and \AltTextClose: By default, HTML alt text is enclosed by parentheses. This may be changed by redefining \AltTextOpen and \AltTextClose. Set with \renewcommand.

7.3 Shell escape

Opt `--shell-escape` Some documents require the use of an external program, which is allowed when using the `--shell-escape` command-line option. When the document is first compiled manually, and also whenever the print version is recompiled, `lwarf` detects and remembers whether shell escape is enabled. If so, it will also be enabled when the document is recompiled with `lwarpmk`.

7.4 Font and UTF-8 support

 **type 3 bitmapped fonts** `lwarf` uses `pdftotext` to convert PDF output into UTF-8-encoded text. This process requires that UTF-8 information be embedded in the PDF file, which may prevent the use of older “type 3” bit-mapped fonts, and of older packages such as `ae`. The `lwarf` option `pdftotextEnc` may be useful in some situations. See section 7.5.

vector fonts While using DVI `latex` or PDF `pdflatex`, if no font-related package is specified then the default COMPUTER MODERN font is used, which may be a “type 3” bit-mapped font which may not convert well to plain text. A “type 1” vector font is required.

 `pdflatex`

 `DVI latex`

Pkg `cm-super`

To use the updated `cm-super`’s type 1 fonts instead of Computer Modern, install the `cm-super` font package.

Pkg `lmodern` To use Latin Modern instead, add

```
usepackage{lmodern}
```

to the preamble.

Pkg `dejavu` Another useful option is the Deja Vu series of fonts, which have an increased coverage of language and glyphs:

```
\usepackage{dejavu}
```

latex, pdflatex, T1, UTF8 While using DVI `latex` or PDF `pdflatex`, `lwarf` automatically loads `fontenc` with T1 encoding. `fontenc` may be loaded with an additional encoding after `lwarf`. `inputenc` is automatically loaded with UTF8 encoding if it has not yet been loaded, but may also be specified with another encoding such as `Latin1`. See the next section regarding index encoding.

 ***xelatex, lualatex, fontspec*** X^AT_EX and Lua^AT_EX users must use the `fontspec` package. Do NOT use `fontenc`!

Place `fontspec` or `fontenc`, `xunicode`, and other font and UTF-8 related commands after the `\documentclass` command and before `\usepackage{lwarf}`.

 **package conflicts** In some cases, a package conflict may require that a font package be loaded after `lwarf`, which should work as well:

1. `documentclass{article/book/report}` comes first, followed by any of:
2. Font and UTF-8 related commands:

- For X^AT_EX or Lua^AT_EX:

- `fontspec` and font choices

Pkg `fontspec`

ligatures

`lwarf` sets the following to turn off `TeX` ligatures during the generation

of HTML tags, and turn off common ligatures in regular text, since older browsers may not display them correctly and newer browsers can automatically re-create them.

```
\defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\sfamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
```

- For *pdflatex*:

Pkg lmodern Pkg fontenc Pkg inputenc Pkg inputenx Pkg newunicodechar File glyptounicode.tex	(a) \usepackage{lmodern}, or other font-related packages (b) \usepackage[T1]{fontenc} (c) \usepackage[utf8]{inputenc}, or latin1, etc. Or use <i>inputenx</i> . (d) \usepackage{newunicodechar} along with related definitions. (e) To assist with the PDF-HTML conversion: i. \input glyptounicode.tex ii. \input glyptounicode-cmr.tex% from the pdfx package iii. \pdfgentounicode=1 (f) Another option to assist with the PDF-HTML conversion, such as the dotless j (\j): – \usepackage{cmap} – or – – \usepackage{mmap} – or – – \usepackage[noTeX]{mmap} (g) \usepackage{textcomp}
--	---

3. \usepackage{newtxmath} or other math-related font packages. Many of these load *amsmath*, which may now be loaded before *l warp*.
4. \usepackage{l warp} (section 7.5) is placed after any of the above, followed by:

5. \setmonofont{TeX Gyre Cursor} or similar may be required if using Xe^LAT_EX or Lua^LAT_EX and *fontspec* along with traditional font packages such as *txfonts*, *newtxtext*, etc. This is required to turn off the monospaced font's ligatures with *fontspec* after loading the traditional font packages. Monospaced output ligatures must be turned off to produce the correct HTML characters.

Any monospace font with built-in ligatures may require these ligatures to be disabled for HTML. In one example, JETBRAIN MONO, it is required to use

```
\setmonofont{JetBrains Mono}[%  
...  
Contextuals=AlternateOff,  
]
```

After *l warp* is loaded, the ligature may be re-enabled for print mode by using \setmonofont again inside a *warpprint* environment.

6. ... the rest of the preamble and the main document.

⚠️ UTF-8 locale In some cases, an external program may require a UTF-8 “locale”. See section 9.8.

⚠️ JETBRAIN MONO
⚠️ HTML corrupted

7.4.1 Indexes, glossaries, and encoding

lwarp supports *makeindex*, *xindy*, *xindex*, and *glossaries*, *gloss*, and *nomencl*.

See section 8.6.14 for indexing, and section 8.6.12 for the *glossaries* package.

7.5 lwarf package loading and options

lwarf supports `book`, `report`, and `article` classes, as well as the equivalent Koma-script classes and `memoir`, and various CJK-related classes and packages.

Load the `lwarf` package immediately after the font and UTF-8 setup commands.

Package options may be set while loading `lwarf`, or later with

```
\lwarfsetup{<key=value, . . . >}
```

Pkg `lwarf` `lwarf` package options are as follows:

Opt `mathsvg` **mathsvg** and **mathjax**: Selects SVG images or MATHJAX for math display. See section 8.7.

Opt `mathjax`

Default: `mathsvg`

Opt `latexmk`

Default: `false`

latexmk: Tells `lwarfmk` to use `latexmk` to recompile the document several times if necessary. Otherwise, `lwarfmk` attempts to determine for itself whether to recompile. See section 7.6.

Opt `dvips` **dvips**: Tells `lwarfmk` to use `dvips` and `ps2pdf` to convert DVI output to PDF.

Default: `false`

Opt `dvipdfm`

Default: `false`

Opt `dvipdfmx`

Default: `false`

HomeHTMLFilename:

Default: `\BaseJobname`

Filename of the homepage, without the “`.html`” suffix. Defaults to the `\BaseJobname`.

A common setting is:

```
HomeHTMLFilename=index
```

causing the homepage to be the file `index.html`. Underscores are allowed in `HomeHTMLFilename` and `HTMLFilename` options, but may need to be escaped elsewhere, such as when appearing in a list:

```
\item [\href{file\_name.pdf}{text}] \
```

See section 7.6.1 for examples of naming and numbering HTML files.

Opt `HTMLFilename`

Default: `<empty>`

HTMLFilename: A filename prefix for the rest of the HTML web pages. Useful for numbered web pages with a common prefix. May be empty. See section 7.6.1 for examples of naming and numbering HTML files.

Opt `ImagesName`

Default: `image-`

ImagesName: The prefix for the images automatically generated by `lwarf` for objects such as SVG math and `lateximages`.

Opt `ImagesDirectory`

Default: `\jobname-images`

ImagesDirectory: The directory for the images automatically generated by `lwarf` for objects such as SVG math and `lateximages`. By default, these images will appear in a

Table 7: Lwarp package options

Option	Description
mathsvg	Show math using SVG images.
mathjax	Show math using MATHJAX.
latexmk	Use <i>latexmk</i> for compiling documents.
dvips	Use <i>dvips</i> and <i>ps2pdf</i> to convert DVI documents.
dvipdfm	Use <i>dvipdfm</i> to convert DVI documents.
dvipdfmx	Use <i>dvipdfmx</i> to convert DVI documents.
HomeHTMLFilename	The filename of the home page.
HTMLFilename	A prefix for the filenames of the remaining web pages.
ImagesName	A prefix for the filenames of generated images.
ImagesDirectory	The directory used to hold generated images.
PrintLatexCmd	The shell commands for lwarpmk print .
HTMLLatexCmd	The shell commands for lwarpmk html .
For indexing (section 8.6.15) and glossaries (section 8.6.12):	
makeindex	Use <i>makeindex</i> to generate indices.
makeindexStyle	Set a custom style for <i>makeindex</i> .
xindy	Use <i>xindy</i> to generate indices.
xindyStyle	Set a custom style for <i>xindy</i> .
xindyLanguage	The <i>xindy</i> language option used for index generation.
xindyCodepage	The <i>xindy</i> codepage option used for index generation.
xindex	Use <i>xindex</i> to generate indices.
xindexConfig	Set a custom configuration file for <i>xindex</i> .
PrintIndexCmd	Shell commands executed by lwarpmk printindex .
HTMLIndexCmd	Shell commands executed by lwarpmk htmlindex .
LatexmkIndexCmd	Shell commands executed by <i>latexmk</i> .
IndexRef	How to format index links.
GlossaryCmd	Shell command executed by lwarpmk printglossary and lwarpmk htmlglossary .
Seldom necessary:	
OSWindows	Force compatibility with MS-WINDOWS.
pdftotextEnc	Set the encoding for <i>pdftotext</i> .
lwarpmk	Generate a local copy of <i>lwarpmk.lua</i> .
Used internally by lwarp:	
warpprint	Generate print output, and also generate configuration files.
warpHTML	Generate HTML output.
BaseJobname	The \jobname to use. Set to the \jobname of the printed version even while generating HTML.

directory named <jobname>-images, and the images will be named and numbered image-<nn>.

Opt PrintLatexCmd **PrintLatexCmd:** Sets the shell commands executed by `lwarpmk print`. If not specified, will automatically be set according to the detected L^AT_EX engine and the use of --shell-escape.

Opt HTMLLatexCmd **HTMLLatexCmd:** Sets the shell commands executed by `lwarpmk html`. If not specified, will automatically be set according to the detected L^AT_EX engine and the use of --shell-escape.

Opt makeindex **makeindex:** Sets PrintIndexCmd, HTMLIndexCmd, and LatexmkImageCmd to use *makeindex* when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`. If neither *makeindex* nor *xindy* is used, *makeindex* is assumed.

Opt makeindexStyle **makeindexStyle:** If you wish to use a custom .ist file for index generation, see section 8.6.20.
Default: `lwarp.ist`

Opt xindy **xindy:** Sets PrintIndexCmd, HTMLIndexCmd, and LatexmkImageCmd to use *xindy* when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`.
Default: `makeindex`

Opt xindyStyle **xindyStyle:** If you wish to use a custom .xdy file for index generation, see section 8.6.21.
Default: `lwarp.xdy`

Opt xindyLanguage **xindyLanguage:** If using an index or glossary, see section 29.
Default: `english`

Opt xindyCodepage **xindyCodepage:** If using an index, see section 29.
Default: `utf8`

Opt xindex **xindex:** Sets PrintIndexCmd, HTMLIndexCmd, and LatexmkImageCmd to use *xindex* when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`.
Default: `makeindex`

Opt xindexConfig **xindexConfig:** If you wish to use a custom xindex-*.lua file for index generation, see section 8.6.22.
Default: <empty>

Opt PrintIndexCmd **PrintIndexCmd:** Sets the shell commands executed by `lwarpmk printindex`. If not specified, will be set by the selection of *makeindex* or *xindy*. May be used to specify the creation of multiple indexes. See section 8.6.15.

Examples:

```
makeindex -s lwarp.ist projectname.idx          (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname.idx      (xindy)
```

automatic setting

The use of the *makeindex* or *xindy* options sets PrintIndexCmd to sensible values for each of those programs while compiling a single index. *lwarp*'s *makeindexStyle*, *xindyStyle*, *xindyLanguage*, and *xindyCodepage* options will be used if specified.

 **xindy**

If specifying PrintIndexCmd manually, be sure to assign an *xindy* language and

codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `PrintIndexCmd` option when it is set manually.

This option is stored in the configuration files `lwarpmk.conf` and `*.lwarpmkconf`, and is then passed by the `lwarpmk printindex` command to the operating system to compile the print indexes. Since the command string is parsed by TeX, written to a file, read from the file by LuaTeX, and finally passed to the operating system, any attempt at quoting will be problematic. For complicated commands, it would be best to create a shell script, and simply refer to the script with the `lwarp PrintIndexCmd` option.

Opt `HTMLIndexCmd`
Default: `<automatic>`

HTMLIndexCmd: Sets the shell commands executed by `lwarpmk htmlindex`. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.15.

 filenames

Example settings are similar to `PrintIndexCmd`, but append `_html` to the filenames:

```
makeindex -s lwarp.ist projectname_html.idx          (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname_html.idx (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `HTMLIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

 xindy

If specifying `HTMLIndexCmd` manually, be sure to assign an `xindy` language and codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `HTMLIndexCmd` option when it is set manually.

As with `PrintIndexCmd`, to generate complicated indexes it may be worthwhile to use a shell script, then refer to that script with `HTMLIndexCmd`.

Opt `LatexmkIndexCmd`
Default: `<automatic>`

LatexmkIndexCmd: Sets the shell commands executed by `latexmk`. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include any filenames, which will be provided instead by `latexmk`. See section 8.6.15.

Example settings are similar to `PrintIndexCmd`, but without a filename:

```
makeindex -s lwarp.ist                                     (makeindex)
xindy -M lwarp.xdy -L english -C utf8                      (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `LatexmkIndexCmd` to either of the two settings show above. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `latexmk` uses either of the single-line settings of `LatexmkIndexCmd` shown above to compile each of multiple indexes if necessary.

 xindy

If specifying `LatexmkIndexCmd` manually, be sure to assign an `xindy` language and codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `LatexmkIndexCmd` option when it is set manually.

Opt `IndexRef`
Default: `cref`

IndexRef: Describes how to display the index entries for HTML output. Possible values are `ref`, `nameref`, `refnameref`, `cref`, `crefnameref`, `autoref`, or a text string such

as (link) or (*) for each index entry reference. (Adding parentheses around a single character makes the link larger and easier to click on.) The default is `cref`, which is available even if the print document does not use `cleveref`, as the `l warp` package relies on `cleveref` during HTML output. Option `autoref` gives the same results as `cref`.

`\ref` and `\cref` to starred or otherwise unknown links will display as (*) instead of ??.



If using `cref` (the default), and if a reference appears as ?? with a non-functional link, use `cleveref`'s `\crefname` to give a name to that type of label.

In general, `crefnameref` gives the most information, but the index can become quite verbose. Using (*) or similar yields a very compact index.

Opt `GlossaryCmd` **GlossaryCmd:** Sets the shell command executed by `l warpmk printglossary` and `l warpmk htmlglossary`.
Default: `makeglossaries` The print or HTML glossary filename is appended to this command. See section 8.6.12.

Opt `OSWindows` **OSWindows:** `l warp` attempts to automatically sense Windows, but it may be forced with this option. See section 7.9.

Opt `pdftotextEnc` **pdftotextEnc:** Used to specify the encoding used by `pdftotext` during the PDF-HTML conversion. In most situations, the default is the correct choice.
Default: `UTF-8`

Opt `l warpmk` **l warpmk:** If you wish to have `l warp` generate a local copy of `l warpmk.lua` for archival or local-installation purposes, compile the print version with the `l warpmk` option set. See section 29.

The following options are used internally by `l warp`, and usually are not used in the user's document:

Opt `warpprint` **warpprint** and **warpHTML**: Usually controlled by `l warpmk`, and not set in the document.
Opt `warpHTML` Select the `warpprint` option to generate print output (default), or the `warpHTML` option to generate HTML5 output. The default is print output, so the print version may be compiled with the usual `pdflatex`, etc. When `l warp` is loaded in print mode, it creates `<project>.html.tex`, which sets the `warpHTML` option before calling the user's source code `<project>.tex`. In this way, `<project>.tex` can `\usepackage{l warp}` without any options to create a printed version, while `<project>.html.tex` will create an HTML version.

Opt `BaseJobname` **BaseJobname:** Not intended for the user. Used internally by `l warp` when creating the `*_html.tex` file used to compile the HTML version. See section 29.
Default: `\jobname`

7.6 Customizing the HTML output

Table 8 shows several settings may be used to customize the HTML output. Watch for the correct placement of each!

⚠ Placement! Note that if changes are made, it is best to first:

1. Clear all the HTML, PDF, and auxiliary files:

Enter ⇒ **lwarfmk clearall**

2. Recompile the print version in order to recreate the configuration files for *lwarfmk*:

Enter ⇒ **lwarfmk print**

3. Finally, recompile the HTML version with the new settings:

Enter ⇒ **lwarfmk html**

Placed in the preamble before `\begin{document}`:

`\HTMLFirstPageTop`
Default: <empty>

\HTMLFirstPageTop: {*contents*} A user-definable custom action applied to the top of the home page. Useful for logos, etc. `\LinkNext` may be used to link to the next web page. Defaults empty. Ignored in print output.

`\HTMLFirstPageBottom`
Default: <empty>

\HTMLFirstPageBottom: {*contents*} A user-definable custom action applied to the bottom of the home page. Useful for logos, etc. `\LinkNext` may be used to link to the next web page. Defaults empty. Ignored in print output.

`\linkhomename`
Default: Home

\linkhomename: Name of the link to the home page. Paragraphs are allowed. Redefine with `\renewcommand`.

`\linkpreviousname`
Default: Previous

\linkpreviousname: Name of the link to the previous page. Paragraphs are allowed. Redefine with `\renewcommand`.

`\linknextname`
Default: Next

\linknextname: Name of the link to the next page. Paragraphs are allowed. Redefine with `\renewcommand`.

`ctr tocdepth`

tocdepth: Sectioning depth of the table of contents. See section 16 for a list of L^AT_EX stack depths.

`ctr SideTOCDepth`
Default: 1

SideTOCDepth: Sectioning depth of the sidetoc. Defaults to 1, causing the sidetoc to show sections but not subsections.

`sidetoc`

Each subpage of the website has its own small table of contents on the side (the “sidetoc”). Its depth is set by `SideTOCDepth`. This sidetoc is only shown if the browser display is wide enough. When using a narrow web browser window, “responsive web design” is used to show the sidetoc at the top of the page, as well as a link back to **Home** at the top and bottom.

It is recommended to set:

`SideTOCDepth=FileDepth`

or

`SideTOCDepth=FileDepth+1`

Table 8: HTML settings

Macro/Cntr/Bool	Loc [*]	Description
\linkhomename	P	Name of the link to the homepage.
\linkpreviousname	P	Name of the link to the previous page.
\linknextname	P	Name of the link to the next page.
SideTOCDepth	P	Sectioning depth of the sidetoc.
\sidetocname	P	Name of the sidetoc.
FileDepth	P	Sectioning depth of the file splits.
CombineHigherDepths	P	Combine higher section levels.
FileSectionNames	P	Use section names for file names, else use numbers.
\FilenameLimit	P	Maximum length of the generated filenames.
FootnoteDepth	P	Sectioning depth of footnotes.
\abstractname	P	The name of the abstract.
\ImageAltText	PD	\includegraphics and other images' alt tag.
\ThisAltText {<text>}	PD	Assigns an alt/title tag for the next image or link.
\MathImageAltText	PD	The svg math image \teximage alt tag.
\PackageDiagramAltText	PD	The suffix for a package's \teximage alt tags.
\AltTextOpen	PD	Start an HTML alt tag.
\AltTextClose	PD	End an HTML alt tag.
\CSSFilename	PS	The css for the following files.
\MathJaxFilename	PS	The MATHJAX script for the following files.
\HTMLLanguage	PS	The HTML lang tag.
\HTMLTitle	PS	The homepage's <title>, overriding \title.
\HTMLTitleBeforeSection	PS	Set subpage <title>s to \HTMLTitle - sectionname
\HTMLTitleAfterSection	PS	Set subpage <title>s to sectionname - \HTMLTitle
\HTMLAuthor	PS	The HTML author meta tag, overriding \author.
\HTMLDescription	PS	The HTML description meta tag.
\HTMLFirstPageTop	P	Heading for the home page.
\HTMLFirstPageBottom	P	Footer for the home page.
\HTMLPageTop	PS	Heading for the other pages.
\HTMLPageBottom	PS	Footer for the other pages.
\IndexPageSeparator	P	Index page list separator.
\IndexRangeSeparator	P	Index page range separator.
FixSmallCaps	P	Set true if small caps rendered as all caps.
HTMLDebugComments	P	Boolean to generate HTML comments.

^{*} **P:** Preamble, **D:** Anywhere in the document. **S:** Before a section.

 **inaccessible pages**

\sidetocname
Default: **Contents**

Ctr FileDepth
Default: **-5**

If SideTOCDepth < FileDepth, web pages will be inaccessible via the sidetoc.

\sidetocname: Name of the sidetoc. Paragraphs are allowed. Redefine with \renewcommand.

FileDepth: Sectioning depth of file splits. Defaults to -5, causing the entire HTML website to be one single file.

- To place the entire file into one HTML page, use:

\setcounter{FileDepth}{-5}

- To split the HTML file at \section depth, use:

\setcounter{FileDepth}{1}

- To ensure that the HTML pages/files are accessible:

Place a \tableofcontents somewhere before the first section break (therefore in the “home page”), and set
tocdepth >= FileDepth



Bool CombineHigherDepths
Default: **true**

CombineHigherDepths: Combine a higher section with its first lower subsections, down to the FileDepth. Defaults to true. Set to false to simulate the concept of a chapter opening on its own page, for example.

The file splits are controlled by the counter FileDepth and the boolean CombineHigherDepths. Setting FileDepth to 0 splits the file at chapters, 1 at sections, etc. CombineHigherDepths controls whether to combine pages at levels higher than the chosen FileDepth, such as in this tutorial where the page which opens the chapter also contains the first section. Be careful to set tocdepth and SideTOCDepth to allow access to each page of the website. Set tocdepth and SideTOCDepth to be greater than or equal to FileDepth.

 **Inaccesible pages!**

 **Lost in an old page!**

When making changes to the file structure, it is possible to end up with the web browser pointing to an old file which is no longer in use. When this occurs, changes to the web site will not appear in the browser, even if reloading the page, because that page is no longer in use. It is best to return to the home page, clean the files (lwarpmk cleanall), change FileDepth and/or CombineHigherDepths, then finally recompile and renavigate to the desired page using the new file structure.

Bool FileSectionNames
Default: **true**

 **Unique filename!**

FileSectionNames: If true, web page filenames are derived from a sanitized version of the section names. If false, web pages are numbered. Either way, the HTMLFilename option is used as a prefix. See section 7.6.1 for examples of naming and numbering HTML files. The user must ensure that filenames are unique after begin sanitized. For example, math in the section name is removed before creating the filename, so the rest of the filename must be sufficiently unique to avoid name collisions.

\FilenameLimit
Default: **80**

\FilenameLimit: The maximum length of the filenames generated by lwarp. “.html” is added to this length. Redefine with \renewcommand.

Ctr FootnoteDepth
Default: **3**

FootnoteDepth: Determines where to place pending footnotes. 3 places footnotes before each break down to the \subsubsection level. 1 places footnotes before each \section break. Any pending footnotes are also placed at the bottom of each page before each file break.

Bool FixSmallCaps
Default: **false**

FixSmallCaps: Set true if SMALL CAPS are rendering in all caps (“SMALL CAPS”).

May be required for some fonts (`erewhon`, `utopia`, `fbb`, et al.), and packages such as `embrac`.

`Bool HTMLDebugComments`
Default: `false`

HTMLDebugComments: Set true to generate HTML comments, such as which section or `<div>` is being opened or closed.

`\abstractname`
Default: `Abstract`

\abstractname: The name of the abstract. This may also be over-written by the `babel` package. Defaults to “Abstract”. Redefine with `\renewcommand`.

`\IndexPageSeparator`
Default: `,`

\IndexPageSeparator: Index page list separator. Adjust to match index style file. If using `gindex`, this is set automatically to `gindex`’s `\indexpagessep`.

`\IndexRangeSeparator`
Default: `--`

\IndexRangeSeparator: Index page range separator. Adjust to match index style file. If using `gindex`, this is set automatically to `gindex`’s `\indexrangesep`.

Placed before `\begin{document}`, or before any sectioning command which causes a file break:

`\CSSFilename`
Default: `lwarp.css`

\CSSFilename: `{<filename.css>}` Sets the css file to use for the following files. May be changed before each each sectioning command which would cause a file split.

The css styles of the web pages are set by the `\CSSFilename` command. If `\CSSFilename` is not used, a default plain style is used to mimic printed L^AT_EX output. `lwarp_sagebrush.css` is a semi-fancy colored style as shown in this tutorial. Change it to `lwarp_formal.css` for a more formal look, or comment out the `\CSSFilename` command to see the default. `\CSSFilename` may be used before each file break to set the css for individual pages of the website.

`\MathJaxFilename`
Default: `lwarp_mathjax.txt`

\MathJaxFilename: `{<filename>}` Sets the MATHJAX script file to use for the following files. May be changed before each each sectioning command which would cause a file split.

The MATHJAX script file is copied into the head of each HTML file. This may be used to point to a local repository, add extensions, or change the script somewhere in the middle of the document. `\MathJaxFilename` may be used before each file break to set the script file for individual pages of the website.

`\HTMLLanguage`
Default: `en-US`

\HTMLLanguage: `{<language>}` The HTML file’s HTML `lang` meta tag. Defaults to en-US.

`\HTMLTitle`
Default: `\thetitle`

\HTMLTitle: `{<title>}` Overrides `\title` for the HTML header’s meta title. Defaults to `\thetitle`, which is set by `\title`, or empty otherwise. Unlike the author, `\thetitle` is set by `\title` even if not using the `titling` package.

\HTMLTitleBeforeSection: Sets subpage `<title>` tags to show the website title followed by the section name.

\HTMLTitleAfterSection: Sets subpage `<title>` tags to show the section name followed by the website title.

To customize subpage `<title>`s, redefine `\theHTMLTitleSection`, which defaults to:

```
\def\theHTMLTitleSection{%
  \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
}
```

`\HTMLTitleBeforeSection`
Default: `\HTMLTitleBeforeSection`

`\HTMLTitleAfterSection`

`custom <title>`

\HTMLAuthor Default: \theauthor	\HTMLAuthor: {\langle author\rangle} The HTML header's meta author. Defaults to \theauthor, which is set by \author if using the <code>titling</code> package, but is empty otherwise. There are several ways to represent the author and affiliations, especially if using the <code>authblk</code> package, most of which do not result in a sensible \theauthor, so \HTMLAuthor is useful to create a list of authors without their affiliations.
\HTMLDescription Default: <empty>	\HTMLDescription: {\langle description\rangle} Sets the HTML description tag for the following files. May be changed before each sectioning command which would cause a file split.
\HTMLPageTop Default: <empty>	\HTMLPageTop: {\langle contents\rangle} A user-definable custom action applied to the top of pages other than the home page. Useful for logos, etc. Defaults empty. \LinkHome may be used to place a link back to the homepage, as well as \LinkPrevious and \LinkNext. Ignored in print output.
\HTMLPageBottom Default: <empty>	\HTMLPageBottom: {\langle contents\rangle} A user-definable custom action applied to the bottom of pages other than the home page. Useful for authors, copyright notices, contact information, etc. Defaults empty. \LinkHome may be used to place a link back to the homepage, as well as \LinkPrevious and \LinkNext. Ignored in print output.
\LinkHome	\LinkHome: Creates a link to the home page. Usually used in \HTMLPageTop and related.
\LinkPrevious	\LinkPrevious: Creates a link to the previous HTML page, unless already at the home page. Usually used in \HTMLPageTop and related.
\LinkNext	\LinkNext: Creates a link to the next HTML page, unless already at the end. Usually used in \HTMLPageTop and related.

Placed in the home page before the first sectioning command which causes a file break:

⚠ \tableofcontents
TOC on the homepage!

\tableofcontents: Used to place a table of contents on the home page. This command must be used before the first file split, so that a way is available to navigate to other files from the homepage.

Links to each chapter/section are provided, as selected by `tocdepth`.

Placed in the document wherever necessary:

\ImageAltText
Default: image

\ImageAltText: Redefine with \renewcommand. \includegraphics and other images are assigned an HTML alt tag according to \ImageAltText along with \AltTextOpen and \AltTextClose. This text is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is "image", and it may be changed according to the document's language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following \includegraphics and other images.

\ThisAltText

\ThisAltText: {\langle text\rangle} \ThisAltText can be used to assign an HTML alt text attribute to the next image generated by a `lateximage`, `picture`, `tikzpicture`, or any other similar environment which generates an image, or the next `svg` math expression. This tag is cleared after use. The tag is also cleared after

each MATHJAX expression, in case the user changes between SVG math and MATHJAX.

\ThisAltText also may be used to add an HTML title to a reference or hyperlink, such as a \ref, \cref, \href, \url, \hyperref, or \hyperlink. In each case, the alternative text is cleared after use.

\MathImageAltText
Default: math image

\MathImageAltText: Redefine with \renewcommand. When creating an SVG math image, its HTML alt tag may be set to the math expression, which may be hashed for image reuse. In the case of \ensuremath or after \inlinemathother, where the contents require a unique image for each instance of the same expression, the alt tag is set to \MathImageAltText, along with \AltTextOpen and \AltTextClose, and the image is not reused.

This alt expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following SVG math images.

\PackageDiagramAltText
Default: diagram

\PackageDiagramAltText: Redefine with \renewcommand. For many packages, the output is placed inside a \teximage with an HTML alt tag set to the package name followed by \PackageDiagramAltText. For example:

(-xy- diagram)

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

\AltTextOpen
Default: (
\AltTextClose
Default:)

\AltTextOpen: Redefine with \renewcommand.

\AltTextClose: Redefine with \renewcommand. HTML alt text is enclosed by the macros \AltTextOpen and \AltTextClose, which default to an opening and closing parenthesis.

Env warpprint

warpprint: An environment which is only used while generating print output. Place inside anything which does not apply to HTML and which may cause problems with lwarp. If lwarp knows about and emulates or supports a package then its related macros, lengths, counters, etc. probably won’t have to be placed inside a warpprint environment, but unknown packages may cause problems which may be isolated from lwarp using this environment.



Do not place anything else on the same line as \end{warpprint}. Also do not nest warpprint inside itself.

Env warpHTML

warpHTML: An environment which is only included while generating HTML output. This is useful for website logos and other items which have no purpose in printed output.



Do not place anything else on the same line as \end{warpHTML}. Also do not nest warpHTML inside itself.

\warpprintonly

\warpprintonly: {\langle contents \rangle} A macro version of the warpprint environment.

\warpHTMLonly \warpHTMLonly {<contents>} A macro version of the warpHTML environment.

7.6.1 Example HTML file naming

Examples of ways to name or number HTML files:

Numbered HTML nodes:

Example: Homepage index.html, and node-1, node-2.¹³

```
\usepackage[
    HomeHTMLfilename=index,
    HTMLfilename={node-}
]{lwarp}
\boolfalse{FileSectionNames}
```

Named HTML sections, no prefix:

Example: index.html, and About.html, Products.html

```
\usepackage[
    HomeHTMLfilename=index,
    HTMLfilename={}
]{lwarp}
\booltrue{FileSectionNames}
```

Named HTML sections, with prefix:

Example: Homepage mywebsite.html, and additional pages such as mywebsite-About.html, mywebsite-Products, etc.

```
\usepackage[
    HomeHTMLfilename=mywebsite,
    HTMLfilename={mywebsite-}
]{lwarp}
\booltrue{FileSectionNames}
```

7.7 Customizing the css

\CSSfilename {<filename>}

Default: lwarp.css

\CSSfilename may be used to choose which .css file is used to display each page of the web site. Use \CSSfilename before \begin{document} to assign the style of the home page. If different parts of the website should have different styles, call \CSSfilename again before each section heading which creates a new file. This may be changed numerous times throughout the file, resulting in different HTML pages having different css files assigned:

¹³See \SetHTMLFileName to number in groups by chapter, for example.

```
...
\CSSFilename{myCSS.css}
\chapter{Another Chapter}
...
```

The styles provided by **lwarp** include:

lwarp.css: A default style if \CSSFilename is not used. This style is comparable to a plain L^AT_EX document. To set this style, you may use \CSSFilename{lwarp.css}, or no \CSSFilename call at all.

lwarp_formal.css: A formal style with a serif fonts and a traditional look.

lwarp_sagebrush.css: A style with muted colors, gradient backgrounds, additional borders, and rounded corners.

To see each style in use, change the \CSSFilename entry in the tutorial, `lwarpmk html` again, and then reload the tutorial webpage.

Custom css A customized style may also be created. For each new project a file called `sample_project.css` is generated. This may be renamed to <project>.css then used by assigning \CSSFilename{<project>.css}.

 **Rename it!** Note that `sample_project.css` is overwritten whenever **lwarp** is loaded in print mode. It is therefore important to rename the file to something like <project>.css before using it, so that your own changes are not overwritten.

<project>.css has an entry which loads `lwarp.css`, and this entry may be changed to load `lwarp_formal.css` or `lwarp_sagebrush.css` if desired. Additional changes to the css may be made by making entries later in the <project>.css file.

File lwarp.css It is best to make a local project-specific css file such as `project.css`, containing only things which are different from `lwarp.css`. The file `project.css` should refer to `lwarp.css` as follows:

```
/* ( --- Start of project.css --- ) */
/* ( --- A sample project-specific CSS file for lwarp --- ) */

/* Uncomment one of the following: */
@import url("lwarp.css") ;
/* @import url("lwarp_formal.css") ; */
/* @import url("lwarp_sagebrush.css") ; */

/* Project-specific CSS setting follow here. */
/* . . . */

/* ( --- End of project.css --- ) */
```

Finally use \CSSFilename{<project>.css} in the document to activate the custom css.

7.8 Assigning css classes and styles

HTML css classes and styles may be assigned to fragments of the document.

Env **BlockClass** [*<style>*] [*<class>*]

An entire block of text, including paragraphs, may be assigned a css class and optional css style using the **BlockClass** environment. The result is placed inside a `<div>`. A **BlockClass** may nest other **BlockClasses** or **\InlineClasses**.

\InlineClass (*<wp css style>*) [*<web css style>*] [*<css class>*] [*<text>*]

A section of text without paragraphs may be assigned a css class and optional css style using the **\InlineClass** macro. The result is placed inside a ``. **\InlineClass** may be nested, but per the HTML standard it must not contain **BlockClass**, nor may it contain a paragraph, nor several other objects such as HTML figures. **\InlineClass** also accepts a second optional parameter, enclosed inside parentheses, which assigns the style while generating output for a word processor, while ignoring the web style.

Nullified versions of **BlockClass** and **\InlineClass** are provided for the print version, so they may be used in the document without placing them inside **warpHTML** or **\warpHTMLonly**.

7.9 Selecting the operating system

Prog **Unix** **lwarp** tries to detect which operating system is being used. **UNIX / MAC OS / LINUX** is the default (collectively referred to as “**UNIX**” in the configuration files), and **MS-WINDOWS** is supported as well.

Prog **Mac OS**

Prog **Linux**

Prog **MS-Windows** If **MS-WINDOWS** is not correctly detected, use the **lwarp** option **OSWindows**.

Prog **Windows**

Opt **OSWindows** When detected or specified, the operating-system path separator used by **lwarp** is modified, and the boolean **usingOSWindows** is set true. This boolean may be tested by the user for later use.

7.10 Selecting actions for print, HTML, or MATHJAX output

The following environments and macros are used to select actions which only apply to either traditional L^AT_EX print-formatted PDF generation, or to HTML generation, or to HTML with MATHJAX.

For most of built-in L^AT_EX and many additional packages there is user-level source code support or emulation, so no special handling will be required. For those cases which **lwarp** does not handle by itself, the following environments and macros may be used to isolate sections of code for print-only or HTML-only.

These environments are also useful for creating a special version of the titlepage for print and another for HTML.

Env **warpHTML** Anything which is to be done only for HTML5 output is surrounded by a **warpHTML** environment:

```
\begin{warpHTML}
... something to be done only during \HTML\ generation
\end{warpHTML}
```

- ⚠ `\end{warpHTML}` Do *not* place anything else on the same line as `\end{warpHTML}`. The exact phrase is used to mark the end of the environment. Do not nest warpHTML inside itself. warpMathJax may be used inside warpHTML.

- `Env warpprint` Anything which is to be done only for print output is surrounded by a warpprint environment:

```
\begin{warpprint}
... something to be done only during traditional \PDF\ generation
\end{warpprint}
```

- ⚠ `\end{warpprint}` As above, do not place anything else on the line with `\end{warpprint}`. Do not nest warpprint inside itself.

- `Env warpall` Anything which is to be done for any output may be surrounded by a warpall environment. Doing so is optional.

```
\begin{warpall}
... something to be done during print \PDF\ or \HTML\ output
\end{warpall}
```

- ⚠ `\end{warpall}` As above, do not place anything else on the line with `\end{warpall}`. Do not nest warpall inside itself.

Macros are also provided for print-only or HTML-only code:

`\warpprintonly {<actions>}`

Performs the given actions only when print output is being generated.

`\warpHTMLonly {<actions>}`

Performs the given actions only when HTML output is being generated.

- `Env warpMathJax` Anything which is to be done only while using HTML output with MATHJAX is surrounded by a warpMathJax environment. Usually, this is `\CustomizeMathJax`, used to add emulation macros. `\end{warpMathJax}` must appear on its own line. Do not nest warpMathJax inside itself. warpMathJax may be used inside warpHTML.

- ⚠ `\end{warpMathJax}` ⚠ nesting

7.11 Commands to be placed into the warpprint environment

Certain print-related commands should always be placed inside a warpprint environment, or may need other special handling. These are unrelated to HTML output, but are hard to isolate automatically. For example:

- Paragraph formatting: `\parindent \parskip`
- Manual page positions such as the `textpos` package, which is emulated but only in a limited way.
- Anything changing the page counter. `lwarp` requires that the page counter not be adjusted during `HTML` output.

Some packages require additional setup commands. Where these packages are emulated for `HTML`, setup commands may work for the emulated `HTML` output as well as for print output. See the details for each package in this document for more information.

Also see section 13: [Troubleshooting](#).

7.12 Title page

In the preamble, place an additional block of code to set the following:

```
\title{Document Title} % One line only
\author{Author One\affiliation{Affiliation One} \and
        Author Two\affiliation{Affiliation Two} }
\date{Optional date}
```

The title is used in the meta tags in the `HTML` files, unless overridden by `\HTMLTitle`, and the rest are used in `\maketitle`. To use a `\subtitle` or `\published` field, see section 69.8.

`\maketitle` Use `\maketitle` just after the `\begin{document}`, as this will establish the title of the homepage. Optionally, use a `titlepage` environment instead.

`Env titlepage` The `titlepage` environment may be used to hold a custom title page. The `titlepage` will be set in a `<div>` class `titlepage`, and `\printtitle`, etc. may be used inside this environment.

`Env titlingpage` Another form of custom title page, where `\maketitle` is allowed, and additional information may be included as well.

`\title {\langle title\rangle}`

 `HTML corrupted` Avoid newlines in the `\title`; these will interfere with the file break and css detection. Use a `\subtitle` command instead (section 69.8). The title will appear in the document `\maketitle` as a heading `<h1>`. The `HTML` meta `title` tag will also have this title, unless `\HTMLTitle` is used to set the meta title to something else instead.

`\author {\langle author\rangle}`

In `\author`, `\protect` may be needed before some formatting commands. In `HTML`, the author will appear in a `<div>` of class `author` in the `\maketitle`. If the `titling` package is used, the author will also appear in a `HTML` meta tag, but `\HTMLAuthor` may be necessary to create a plain list of names if `\author` had affiliations added. `\affiliation` is a new addition to `lwarp`.

`\date {\langle date\rangle}`

\date works as expected. In HTML, this will appear in a <div> class titled date.

\thanks {⟨text⟩}

\thanks are allowed in the titlepage fields, and will be rendered as HTML notes at the bottom of the title page.

7.13 HTML page meta descriptions

\HTMLDescription {⟨A description of the web page.⟩}
Default: (none)

limitations Each page of HTML output should have its own HTML meta description, which usually shows up in web search results, is limited to around 150 characters in length, and should not include the ASCII double quote character (").

placement Use \HTMLDescription just before \begin{document} to set the description of the home page, and also just before each sectioning command such as \chapter or \section where a new file will be generated, depending on FileDepth. For example, if FileDepth is 1, use \HTMLDescription just before each \section command, and that description will be placed inside the HTML page for that \section. The same description will be used for all following HTML files as well, until reset by a new \HTMLDescription. It is best to use a unique description for each HTML file.

disabling To disable the generation of HTML description meta tags, use:

```
\HTMLDescription{}
```

7.14 HTML homepage meta title

\HTMLTitle {⟨title⟩}

Default: \HTMLtitle{\thetitle}

Sets the contents of the web page <meta name="title"> element. May be set empty to cancel the meta title tag.

See section 7.6 for \HTMLTitleBeforeSection and \HTMLTitleAfterSection, used to set the title for HTML subpages.

7.15 HTML page meta author

\HTMLAuthor {⟨author⟩}

Default: \HTMLAuthor{\theauthor}

Sets the contents of the web page <meta name="author"> element. May be set empty to cancel the meta author tag.

\author may be used to create a list of authors and their affiliations, in several formats if using authblk, and these may not successfully parse properly into a sensible list for \theauthor. \HTMLAuthor may be used to set the meta tag to a simple list of names.

8 Special cases and limitations

Some commonly-used L^AT_EX expressions should be modified as follows to allow for a smooth conversion to both HTML and print-formatted outputs.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

8.1 Things to avoid

In the document, avoid the following:



options with braces

Package options: Package options may cause problems with l warp, especially if they include curly braces.

If selecting options with braces in \usepackage does not work:

```
\usepackage[font={it,small}]{caption}% does not work
... try instead selecting the package options before loading l warp:
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{l warp}
...
\usepackage{caption}
... or try setting package options after the package has been loaded:
\usepackage{caption}
\captionsetup{font={it,small}}
```

page counter: Do not adjust the page counter. If doing so is required for the print version, place the adjustment inside a warpprint environment.

Custom math environment macros: Do not use expressions such as \beq as a replacement for \begin{equation}.

Custom macros in section, figure, table names: Custom macros which appear in sectioning commands or float captions then appear in the . toc, . lof, and . lot lists, and should be made robust using \newrobustcmd or \robustify from etoolbox, xpars e, etc.

When setting FileSectionNames to true to name the HTML files from the section names, the file names are created from sanitized versions of the chapter or section names, but the section names must be plain text or something which expands into plain text. Robust macros will not work at the sectioning level which is used for file names, but a robust macro or other complicated name may be used for the mandatory argument of \chapter, \section, etc., if a plain-text version is also included in the optional argument:

```
\chapter[Plain Name]{\ARobustMacro{Fancy Name}}
```

8.1.1 Invalid HTML

Additionally, some objects are valid L^AT_EX, but invalid HTML. An example is a tabular inside \textbf{, since HTML does not allow a table inside a span. l warp will create the table, and the browser may support it, but the result is technically invalid.

8.2 Formatting

8.2.1 Text formatting

- ⚠ **\bfseries, etc.** \textbf{, etc. are supported, but \bfseries, etc. work only in some situations.}
- ⚠ **HTML special chars** &, <, and > have special meanings in HTML. If \&, \textless, and \textgreater are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.
- program listings** For program listings, the `listings` package is supported, and its `literate` option is used to convert &, <, and > to proper HTML entities.
- verbatim** The various `verbatim`-related environments do not convert &, <, and >, so care must be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

8.2.2 Small caps

- Bool FixSmallCaps** Some fonts, such as `erewhon`, `utopia`, or `fbf`, and some packages such as `embrace`, copy/paste “SMALL CAPS” as all caps (“SMALL CAPS”), which l warp then reads as all caps, so the text is printed in all caps. If small caps are being rendered as all caps, set:

```
\booltrue{FixSmallCaps}
```

- ⚠ **CJK fonts** Some CJK fonts may not work if `FixSmallCaps` is set true.

8.2.3 Horizontal and vertical space and rules

- \hspace** \hspace is converted to an inline HTML span of the given width, except that 0 width is ignored, a width of .16667em is converted to an HTML thin breakable space (U+2009), and a \fill is converted to a \qqquad.
- \vspace** \vspace is ignored for HTML.
~, ~ and \, are converted to HTML entities.
- \kern** \kern and \hskip are entered into the HTML PDF output as-is, then interpreted by `pdftotext`, and thus usually appear as a single space.
- \rule** \rule is converted to an HTML rule of the same dimensions, of the currently selected text color.

- \hrule Both \hrule and \vrule are ignored for HTML. To create a horizontal dividing rule across the page, use \hrulefill in its own paragraph.
- \hrulefill \hrulefill usually creates a one-inch rule, similar to a “fill in the blank”. If it is used at the start of a new paragraph, it creates a <div> with a thin horizontal border across the page, as would often be done with \hrule.

8.2.4 Text alignment

Use the environments center, flushright, flushleft instead of the macros \centering, \raggedright, \raggedleft.

- ⚠ figure & table alignment \centering, etc. are honored in a figure or table if they are the first command inside the float:

```
\begin{table*}
\centering
\caption{A Table}
...

```

8.2.5 Accents

Native L^AT_EX accents such as \" will work, but many more kinds of accents are available when using Unicode-aware X^AT_EX and Lua^AT_EX. If using accents in section names which will become file names, it is recommended to use the L^AT_EX accents such as \' and \v instead of Unicode accents. The L^AT_EX accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

8.2.6 textcomp package

- Pkg textcomp Some textcomp symbols do not have Unicode equivalents, and thus are not supported.
- ⚠ missing symbols Many textcomp symbols are not supported by many system/browser fonts. In the css try referencing fonts which are more complete, but expect to see gaps in coverage.

8.2.7 Superscripts and other non-math uses of math mode

Use x instead of \${}^x\$

8.2.8 Empty \item followed by a new line of text or a nested list:

- lists Use a trailing backslash: \item[label] \

8.2.9 Filenames and URLs in lists or footnotes

filename underscore Escape underscores in the filenames:

```
\item[\href{file\_name.pdf}{text}]
```

8.2.10 relsize package

Pkg relsize For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\relsize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

⚠️ not small The HTML browser's setting for minimum font size may limit how small the output will be displayed.

8.3 Boxes and minipages

8.3.1 Marginpars

`\marginpar` [$\langle left \rangle$] [$\langle right \rangle$] `\marginpar` may contain paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `
` tags.

`\marginparBlock` [$\langle left \rangle$] [$\langle right \rangle$] To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a ``. A line break will occur in the text where the `\marginBlock` occurs.

8.3.2 Save Boxes

⚠️ HTML corrupted

⚠️ boxes TeX boxes are placed inline and do not allow line breaks, so boxes with long contents may overflow the line during HTML conversion. `lwarp` uses methods which help avoid this problem.

⚠️ minipage, \parbox `\savebox` and related do not (yet) support `minipage` or `\parbox`.

8.3.3 Minipages

⚠️ inline A line of text with an inline `minipage` or `\parbox` will have the `minipage` or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made `inline-block`.

placement `minipages` and `\parboxes` will be placed side-by-side in HTML unless you place a `\newline` between them.

side-by-side Side-by-side minipages may be separated by `\quad`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a `center` environment, the result is similar in print and `HTML`. Paragraph tags are suppressed between side-by-side minipages and these spacing commands, but not at the start or end of the paragraph.

⚠ minipage in a span There is limited support for minipages inside an `HTML `. An `HTML <div>` cannot appear inside a ``. While in a ``, minipages, and `\parboxes`, and any enclosed lists have limited `HTML` tags, resulting in an “inline” format, without markup except for `HTML` breaks. Use `\newline` or `\par` for an `HTML` break.

⚠ minipage size When using `minipage`, `\parbox`, and `fminipage`, a virtual 6×9 inch text area is used for `\linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.

if width is `\linewidth` If a `minipage` or `\parbox` is assigned a width of exactly `\linewidth`, in `HTML` it is automatically given no `HTML` width, thus allowed to fill the line as needed, similar to how it appears in print output.

full-width if `HTML` A new macro `\minipagefullwidth` requests that, during `HTML` output, the next single `minipage` or `\parbox` be generated without an `HTML width` attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version’s width makes no sense in `HTML`.

⚠ tabular, multicols Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every `minipage` or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell `l warp` to honor the specified widths of all following minipages and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell `l warp` to ignore the specified widths.

⚠ multicols Inside a `multicols`, `\linewidth` is divided by the specified number of columns.

⚠ text alignment Nested minipages adopt their parent’s text alignment in `HTML`, whereas in regular `LATEX` `PDF` output they do not. Use a `flushleft` or similar environment in the child `minipage` to force a text alignment.

8.3.4 Side-by-side minipages

Place side-by-side minipages inside a `center` environment, with horizontal space between them, such as `\quad`, `\qquad`, `\hspace`, or `\hfill`. The result is similar in print and `HTML`. Do not use space commands at the start or end of the line.

8.3.5 Framed minipages and other environments

`\fbox` can only be used around inline `` items during `HTML` output, but `HTML` cannot place a block element such as a `<div>` for a minipage or a list inside of a ``. Several options are provided for framing an object, depending on which kind of object and which packages are loaded:

`\fbox`
`\fboxBlock`
`Env fminipage`

For a framed object, options include:

To remove the frame in HTML output: Place the `\fbox` command and its closing brace inside `\warpprint` environments. This will nullify the frame for HTML output.

For inline text:

To frame the contents inline with some formatting losses in HTML: This is the default action of `\fbox` when enclosing a `minipage`. During HTML output, `\fbox` nullifies the HTML tags for `minipage`, `\parbox`, and lists. The contents are included as inline text inside the `\fbox`'s `` of class `framebox`. For lists, line breaks are converted to HTML breaks. The result is a plain-text inline version of the contents, framed inline with the surrounding text, but lacking any extra HTML markup.

To frame the contents on their own line with improved formatting in HTML:

For inline `minipage` and lists:

A new command `\fboxBlock` is included, intended to be a direct replacement for `\fbox` for cases where the `\fbox` surrounds a `minipage`, `table`, or `list`. For print output, this behaves as `\fbox`. For HTML output, the contents are placed inside an HTML `<div>` with the class `framed`, resulting in the contents being placed on their own line with a frame surrounding them. The contents preserve their HTML formatting, so lists and `minipages` look nicer, and valid HTML is created for a `tabular`. While an `\fbox` containing a `tabular` is valid L^AT_EX code, the result in HTML is problematic since a `table` is a `<div>` not a ``, so use `\fboxBlock` around a `tabular`, or else place the `tabular` inside a `minipage`, or use `fminipage`, described next. Also see below regarding the “Misplaced alignment tab character &.” error.

To create a framed `minipage` in both print and HTML: A new environment `fminipage` is included. For print output, this is identical to `minipage`, except that it is also framed. For HTML output, this forms a `<div>` of class `framed`, the contents preserve their HTML formatting, and valid HTML is created for a `tabular`. Also see section 89 for a new environment `fcolorminipage`. Also see below regarding the “Misplaced alignment tab character &.” error.

colored boxes and frames:

To create colored frames and boxes: See section 655 for `xcolor`'s `\colorbox` and `\fcolorbox`, and `l warp`'s additional `\colorboxBlock` and `\fcolorboxBlock`.

To frame tables or verbatim environments: Place the contents inside a `fminipage`, or perhaps a `\fboxBlock` for a `tabular`. Also, if using `\fboxblock` with `tabular`, you will have to use `\StartDefiningTabulars` before the start of the macro which uses `\fboxBlock` and the `tabular`, and `\StopDefiningTabulars` afterwards. Also see the `l warp` documentation for the `fancybox` package.

To frame equations: See section 255 for the `fancybox` package.

For fancy framed minipages: See packages `boxedminipage`, `shadow`, `fancybox`, `framed`, `mdframed`.

Custom environments: Use a custom environment to create a sidebar, containing a `BlockClass` environment with custom CSS formatting, and `\warpprintonly{\hrule}` command:

```
\begin{BlockClass}{frameminipage}% ignored in print output
  % use \CSS\ to format div class framedminipage
  \warpprintonly{\hrule} % only appears in print output
  Contents
  \warpprintonly{\hrule} % only appears in print output
\end{BlockClass}
```

 Misplaced alignment tab character &

8.3.6 fancybox package

Pkg **fancybox**
framed equation example

fancybox's documentation has an example `FramedEqn` environment which combines math, `\Sbox`, a `minipage`, and an `\fbox`. This combination requires that the entire environment be enclosed inside a `lateximage`, which is done by adding `\latextimage` at the very start of `FramedEqn`'s beginning code, and `\endlatextimage` at the very end of the ending code. Unfortunately, the `HTML alt` attribute is not used here.

```
\newenvironment{FramedEqn}
{
\latextimage% NEW
\setlength{\fboxsep}{15pt}
... }...
[\fbox{TheSbox}]
\endlatextimage% NEW
}
```

framing alternatives `\fbox` works with **fancybox**. Also see **l warp**'s `\fboxBlock` macro and `fminipage` environment for alternatives to `\fbox` for framing environments.

framed table example

The **fancybox** documentation's example of a framed table using an `\fbox` containing a `tabular` does not work with **l warp**, but the `FramedTable` environment does work if `\fbox` is replaced by `\fboxBlock`. This method does lose some `HTML` formatting. A better method is to enclose the table's contents inside a `fminipage` environment. The caption may be placed either inside or outside the `fminipage`:

```
\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}
```

⚠ **framed verbatim**

l warp does not support the `verbatim` environment inside a span, box, or **fancybox**'s `\Sbox`, but a `verbatim` may be placed inside a `fminipage`. The **fancybox** documentation's example `FramedVerb` may be defined as:

```
\newenvironment{FramedVerb}[1] % width
{
\VerbatimEnvironment
\fminipage{#1}
\begin{Verbatim}
}%
\end{Verbatim}
\endfminipage
}
```

framed \VerbBox `fancybox`'s `\VerbBox` may be used inside `\fbox`.

indented alignment

`LVerbatim`, `\LVerbatimInput`, and `\LUseVerbatim` indent with horizontal space which may not line up exactly with what `pdftotext` detects. Some lines may be off slightly in their left edge.

8.3.7 mdframed package

Pkg **mdframed support** Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for **mdframed** environments and frame titles.

⚠ **loading** When used, l warp loads **mdframed** in HTML with `framemethod=none`.

font For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the **mdframed** source). Since l warp does not support `\bfseries` and friends, only one font selection may be made at a time.

theoremtitlefont `theoremtitlefont` is not supported, since the following text is not in braces in the **mdframed** source.

ignored options `userdefinedwidth` and `align` are currently ignored.

css classes Environments created or encapsulated by **mdframed** are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `|mdframedtitle|`. Subtitles are in a `<div>` of class `|mdframedsubtitle|`, and likewise for subsubtitles.

8.3.8 tcolorbox package

Pkg **tcolorbox** **tcolorbox** is emulated for HTML and MATHJAX, and supported as-is inside a `lateximage` or `svg` math.

What has been tested to work (at least partly) includes:

- **tcolorbox**, `\tcbox`.
- Title, subtitle.
- Upper, lower parts.
- Colors and title fonts.
- Floating objects.
- Some layered box features.
- Counters, labels, references.
- `listings`, `listingsutf8`.
- **theorems**: Theorems are supported. `math`, `ams equation`, etc. are not supported.

⚠ **math** Use a **tcolorbox** with regular math inside it. `\tcbxmath` and `\tcbhighmath` are supported in `svg` math, and emulated in MATHJAX.

⚠ **footnotes**

- Fitting features: `\tcbxmath` becomes `\tcbbox` in HTML.
- Footnote numbering does not match the printed output.
- MATHJAX emulation is provided for common macros.

⚠ **undefined references** If using `cleveref`, it may be necessary to name theorems such as:

```
\crefname{tcb@cnt@mytheo}{my theorem}{my theorems}
```

8.4 Section names

If using named HTML files, by selecting `\booltrue{FileSectionNames}`, the generated filenames may be simplified by using `\FilenameSimplify` and `\FilenameNullify`:

```
\FilenameSimplify {\langle text\rangle}
```

To remove common short words from the automatically-generated filenames, replacing each with a single hyphen “-”, use `\FilenameSimplify`:

```
\FilenameSimplify*{-in-}
\FilenameSimplify*{A-}
```

The first example removes the word “in” in the middle of a filename, and the second example removes “A” at the start of the filename. The star forces the arguments to be detokenized, which is required for a plain-text comparison. (The unstarred form is used for a token-sensitive comparison, which is seldom required by the user.) After simplification, repeated hyphen characters will be further simplified to a single hyphen “-”. Finally, single hyphens at the start or end of the filename are removed.

```
\FilenameNullify {\langle macros\rangle}
```

⚠ **macros in section names** Macro names may appear in the automatically-generated file names. To remove these, create *non-robust* nullified versions of the macros, ensuring that each line ends with a percent character % as shown below. These are placed inside `\FilenameNullify`, which adds them to the list of macros which are nullified during filename generation. Low-level macros such as `\begingroup` will cause problems when nullified. Many macros such as `\textbf` are already nullified. `lwarp` also already nullifies built-in symbol and `textcomp` macros, including if defined by `xunicode`, but not all `xunicode` macros. See the definition of `\LWR@nullfonts` for a complete list.

```
\FilenameNullify{%
  \renewcommand*{\macro}{[1]{#1}%
  \renewcommand*{\anothermacro}{}}%
}
```

⚠ **duplicate filename** Avoid duplicate file names. Section names at levels which result in HTML file splits must be unique. `lwarp` will generate an error if a duplicate HTML filename is generated. Use the optional `toc` caption entry parameter for formatting. Remember to `\protect` `LATEX` commands which appear in section names and `toc` captions.

⚠ **math in section names** If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the `toc` entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section{Some math \texorpdfstring{\(1+2=3\)}{three}}
```

8.5 Cross-references

labels Labels with special characters may be a problem. It is best to stick with alpha-numeric, hyphen, underscore, and perhaps the colon (if not French).

⚠️ label characters

\nameref `\nameref` refers to the most recently-used section where the `\label` was defined. If no

⚠️ empty link section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.

8.5.1 Page references

⚠️ L^AT_EX page numbers The printed page does not translate to the HTML page, so `\pageref` references are converted to parentheses containing `\pagerefPageFor`, which defaults to “see”, followed by a hyperlink to the appropriate object.

Ex:

`\ref{sec:name}` on page `\pageref{sec:name}`
in HTML becomes:
“Sec. 1.23 on page (see sec. 1.23)”.

`\pagerefPageFor` may be redefined to “page for”, empty, etc. See page 508.

8.5.2 cleveref and varioref packages

Pkg cleveref `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

⚠️ cleveref page numbers Ex:

`\cpageref{tab:first,tab:second}`
in html becomes:
“pages for table 4.1 and for table 4.2”

See `\cpagerefFor` at page 741 to redefine the message which is printed for page number references.

⚠️ varioref types

`cleveref` changes the behavior of `varioref` in that the reference type is automatically printed if `cleveref` is loaded. `Lwarp` requires `cleveref`, so the HTML version will always automatically print the reference types even if the print mode does not. The simplest way to make them match is to require the `cleveref` package for the document.

8.5.3 Hyperlinks, hyperref, and url

Pkg hyperref `lwarp` emulates `hyperref`, including the creation of active hyperlinks, but does not require that `hyperref` be loaded by the document.

Pkg url

⚠️ comments between arguments Do not place a comment with a % character between arguments for `\hyperref`, etc., as it is neutralized for inclusion in HTML URLs.

`lwarf` can also load `url`, but `url` should not be used at the same time as `hyperref`, since they both define the `\url` command. `lwarf` does not (yet) attempt to convert `url` links into hyperlinks during `HTML` output, nor does the print version of `url` create hyperlinks.

-  **backref** When generating `HTML`, `lwarf`'s emulation of `hyperref` does not automatically load `backref`, so `backref` must be loaded explicitly.

8.5.4 Footnotes, endnotes, and page notes

`lwarf` uses native `LATEX` footnote code, although with its own `\box` to avoid the `LATEX` output routine. The usual functions mostly work as-is.

- footnote numbering** To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by `HTML` page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

- MATHJAX** Also for `MATHJAX`, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading `lwarf`:

```
\providecommand{\footnotename}{something}
\usepackage{lwarf}
```

Similar for `sidenotes`. For `endnotes`:

```
\def\endnotename{something}% \def allows name to start with "end"
```

For the `pagenote` package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

- footmisc** The `footmisc` stable option is emulated by `lwarf`.

-  **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and `HTML`, use the `footmisc` package with the `stable` option, provide a short TOC entry, and `\protect` the `\footnote`:

```
\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

- memoir with footmisc**  `memoir` If using `memoir` class, with which `lwarf` preloads `footmisc`, the `stable` option must be declared before `lwarf` is loaded:

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarf}
...
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\seccnumdepth` instead.

fancybox, fancyvrb

⚠ **\VerbatimFootnotes**
⚠ **sectioning or displaymath**

```
\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbatim+.}
```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when `\VerbatimFootnotes` are selected. The browser usually compensates.

pfnote

⚠ **pfnote numbers**

While emulating `pfnote`, `lwarp` is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. `lwarp` therefore uses continuous footnote numbering even for `pfnote`.

bigfoot, manyfoot

⚠ **verbatim**

Verbatim footnotes are not yet supported.

If using the `bigfoot` package, and possibly also `manyfoot`, problems may occur with counter allocation because `lwarp` uses many counters, and there is a difference in how counters numbered 256 and up are handled in pdfL^AT_EX. With `bigfoot` this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining `bigfoot` or `manyfoot` footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use X^AL_ET_EX or LuaL^AT_EX instead of pdfL^AT_EX.

8.5.5 xr, xr-hyper, and xcite packages

See section 5.17.

8.6 Front and back matter

8.6.1 Custom classes with multiple authors and affiliations

Some classes allow multiple authors and affiliations. Often it is possible to emulate these using a standard class along with `authblk`:

```
%\documentclass{customclass} % for print document
\documentclass{article} % for html document

\usepackage{lwarp}
\begin{warpHTML}
\usepackage{authblk}
\let\affiliation\affil % maybe required
\end{warpHTML}
```

8.6.2 Starred chapters and sections

HTML page and toc

The following describes \ForceHTMLPage and \ForceHTMLTOC, which may be used for endnotes, glossaries, tocbibind, bibliographies, and the index. See the following sections where applicable. Continue here if interested in the reason for adding these commands to lwarp.

Some packages use \chapter* or \section* to introduce reference material such as notes or lists, often to be placed in the back matter of a book. These starred sections are placed inline instead of on their own HTML pages, and they are not given TOC entries.

lwarp provides a method to cause a starred section to be on its own HTML page, subject to FileDepth, and also a method to cause the starred section to have its own TOC entry during HTML output.

\ForceHTMLPage To place a starred section on its own HTML page, use \ForceHTMLPage just before the \chapter* or \section*. lwarp will create a new page for the starred sectional unit.

A starred sectional unit does not have a TOC entry unless one is placed manually. The typical method using \phantomsection and \addcontentsline works for inline text but fails when the new starred section is given its own webpage after the TOC entry is created, or when creating an EPUB where the TOC entry will point to the page before the starred section. If the starred section has its own HTML page but no correct TOC entry pointing to that page, the page will be inaccessible unless some other link is created.

\ForceHTMLTOC To automatically force the HTML version of the document to have a TOC entry for a starred section, use \ForceHTMLTOC just before the \chapter* or \section*, and place \phantomsection and \addcontentsline inside a warprint environment.

For print output, \ForceHTMLTOC and \ForceHTMLPage have no effect.

8.6.3 abstract package

Pkg abstract

If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

⚠ missing TOC

8.6.4 titling and authblk

Pkg titling
Pkg authblk

lwarp supports the native L^AT_EX titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.

package support

⚠ load order
\published and \subtitle

If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 69.8.

8.6.5 tocloft package

Opt[tocloft] titles

If using tocloft with tocbibind, anonchap, fncychap, or other packages which change

Pkg tocloft
Pkg tocloft

⚠ tocloft & other packages

chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.

8.6.6 `appendix` package

- Pkg `appendix` During HTML conversion, the option `toc` without the option `page` results in a `toc` link to whichever section was before the `appendices` environment. It is recommended to use both `toc` and `also page` at the same time.

8.6.7 `pagenote` package

Pkg `pagenote` `pagenote` works as-is, but the `page` option is disabled.

-  `labels` Note that labels in page notes do not appear as expected, even in the print version.

8.6.8 `endnotes` package

- Pkg `endnotes` To place the endnotes in the `toc`, use:

```
\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*\notesname{Endnotes} % optional
```

- `HTML page` To additionally have the endnotes on their own HTML page, if `FileDepth` allows:

```
\ForceHTMLPage
\theendnotes
```

-  `\endnotemark` If using MATHJAX, see section 8.5.4 regarding the use of `\endnotemark` and `\endnotetext`.

8.6.9 *BibTeX*

- `\etalchar` Displays a superscript “+” to indicate “and others”.

-  `Modify *.bib` When enough authors are cited for a source, BIB_TE_X may use the `\etalchar` command to display a math superscript with a + character to indicate “and others”. Without modification, this will result in an “Improper `\prevdepth`” error. At present, `lwarp` requires that `\etalchar` be replaced by a text superscript. To do so, add to the start of the .bib file the following:

```
@PREAMBLE{"\let\etalchar\relax \newcommand{\etalchar}[1]{\textsuperscript{#1}}"}
```

8.6.10 `xcite` package

See section 5.17.

8.6.11 gloss package

Pkg gloss To process the HTML glossary:

⚠️ compiling bibtex <projectname>_html.gls

8.6.12 glossaries package

Pkg glossaries
processing glossaries
 Opt GlossaryCmd
 Default: `makeglossaries`

Opt [`lwarpmk`] printglossary
 Opt [`lwarpmk`] htmlglossary

⚠️ `makeglossaries` not found

lwarpmk has the commands `lwarpmk printglossary` and `lwarpmk htmlglossary`, which process the glossaries created by the `glossaries` package using that package's `makeglossaries` program.

The shell command to execute is set by the `lwarf` option `GlossaryCmd`, which defaults to `makeglossaries`. The print or HTML glossary filename is appended to this command.

In some situations it may be required to modify the default command, such as to add the `perl` command in front:

```
\usepackage[
  GlossaryCmd={perl makeglossaries},
] {lwarf}
```

xindy language To set the language to use for processing glossaries with *xindy*:

```
\usepackage[
  GlossaryCmd={makeglossaries -L english},
] {lwarf}
```

Other options for `makeglossaries` may be set as well.

placement and toc options

The glossaries may be placed in a numbered or unnumbered section, given a TOC entry, and placed inline or on their own HTML page:

Numbered section, on its own HTML page:

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

Unnumbered section, inline with the current HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

Unnumbered section, on its own HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

⚠️ glossary style The default `style=item` option for `glossaries` conflicts with `lwarf`, so the style is forced to `index` instead.

⚠️ number list The page number list in the printed form would become `\nameref`s in HTML, which could

become a very long string if many items are referenced. For now, the number list is simply turned off.

- print/HTML versions** The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

8.6.13 nomencl package

Pkg nomencl To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.list -o <project>_html.nls
```

8.6.14 Indexing overview

There are many ways to process indexes for a L^AT_EX document, including native L^AT_EX capabilities, a number of packages and classes, the possible availability of shell escape and *latexmk*, and the need to process print and HTML versions. *lwarf* attempts to provide easy recompilation of indexes along with the rest of the document, but the various indexing options must be set correctly. Numerous examples are given below. Some differ in minor details, so the important parts are highlighted in red, and options are in green.

Once set up properly, the entire document may be recompiled with **lwarpmk print** and **lwarpmk html**. In some cases, it will also be necessary to compile the indexes with **lwarpmk printindex** and **lwarpmk htmlindex**. A recompile may then be forced with **lwarpmk print1** and **lwarpmk html1**.

- manual processing** The user may continue to process indexes manually or by shell script without the use of *lwarpmk*, but adjustments will be required to process HTML indexes as well. In general, *.idx and *.ind files will be accompanied by *_html.idx and *_html.ind files.

- custom index style** If using a custom indexing style file, see sections 8.6.20 to 8.6.22.

- link appearance** To control how the index links appear in the HTML output, see the IndexRef option in section 7.5, page 107.

- source code** See section 79 for *lwarf*'s core index and glossary code, section 334 for **index**, section 557 for **splitidx**, section 332 for **imakeidx**, section 610 for **tocbibind**, and section 676.17 for **memoir**'s indexing patches.

8.6.15 Indexing with makeidx, makeindex, xindy, xindex, gindex

- lwarpmk processing** The following allow the user to process indexes automatically, or using *lwarpmk*'s commands:

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

Prog makeindex **For a single index using *makeindex*:**

```
\usepackage[makeindex,latexmk] {lwarf}
```

The usual .idx and .ind files will be used, along with the new lwarf.ist style file. When creating the HTML index, “_html” is automatically appended to each of the names.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

To use a custom configuration file, see section 8.6.20.

Prog xindy **For a single index using *xindy*:**

```
\usepackage[xindy,
xindyLanguage=english, <optional>
xindyCodepage=utf8, <optional>
Latexmk <optional>
]{lwarf}
```

The usual .idx and .ind files will be used, along with the new lwarf.xdy style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

To use a custom configuration file, see section 8.6.21.

Prog xindex **For a single index using *xindex*:**

```
\usepackage[xindex,
Latexmk <optional>
]{lwarf}
```

The usual .idx and .ind files will be used.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

To use a custom configuration file, see section 8.6.22.

Pkg gindex **For a single index using gindex:**

```
\usepackage[
    makeindex,
    makeindexStyle=gindex.ist,
    . . . or . .
    makeindexStyle=gindexh.ist,
    latexmk
]{{\l warp}}
```

The usual .idx and .ind files will be used.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

To use a custom configuration file, copy *gindex.ist* to a new file, modify, then specify it with *MakeindexStyle* as above. *lwarp* will automatically adapt to *gindex*'s \indexpagessep and \indexrangesep settings.

8.6.16 Indexing with index

Prog index

lwarp is told how to use *makeindex* using the *PrintIndexCmd* and *HTMLIndexCmd* options. The file *lwarp.ist* is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

For multiple indexes using *makeindex* and *index*:

(Assuming that the second index has file extensions .sist and .sind)

```
\usepackage[
    makeindex, latexmk,
    PrintIndexCmd={
        makeindex -s lwarp.ist <projectname>.idx ;
        makeindex -s lwarp.ist
        -o <projectname>.sind <projectname>.sidx
    },
    HTMLIndexCmd={
        makeindex -s lwarp.ist <projectname>_html.idx ;
        makeindex -s lwarp.ist
        -o <projectname>_html.sind <projectname>_html.sidx
    }
]{{\l warp}}
\usepackage{index}
. . .
\makeindex
\newindex{secondname}{sidx}{sind}{Second Index}
```

 **WINDOWS**

For Windows, replace the two “,” characters with “&”.

When creating the HTML index, “_html” is automatically appended to the index filenames.

Use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

If the `latexmk` option is selected for `lwarf`, `latexmk` will compile the document but will *not* compile the indexes. `lwarpmk printindex` and `lwarpmk htmlindex` will still be required.

8.6.17 Indexing with `splitidx`

Prog `splitidx`

`lwarf` is told how to use `splitindex` using the `PrintIndexCmd` and `HTMLIndexCmd` options. The file `lwarf.ist` is specified, which generates index letter heads for print output and also allows special `HTML` formatting for `HTML` output.

If the `latexmk` option is selected for `lwarf`, `latexmk` will compile the document but will *not* compile the indexes. `lwarpmk printindex` and `lwarpmk htmlindex` will still be required.

- ⚠ `\thepage` When using `\AtWriteToIndex` or `\AtNextWriteToIndex`, the user must not refer to `\thepage` during `HTML` output, as the concept of a page number is meaningless. Instead, do

```
\addtocounter{LWR@autoindex}{1}
\lWR@new@label{\lWRindex-\arabic{LWR@autoindex}}
```

where the `\index`-like action occurs, and then refer to `\arabic{LWR@autoindex}` instead of `\thepage` where the reference should occur.

See section 676.17 in the `lwarf-patch-memoir` package for the `\@wrspindexhyp` macro as an example.

For multiple indexes using `makeindex` and `splitidx`:

```
\usepackage[
    makeindex, latexmk,
    PrintIndexCmd={
        splitindex <projectname> -- -s lwarf.ist
    },
    HTMLIndexCmd={
        splitindex <projectname>_html -- -s lwarf.ist
    }
]{lwarf}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}
```

When creating the `HTML` index, “`_html`” is automatically appended to each of the names.

Use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes using *xindy* and *splitidx*:

```
\usepackage[
    xindy, latexmk,
    PrintIndexCmd={
        splitindex -m xindy <projectname> -- -M lwarf.xdy
        -L english -C utf8                                <optional>
    },
    HTMLIndexCmd={
        splitindex -m xindy <projectname>_html -- -M lwarf.xdy
        -L english -C utf8                                <optional>
    }
]{lwarf}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}
```

When creating the HTML index, “_html” is automatically appended to each of the names.

Use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

8.6.18 Indexing with *imakeidx*

Prog imakeidx

Due to the number of methods which may be used to process multiple indexes, the options for style file and *xindy* language and codepage must be specified in one of several different ways. These are described in detail later in this section, but are summarized here.

If shell escape is used, *imakeidx* will automatically compile the indexes by itself. Options specifying a custom style file and *xindy* language and codepage must be specified for each \makeindex command using its options= option, which must include lwarf’s special lwarf.ist or lwarf.xdy file, or a file based on them. If using a custom indexing style file, see sections 8.6.20 to 8.6.22.

The *splitindex* option is also available if shell escape is used, in which case the *splitidx* package and *splitindex* program will also be used.

If shell escape is not possible, *latexmk* may be used to automatically compile the indexes. The style, language, and codepage options are specified with lwarf’s makeindexStyle,

`xindyStyle`, `xindyLanguage`, and `xindyCodepage` options. These are passed to `latexmk` by `lwarpmk`'s `lwarpmk printindex` and `lwarpmk htmlindex` commands.

Where shell escape and `latexmk` are not possible, `lwarpmk` may be used to manually compile the indexes. `lwarp`'s `PrintIndexCmd` and `HTMLIndexCmd` options are used.

For a single or multiple indexes using `makeindex` and `imakeidx`:

The index style `lwarp.ist` is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk]{lwarp}
\usepackage[makeindex]{imakeidx}
...
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]
```

`imakeidx` will automatically compile the indexes. Shell escape is not required while using `makeindex`. `latexmk` may be specified, and if so it will be used for `lwarpmk print` and `lwarpmk html`, but `imakeidx` will actually create the indexes.

For a single or multiple indexes using `makeindex` and `splitindex` with `imakeidx`:

The index style `lwarp.ist` is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk]{lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
...
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]
```

enable shell escape

Shell escape is required while using `splitindex`. For the first compile, use

Enter ⇒ `pdflatex --shell-escape projectname.tex`

Enter ⇒ `pdflatex --enable-write18 projectname.tex (MiKTeX)`

or similar with `xelatex` or `lualatex`. `lwarp` will remember that shell escape was used.

`imakeidx` will automatically execute `splitindex`, and will also use `makeindex` to compile the indexes.

`latexmk` may be specified, and if so it will be used for `lwarpmk print` and `lwarpmk html`, but `imakeidx` will actually create the indexes.

For multiple indexes using `xindy` and `imakeidx`, using shell escape:

Options may be given to `imakeidx`'s `\makeindex` command. The style file `lwarp.xdy` is automatically used for HTML output, and is not necessary for print output since the output will be similar. If language or codepage must be set, they should be specified as options for `\makeindex`, since `imakeidx` will process the indexes.

```
\usepackage[xindy,latexmk]{lwarp}
\usepackage[xindy,splitindex]{imakeidx}
...
\makeindex[
    options={-M lwarp.xdy -L english -c utf8 }
]
\makeindex[
    name=secondname,
    options={-M lwarp.xdy -L english -c utf8 }
]
```

 enable shell escape

For the first compile, use

Enter ⇒ **pdflatex --shell-escape projectname.tex**

Enter ⇒ **pdflatex --enable-write18 projectname.tex** (MiKTeX)

or similar with *xelatex* or *lualatex*. *lwarp* will remember that shell escape was used.

imakeidx will automatically execute *splitindex* if selected, and will also use *xindy* to compile the indexes.

If selected, *latexmk* will automatically recompile the entire document as necessary.

For indexes using *xindy* and *imakeidx*, without shell escape, but with *latexmk*:

lwarp's options are used, and are passed to *latexmk*.

```
\usepackage[
    xindy,
    xindyLanguage=english,                                <optional>
    xindyCodepage=utf8,                                 <optional>
    latexmk,
]{lwarp}
\usepackage[xindy]{imakeidx}
...
\makeindex
\makeindex[name=secondname]
```

latexmk will create the indexes automatically when **lwarpmk print** and **lwarpmk html** are executed.

For indexes using *xindy* and *imakeidx*, without shell escape, and *without latexmk*:

lwarpmk must be told how to create the indexes:

```
\usepackage[
    xindy,
    PrintIndexCmd={
        xindy -M lwarp.xdy -L english -C utf8
        <projectname>.idx ;
        xindy -M lwarp.xdy -L english -C utf8
        secondname.idx
    },
    HTMLIndexCmd={
        xindy -M lwarp.xdy -L english -C utf8
        <projectname>_html.idx ;
        xindy -M lwarp.xdy -L english -C utf8
        secondname_html.idx
    }
]{lwarp}
\usepackage[xindy]{imakeidx}
...
\makeindex
\makeindex[name=secondname]
```

⚠ WINDOWS

For Windows, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes using *xindex* and *imakeidx*, using shell escape:

xindex, *makeindex*, *imakeidx*, and *splitindex* can all work together:

```
\usepackage[%]
    xindex,
    xindexConfig=-imakeidx,
    latexmk
] {lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
...
\makeindex[%]
    options={ -s lwarp.list} ]
\makeindex[
    name=secondname,
    options={ -s lwarp.list} ]
]
```

⚠ enable shell escape

For the first compile, use:

```
Enter ⇒ pdflatex --shell-escape projectname.tex
Enter ⇒ pdflatex --enable-write18 projectname.tex (MiKTeX)
or similar with xelatex or lualatex. lwarf will remember if shell escape was used.
xindex will use imakeidx, and imakeidx will automatically execute splitindex if selected.
If selected, latexmk will automatically recompile the entire document as necessary.
```

8.6.19 Indexes with memoir

For a single index with memoir and makeindex:

```
\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarf}
...
\makeindex
```

The usual .idx and .ind files will be used, along with the lwarf.ist style file.

lwarpmk will use latexmk if specified, in which case latexmk will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes with memoir and makeindex, using latexmk:

lwarf's options are used, and are passed to latexmk.

```
\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarf}
...
\makeindex
\makeindex[secondname]
```

lwarpmk will use latexmk to create the indexes automatically when the user executes lwarpmk print and lwarpmk html.

For multiple indexes with memoir and *makeindex*, without *latexmk*:

lwarfmk must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
    makeindex,
    PrintIndexCmd={
        makeindex -s lwarf.ist <projectname>.idx ;
        makeindex -s lwarf.ist secondname.idx
    },
    HTMLIndexCmd={
        makeindex -s lwarf.ist <projectname>_html.idx ;
        makeindex -s lwarf.ist secondname_html.idx
    }
]{lwarf}
...
\makeindex
\makeindex[secondname]
```

 **WINDOWS**

For Windows, replace the two “;” characters with “&”

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

```
Enter ⇒ lwarfmk printindex
Enter ⇒ lwarfmk htmlindex
```

to compile the indexes.

For a single index with memoir and *xindy*:

```
\documentclass{memoir}
\usepackage[
    xindy,
    xindyLanguage=english,                                <optional>
    xindyCodepage=utf8,                                 <optional>
    latexmk                                              <optional>
]{lwarf}
...
\xindyindex
\makeindex
```

The usual .idx and .ind files will be used, along with the lwarf.xdy style file.

lwarfmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarfmk printindex
Enter ⇒ lwarfmk htmlindex
```

to compile the indexes.

For multiple indexes with memoir and xindy, using latexmk:

lwarf's options are used, and are passed to *latexmk*.

```
\documentclass{memoir}
\usepackage[
    xindy,
    xindyLanguage=english,                                     <optional>
    xindyCodepage=utf8,                                      <optional>
    latexmk
]{lwarf}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

lwarpmk will use *latexmk* to create the indexes automatically.

For multiple indexes with memoir and xindy, without latexmk:

lwarpmk must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
    xindy,
    PrintIndexCmd={
        xindy -M lwarf.xdy -L english -C utf8
        <projectname>.idx ;
        xindy -M lwarf.xdy -L english -C utf8
        secondname.idx
    },
    HTMLIndexCmd={
        xindy -M lwarf.xdy -L english -C utf8
        <projectname>_html.idx ;
        xindy -M lwarf.xdy -L english -C utf8
        secondname_html.idx
    }
]{lwarf}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

 **WINDOWS**

For Windows, replace the four ";" characters with "&"

<projectname> is the \jobname: if compiling "name.tex", use the filenames name.idx and name_html.idx.

Use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

8.6.20 Using a custom *makeindex* style file

Prog makeindex When using *makeindex*, *lwarpmk* uses the file *lwarp.ist* to process the index. This file is over-written by *lwarp* whenever a print version of the document is processed.

To use a custom *makeindex* style file:

1. Copy *lwarp.ist* to a new filename such as *projectname.ist*
2. Make changes to *projectname.ist*. Keep the lines which refer to `\hyperindexref`. These lines creates the hyperlinks for the `HTML` index. During print output `\hyperindexref` becomes a null function.
3. If changing

`delim_n -and- delim_r`

in *projectname.ist*, then in the document preamble redefine

`\IndexPageSeparator -and- \IndexRangeSeparator`

to match.

Opt makeindexStyle 4. In the document source use the *makeindexStyle* option for *lwarp*:

```
\usepackage[
    . . . other options . .
    makeindex,
    makeindexStyle=projectname.ist,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes *lwarp* to rewrite the *lwarpmk.conf* configuration file. This tells *lwarpmk* to use the custom *projectname.ist* file instead of *lwarp.ist*.

8.6.21 Using a custom *xindy* style file

Prog xindy When using *xindy*, *lwarpmk* uses the file *lwarp.xdy* to process the index. This file is over-written by *lwarp* whenever a print version of the document is processed.

To use a custom *xindy* style file:

1. Copy *lwarp.xdy* to a new filename such as *projectname.xdy*
2. Make changes to *projectname.xdy*.

Keep the lines which refer to `\hyperindexref`:

```
(define-attributes ((\"hyperindexref\")))
(markup-locref :open "\"hyperindexref{" :close "}")
...
(markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
```

These lines create the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.

To create custom styles, refer to the lines for `\textbf` and `\textit`.

3. If changing any of

```
markup-locref-list :sep
markup-locclass-list :open
markup-locclass-list :sep
markup-crossref-layer-list :sep
markup-range :sep
```

in `projectname.xdy`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

- `Opt xindyStyle` 4. In the document source use the `xindyStyle` option for `lwarp`:

```
\usepackage[
    . . . other options . . .
    xindy,
    xindyStyle=projectname.xdy,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.xdy` file instead of `lwarp.xdy`.

8.6.22 Using a custom `xindex` style file

`Prog xindex` To use a custom `xindex` style file:

-  `filename` 1. Copy `xindex-cfg.lua` to a new filename such as `xindex-projectname.lua`. The filename must start with `xindex-` and end with `.lua`.

2. Make changes to `xindex-projectname.lua`.
3. If changing

```
itemPageDelimiter -and- rangeSymbol
```

in `xindex-projectname.lua`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

- `Opt xindexConfig` 4. In the document source use the `xindexConfig` option for `lwarp`:

```
\usepackage[
    . . . other options . . .
    xindex,
    xindexConfig=projectname, % (without xindex- or .lua)
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `xindex-projectname.lua` file instead of the default `xindex-cfg.lua`.

8.6.23 Additional indexing limitations

 ***xindy* with *hyperref*** *xindy* and *hyperref* may not work well together for print output with “see”, “see also”, reference ranges, or stylized index references. It may be necessary to turn off hyper-referencing for indexes:

```
\usepackage[hyperindex=false]{hyperref}
```

 **empty index** If an HTML index is empty, it may be necessary to add the following before `lwarp` is loaded:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
...
\usepackage{lwarp}
```

***makeindex* custom display styles** When using *makeindex*, custom display styles are possible:

```
\begin{warpprint}
\newcommand{\notesstyle}[1]{#1nn}
\end{warpprint}

\begin{warpHTML}
\makeatletter
\newcommand{\notesstyle}[1]{\LWR@doindexentry{#1} notes }
\makeatother
\end{warpHTML}
...
A sentence.\index{key|notesstyle}
```

***xindy* custom display styles** For custom styles with *xindy*, see `lwarp.xdy` for `\textbf` and `\textit` as examples.

8.6.24 Index positions, toc, tocbibind

placement and toc options An index may be placed inline with other HTML text, or on its own HTML page:

Pkg `makeidx` **Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a L^AT_EX document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname} or chapter
\printindex
```

Pkg `makeidx` **On its own HTML page, with a manual TOC entry:**

```
\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname} or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex
```

Pkg `tocbibind` **Inline, with an automatic TOC entry:**

The `tocbibind` package may be used to automatically place an entry in the TOC.

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex
```

Pkg `tocbibind` **On its own HTML page, with an automatic TOC entry:**

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex
```

Opt [tocbibind] numindex numbered index section Use the `tocbibind` `numindex` option to generate a numbered index. Without this option, the index heading has no number.

Other packages, such as `imakeidx`, may also have options for including the index in the Table of Contents.

Pkg `tocloft` If using `tocloft` with `tocbibind`, `anonchap`, `fncychap`, or other packages which change chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.

⚠ **tocloft & other packages**

8.7 Math

8.7.1 Math in section names

⚠ **math in section names**

If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the TOC entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section{Some math \texorpdfstring{\(1+2=3\)}{three}}
```

8.7.2 Rendering tradeoffs

Math rendering Math may be rendered as SVG graphics or using the MATHJAX JavaScript display engine.

svg files	Rendering math as images creates a new SVG file for each expression, except that an MD5 hash is used to combine identical duplicates of the same inline math expression into a single file, which must be converted to SVG only once. Display math is still handled as individual files, since it may contain labels or references which are likely to change.
svg inline	The SVG images are currently stored separately, but they could be encoded in-line directly into the HTML document. This may reduce the number of files and potentially speed loading the images, but slows the display of the rest of the document before the images are loaded.
PNG files	Others L ^A T _E X-to-HTML converters have used PNG files, sometimes pre-scaled for print resolution but displayed on-screen at a scaled down size. This allows high-quality print output at the expense of larger files, but SVG files are the preferred approach for scalable graphics.
MathML	Conversion to MathML might be a better approach, among other things allowing a more compact representation of math than SVG drawings. Problems with MathML include limited browser support and some issues with the fine control of the appearance of the result. Also see section 10 regarding EPUB output with MATHJAX.

8.7.3 svg option

svg math option For SVG math, math is rendered as usual by L^AT_EX into the initial PDF file using the current font¹⁴, then is captured from the PDF and converted to SVG graphics via a number of utility programs. The SVG format is a scalable-vector web format, so math may be typeset by L^AT_EX with its fine control and precision, then displayed or printed at any size, depending on (sometimes broken) browser support. An HTML alt attribute carries the L^AT_EX code which generated the math, allowing copy/paste of the L^AT_EX math expression into other documents.

svg image font size For the `\Lateximage` environment, the size of the math and text used in the SVG image may be adjusted by setting `\LateximageFontSizeName` to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{\normalsize}
```

For inline SVG math, font size is instead controlled by `\LateximageFontSizeScale`, which defaults to:

```
\newcommand*{\LateximageFontSizeScale}{.75}
```

svg math copy/paste For SVG math, text copy/paste from the HTML `<alt>` tags lists the equation number or tag for single equations, along with the L^AT_EX code for the math expression. For *AMS* environments with multiple numbers in the same environment, only the first and last is copy/pasted, as a range. No tags are listed inside a starred *AMS* environment, although the `\tag` macro will still appear inside the L^AT_EX math expression.

⚠ **svg math size, baseline** SVG math sizing and baselines are improved if the `graphics` or `graphicx` package is loaded. An almost-invisible marker is placed at either end of the image to assist in cropping and computing the baseline. A warning is issued at the end of the compile if `graphics` or `graphicx` are not used.

¹⁴See section 661 regarding fonts and fractions.

⚠ **svg math in TeX boxes**

svg math does not work inside TeX boxes, since a `\newpage` is required before and after each image.

8.7.4 MATHJAX option

MATHJAX math option

Prog MathJax

The MATHJAX (mathjax.org) L^AT_EX-math to HTML converter may be used to display math.

When MATHJAX is enabled, math is rendered twice:

1. As regular L^AT_EX PDF output placed inside an HTML comment, allowing equation numbering and cross referencing to be almost entirely under the control of L^AT_EX, and
2. As detokenized printed L^AT_EX commands placed directly into the HTML output for interpretation by the MATHJAX display scripts. An additional script is used to pre-set the equation number format and value according to the current L^AT_EX values, and the MATHJAX equation numbering system is ignored in favor of the L^AT_EX internal system, seamlessly integrating with the rest of the HTML output, including any math appearing in non-MATHJAX SVG output.

8.7.5 Customizing MATHJAX

equation numbering

lwarp detects and adjusts MATHJAX equation numbering format for `article` and `book` style equations as well as `amsmath \numberwithin` for chapters, sections, and subsections. Custom equation number formats may be set as follows, for example:

```
\renewcommand*{\theequation}{\Alph{section}.\arabic{equation}}
\AtBeginDocument{
    \renewcommand*{\theMathJaxsection}{\Alph{section}.}
}
```

⚠ **subequation**

The `amsmath subequations` environment is supported, but only with `\alpha` subequation numbering.

global customizations

MATHJAX does not have preexisting support every possible math function. Additional MATHJAX function definitions may be defined in the preamble. These will be declared at the start of each HTML page, and thus will have a global effect across all HTML pages.

Examples:

```
\begin{warpMathJax}
\CustomizeMathJax{
    \newcommand{\expval}[1]{\langle #1 \rangle}
    \newcommand{\abs}[1]{\lvert #1 \rvert}
}
\CustomizeMathJax{\newcommand{\arcsinh}{\text{arcsinh}}}
\CustomizeMathJax{\newcommand{\arccosh}{\text{arccosh}}}
\CustomizeMathJax{\newcommand{\NN}{\mathbb{N}}}
\end{warpMathJax}
```

⚠ **slow compilation**

To avoid a slowdown in compile speed, use the `warpMathJax` environment to prevent its contents from being processed in print or SVG math output. Also, place each new definition

inside its own `\CustomizeMathJax`. A warning to this effect is issued if an overly-long definition is attempted.

`lwarp` already provides MATHJAX customizations for some packages.

siunitx When using `siunitx`, a similar process may be used to add custom units:

```
\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\myunit}{\mathrm{WXYZ}}}
\CustomizeMathJax{\newcommand{\umyunit}{\mathrm{\micro\myunit}}}
\end{warpMathJax}
```

advanced control For more advanced control over dynamically creating custom definitions, see as an example the `lwarp` definition for `\DeclarePairedDelimiterX`, in section 390, `mathtools`.

local customizations For customizations local to the current HTML page only, macros may be defined as follows:

```
\begin{warpMathJax}
\(\newcommand{\macro}{...} \)
\(\newcommand{\another}{...} \)
\end{warpMathJax}
```

To maintain compile speed, use the `warpMathJax` environment, and use a separate math environment for each definition.

`\ifstar` For MATHJAX, use `\ifstar` instead of `\@ifstar`:

```
\CustomizeMathJax{
\def\myname{
\ifstar\starredaction\nstarredaction
% (Do not place anything after!)
} }
```

`\ifnextchar` For MATHJAX, use `\ifnextchar` instead of `\@ifnextchar`:

```
\CustomizeMathJax{\def\myname{\ifnextchar X \found\notfound}}
```

“X” may be a single ASCII character, or a hex number inside braces, ex:

```
\CustomizeMathJax{\def\myname{\ifnextchar{0x7B}\found\notfound}}
```

Use “(” or “{0x28}” for a left parenthesis, “{0x7B}” for a left brace, “{0x7D}” for a right brace, or “{0x5C}” for a backslash.

8.7.6 MATHJAX limitations

MATHJAX limitations Limitations when using MATHJAX include:

Prog MathJax

⚠ `\multicolumn`, `multirow`

- MATHJAX does not support `\multicolumn` or `multirow`. These may be used in text `tabulars` or `svg` math, but in MATHJAX math arrays they are emulated. `\multicolumn` only fills a single cell, resulting in a short row. `\multirow` simply prints its text on the first line.

⚠ `footnotes`

- Footnotes are emulated when used inside a MATHJAX expression. For an equation with a single footnote, the correct footnote number is used. For non-equations,

`\footnotename` is used instead, since the actual number cannot be tracked. See section 8.5.4 regarding the use of footnotes with MATHJAX.

⚠ references

- Inside a MATHJAX expression, references to equations work within the same HTML web page, but do not work when referring to an equation in a different HTML web page. Outside of a MATHJAX expression, in the text body, references work as expected.

lateximage

- Math appearing inside a lateximage, and therefore also inside a Tikz or picture environment, is rendered as svg math even if MATHJAX is used in the rest of the document.

siunitx

- For siunitx, see [siunitx package](#), section 8.7.13.

physics

- For physics, see [physics package](#), section 8.7.15.

tabbing

- A tabbing environment is emulated using an HTML `<pre>`. While MATHJAX is enabled inside tabbing, the browser may not correctly render the horizontal alignment of the math and text following after on the same line.

\text

- MATHJAX includes the `textmacros` extension, which supports various macros which are commonly used inside \text, such as `\textbf` and text accents. L warp supports this extension.

⚠ other macros and packages

- Many other math-related macros and packages are not directly supported by MATHJAX, including `\ensuremath` and occasionally-used macros such as `\relax`. While using MATHJAX, l warp provides emulation for many of these macros, as well as for footnotes and emulation for dozens of packages (see table 2). In many cases these emulations simply ignore the package in a source-compatible way. Others produce a result which represents the meaning, even if they don't look exact. Look up each package in this document for a description of the limitations of each.

8.7.7 Catcode changes

preamble macros with math

The math shift character \$ is not set for HTML output until after the preamble. Macros defined in the preamble which contain \$ must be enclosed between `\StartDefiningMath` and `\StopDefiningMath` to temporarily change to the HTML meaning of \$:

```
\StartDefiningMath
\newcommand{...}
\StopDefiningMath
```

As an alternative, use `\(` and `\)` instead of \$, in which case `\StartDefiningMath` and `\StopDefiningMath` are not necessary.

If a package defines macros using \$, it may be necessary to use `\StartDefiningMath` and `\StopDefiningMath` before and after loading the package.

8.7.8 Complicated inline math objects

\inlinemathnormal \inlinemathother

changing contents

An inline math expression is usually converted to a reusable hashed svg math image, or a MATHJAX expression. The hash or expression depends on the contents of the math expression. In most cases this math expression is static, such as `$x+1$`, so the image can be reused for multiple instances of the same expression. In some cases, the math

complicated alt tag
MATHJAX limitations

expression includes a counter or other object which may change between uses. Another problem is complicated contents which do not expand well in an alt tag. Yet another problem is math packages which are only partially emulated in MATHJAX. The macro `\inlinemathother` may be used before a sequence of dynamic or complicated math expressions, and `\inlinemathnormal` after. Doing so tells `lwarp` to use unhashed SVG math images for those particular expressins, even if MATHJAX is otherwise in use. See section 44.

8.7.9 Complicated display math objects

`\displaymathnormal`

By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML for MATHJAX to interpret, and SVG display math environments render their contents as SVG images and use their contents as the alt tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated Tikz pictures, compilation will fail.

`\displaymathother`
MATHJAX unsupported
complicated alt tag

When selecting `\displaymathother`, it is assumed that the contents are more complicated than “pure” math. An example is an elaborate Tikz picture, which will not render in MATHJAX and will not make sense as an HTML alt tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML alt tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as Tikz pictures are more likely to compile successfully.

8.7.10 Theorems

⚠ cref reference format undefined

If the print version does not use `cleveref`, place all `\theoremstyle` and `\newtheorem` declarations in the preamble inside `\AtEndPreamble`.¹⁵ For some theorems, it may also be required to add inside `\AtEndPreamble` something such as:

```
\usepackage{etoolbox} % for \ifdef, \AtEndPreamble
\AtEndPreamble{ % if not using cleveref package
  \theoremstyle{definition}
  \newtheorem{dtheorem}{Definition}
  ...
  \ifdef{\cref}{%
    \crefname{Proof}{Proof}{Proofs}
  }{}}
```

8.7.11 ntheorem package

Pkg ntheorem

This conversion is not total. Font control is via css, and the custom LATEX font settings are ignored.

⚠ Font control

⚠ Equation numbering

`ntheorem` has a bug with equation numbering in `AMS` environments when the option

¹⁵`lwarp` uses `cleveref` for the HTML conversion, and loads `cleveref` `\AtEndPreamble`, just before `\AtBeginDocument`. This is also before the `.aux` file is read.

`thref` is used. `l warp` does not share this bug, so equations with `\split`, etc, are numbered correctly with `l warp`'s HTML output, but not with the print output. It is recommended to use `cleveref` instead of `ntheorem`'s `thref` option.

8.7.12 mathtools package

Pkg `mathtools` `showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by `l warp`. Equation numbers may not match the print version.

⚠️ `equation numbering`

⚠️ `italic correction` `mathic` is not emulated for HTML.

⚠️ `MATHJAX` If using MATHJAX:

- `mathtools disallowspaces` does not work for MATHJAX. Protect brackets which are not optional arguments, such as:


```
\begin{gathered}{}[p]=1 \dots\end{gathered}
```
- `showonlyrefs` does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.
- Due to MATHJAX limitations, the following do not render well: `\overbracket`, `\underbracket`, `\overbrace`, `\underbrace`, `rcases`, `drcases`, `\Aboxed`, and `\ArrowBetweenLines`.
- For the new `cases`-like environments, `\text` must be used to set the normal roman font if desired.
- `alignat` in MATHJAX requires math mode, but in L^AT_EX it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.

8.7.13 siunitx package

Pkg `siunitx fractions` Due to `pdftotext` limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

⚠️ `math mode required` Some units will require that the expression be placed inside math mode.

⚠️ `tabular` Tabular S columns are rendered as simple c columns, and tabular s columns are not supported. These may be replaced by c columns with each cell contained in `\num` or `\si`.

For math mode with SVG display, the original `siunitx` code is used while generating the SVG image. For text mode, `l warp` uses an emulation which provides a very effective HTML interpretation of `siunitx`. For math expressions while using MATHJAX, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. Complicated parsing such as for `\ang` is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

Document modifications required for MATHJAX:

custom units

- Custom units may be added with `\CustomizeMathJax`. See the `l warp-siunitx` code for examples.

⚠ unit spacing

- Units work better using `~` between units instead of using periods.

⚠ \square, \cubic

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

Also see [MATHJAX option](#), section 8.7.4.

8.7.14 units and nicefrac packages

Pkg `units` `units` and `nicefrac` work with `l warp`, but `MATHJAX` does not have an extension for `units` or `nicefrac`. These packages do work with `l warp`'s option `svgmath`.

8.7.15 physics package

Pkg `physics` `physics` works as-is for `HTML` with `SVG` math.

For `MATHJAX`, the `MATHJAX v3 physics` extension is used.

8.8 Graphics

Pkg `graphics` Avoid using the `\includegraphics scale` option. Change:

Pkg `graphicx` `\includegraphics[scale=<xx>]{...}`

⚠ scale

to:

```
\includegraphics[width=<yy>\linewidth]{...}
```

`\includegraphics file formats` For `\includegraphics` with `.pdf` or `.eps` files, the user must provide a `.pdf` or `.eps` image file for use in print mode, and also a `.svg`, `.png`, or `.jpg` version of the same image for use in `HTML`.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, `l warp` will automatically choose the `.pdf` or `.eps` format if available, or some other format otherwise. For `HTML`, one of the other formats is used instead.

If a `.pdf` or `.eps` image is referred to with its file extension, the extension will be changed to `.svg` for `HTML`:

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

Prog `pdftocairo` To convert a PDF image to SVG, use the utility `pdftocairo`:

PDF to SVG

Enter ⇒ `pdftocairo -svg filename.pdf`

Prog `lwarpmk pdftosvg` For a large number of images, use *lwarpmk*:

Enter ⇒ **`lwarpmk pdftosvg *.pdf` (or a list of filenames)**

Prog `lwarpmk epstopdf` For EPS images converted to PDF using the package `epstopdf`, use

**Prog `epstopdf`
`epstopdf` package**

to convert to SVG images.

DVI \LaTeX When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ **`lwarpmk epstopdf *.eps` (or a list of filenames)**

Enter ⇒ **`lwarpmk pdftosvg *.pdf` (or a list of filenames)**

PNG and JPG For PNG or JPG while using `pdflatex`, `lualatex`, or `xelatex`, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

GIF GIF files may be used for HTML, but another format must also be provided for print output.

file extension priorities If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

⚠ graphics vs. graphicx

⚠ `viewport`

⚠ `viewport` units

If using the older `graphics` syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer `graphicx` syntax. Note that viewports are not supported by `lwarf` – the entire image will be shown.

For `\includegraphics`, avoid px and % units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use ex or em. For fixed-sized images, use cm, mm, in, pt, or pc. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.

options `\includegraphics` accepts `width` and `height`, `origin`, `rotate` and `scale`, plus new `class` and `alt` keys.

HTML class With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

HTML alt tags

Likewise, the `\includegraphics alt` key adds an HTML alt tag to an image, and is ignored for print output. If not assigned, each image is given an alt tag according to `\ImageAltText`.

\rotatebox `\rotatebox` accepts the optional `origin` key.

⚠ browser support

`\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The css3 standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike \LaTeX , so expect some ugly results for scaling and rotating.

8.8.1 tikz package

Pkg `tikz` If using display math with `tikzpicture` or `\tikz`, along with matrices with the & character,

⚠ displaymath and matrices

the document must be modified as follows:

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of & in the `tikz` expression must be replaced with \&.

8.8.2 grffile package

Pkg grffile `grffile` is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

8.8.3 color package

Pkg color `color` is superceded by `xcolor`, and `lwarf` requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

8.8.4 xcolor package

Pkg xcolor `\colorboxBlock` and `\fcolorboxBlock` `\colorboxBlock` and `\fcolorboxBlock` are provided for increased HTML compatibility, and they are identical to `\colorbox` and `\fcolorbox` in print mode. In HTML mode they place their contents into a `<div>` instead of a ``. These `<div>`s are set to `display: inline-block` so adjacent `\colorboxBlocks` appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for `\colorboxBlock` and `\fcolorboxBlock` are created by `lwarf`'s core if `xcolor` is loaded.

`background: none` `\fcolorbox` and `\fcolorboxBlock` allow a background color of `none`, in which case only the frame is drawn, which can be useful for HTML.

`color support` Color definitions, models, and mixing are fully supported without any changes required.

`colored tables` `\rowcolors` is supported, except that the optional argument is ignored so far.

`colored text and boxes` `\textcolor`, `\colorbox`, and `\fcolorbox` are supported.

`\color` and `\pagecolor` `\color` and `\pagecolor` are ignored. Use `css` or `\textcolor` where possible.

8.8.5 epstopdf package

Pkg epstopdf `epstopdf` Images with an `.eps` extension will be converted to `.pdf`. The HTML output uses the `.svg` version, so use

```
Enter ⇒ lwarfmk pdftosvg <listofPDFfiles>
```

to generate `.svg` versions.

8.8.6 pstricks package

Pkg pstricks All **pstricks** content should be contained inside a **pspicture** environment.

⚠ use **pspicture**

8.8.7 pdftricks package

Pkg pdftricks The **pdftricks** image files <jobname>-fig*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

Enter ⇒ **l warpmk pdftosvg <jobname>-fig*.pdf**

8.8.8 psfrag package

Pkg psfrag The **psfrags** environment is modified to use **lateximage** to encapsulate the image. Always use a **psfrags** environment to contain any local **\psfrag** macros and the associated **\includegraphics** or **\epsfig** calls. Outside of a **psfrags** environment, **psfrags** adjustments will not be seen by **l warp**.

⚠ Tip: Use a mono-spaced font for the tags in the EPS file.

8.8.9 pstool package

Pkg pstool **\graphicspath** is ignored, and the file directory must be stated.

⚠ path and filename The filename must not have a file extension.

Use

Enter ⇒ **l warpmk html**

followed by

Enter ⇒ **l warpmk limages**

.

8.8.10 asymptote package

Pkg `asymptote` To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

8.8.11 overpic package

Pkg `overpic`

 **scaling**

The macros `\overpicfontsize` and `\overpicfontskip` are used during `HTML` generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the `print` and `HTML` versions of the document. Renew these macros before using the `overpic` and `Overpic` environments.

8.8.12 Multimedia packages

Pkg `multimedia` The packages `multimedia`, `movie15`, and `media9` are supported.

Pkg `movie15`

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

Pkg `media9`

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for `print` output and the file types supported by `HTML5`.)

For `media9`, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each `HTML` multimedia object includes the `poster` text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the `poster` text.

The `width`, `height`, and `totalheight` options are supported. The `HTML` object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediopath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlink{movie}`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

8.9 Tabbing

The tabbing environment works, except that `svg` math and `lateximages` do not yet work inside the environment.

⚠️ math in tabbing

If math is used inside tabbing, place tabbing inside a `lateximage` environment, which will render the entire environment as a single `svg` image.

8.10 Tabular

8.10.1 tabular environment

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, multirows, `siunitx S` columns, or the packages `multirow`, `longtable`, `supertabular`, or `xtab`.

Defining macros and environments:

⚠️ Misplaced alignment tab character &

- When defining environments or macros which include `tabular` and instances of the `&` character, it may be necessary to make `&` active before the environment or macro is defined, then restore `&` to its default catcode after, using the following commands. These are ignored in print mode.

```
\StartDefiningTabulars
<define macros or environments using tabular and & here>
\StopDefiningTabulars
```

⚠️ floatrow

This includes before and after defining any macro which used `\ttabbox` from `floatrow`.

⚠️ tabular inside another environment

- When creating a new environment which contains a `tabular` environment, `lwarp`'s emulation of the `tabular` does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```
\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars
```

For developers:

- To automate the use of `\StartDefiningTabulars` and `\EndDefiningTabulars`, these macros may be embedded inside an `HTML` environment definition to automatically change the catcode of `&` before absorbing the arguments. Another environment may be embedded as well.


```
% Does the work after the catcode has been changed:
\newcommand*{\LWR@HTML@subsoname}[2]{%
  ...
  \otherenvironmentname [<args>] {<args>} % for example
}

% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somename}{%
  \StartDefiningTabulars
  \LWR@HTML@subsoname
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsomename}{%
  ...
  \endotherenvironmentname % for example
  \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}
```

Cell contents:**⚠ macro in a table**

- Using a custom macro inside a tabular data cell may result in an extra `HTML` data cell tag, corrupting the `HTML` table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \\
```

Column specifiers:**@ and !**

- Only one each of `@` and `!` is used at each column, and they are used in that order.

\multirow

- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`, and `!` cells on the second and later rows in the `\multirow` which do not appear in the `HTML` version.

⚠ \newcolumntype

- `\newcolumntype` is ignored; unknown column types are set to `l`.

Rules:

- Doubled \hlines, \midrules, and vertical rules are supported.

vertical rules

- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.

width and trim

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

combined rules

- If you wish to use \cmidrule followed by \bottomrule, it may be necessary to use:

```
\cmidrule{2-3} \\[-2ex]
\bottomrule
```

The optional -2ex is ignored in HTML, but improves the visual formatting in the print output.

- For \toprule and \bottomrule, when combined with a \warpprint or \warpHTML environment, if a “Misplaced \noalign” error occurs, change

This & That \endhead

to

\warpprintonly{This & That \endhead}

and likewise with the other \end headings. Keep the \endfirsthead row unchanged, as it is still relevant to HTML output.

Other:

- tabularx ignores the width, but X columns do produce paragraph columns or multicolumns.

longtable headings

- For longtable, place headings and footings which do not apply to HTML inside \warpprintonly{}.

S columns

- For S columns (from the siunitx package), while producing print output, anything non-numeric must be placed inside {} braces, including commands such as \multirow. While producing HTML output, though, anything placed inside braces is not seen by lwarf’s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
\warpHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

- In L^AT_EX, a tabular may be placed inside a minipage, but in HTML a <table> may not be inside a . If this situation is detected, a warning is printed instructing the user to isolate the using \warpprintonly or the \warpprint environment.

8.10.2 multirow package

vposn

- Note that recent versions of multirow include a new optional vposn argument.

multirow cells

- For multirow, insert \mrowcell into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```
    . . . & \multirow{2}{.5in}{text} & . . .
    . . . & \mrowcell & . . .
```

colored cells

- The `\multirow` documentation regarding colored cells recommends using a negative number of rows. This will not work with `lwarp`, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

with `\multicolumn`

⚠ `\multicolumn` & `\multirow`

- See section 420.2 for `\multicolumnrow`.

`lwarp` does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

```
    . . . & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & . . .
    . . . & \mcolrowcell & \mcolrowcell & . . .
    . . . & \mcolrowcell & \mcolrowcell & . . .
```

⚠ MathJax

- MATHJAX does not support `\multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or SVG math.

8.10.3 longtable package

Pkg `longtable` Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```
\begin{longtable}{ [column specifiers] }
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
[ <lastfoot macros> ] \endlastfoot
}
. . . table contents . .
\warpHTMLonly{
[ <lastfoot macros> ] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}
```

⚠ Misplaced `\noalign`

Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`” when using `\begin{warpprint}`.

⚠ `\kill`

`\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ `lateximage` `longtable` is not supported inside a `lateximage`.

8.10.4 `threeparttablex` package

Pkg `threeparttablex` `threeparttablex` is used with `longtable` and `booktabs` as follows:

```
\begin{longtable}{ [column specifiers] }
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
    [ . . . ] \endhead % or \endfirsthead
    [ . . . ] \endfoot
    \bottomrule \insertTableNotes \endlastfoot
}
... table contents ...
\warpHTMLonly{ % HTML last footer
    \bottomrule
    \UseMinipageWidths % optional
    \insertTableNotes
    \endlastfoot
}
\end{longtable}
```

`table width` The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

8.10.5 `supertabular` and `xtab` packages

Pkg `supertabular` For `\tablefirsthead`, etc., enclose them as follows:

Pkg `xtab` `\StartDefiningTabulars`
`\tablefirsthead`
...
`\StopDefiningTabulars`

⚠ See section 8.10.1.

⚠ `lateximage` `supertabular` and `xtab` are not supported inside a `lateximage`.

8.10.6 `colortbl` package

Pkg `colortbl` Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

⚠ `row/color` `colortbl` ignores the overhang arguments.

8.10.7 ctable package

- ⚠ Misplaced alignment tab character & Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand & character.

8.10.8 bigdelim package

- Pkg `bigdelim` \ldelim and \rdelim use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

```
\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\{}{\}{3}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}
```

\leftrightarrow $\left\{ \begin{array}{ll} a & b \\ c & d \\ e & f \\ g & h \\ i & j \end{array} \right.$	
--	--

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

8.11 Floats

8.11.1 Float contents alignment

- ⚠ `figure & table alignment` \centering, etc. are honored in a figure or table if they are the first command inside the float:

```
\begin{table*}
\centering
\caption{A Table}
...
```

8.11.2 float, trivfloat, and/or algorithmicx together

Pkg `float` If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 621.1.

Pkg `trivfloat`

Pkg `algorithmicx`

- ⚠ package conflicts

8.11.3 caption and subcaption packages

- Pkg `caption` Package options may cause problems with `lwarp`, especially if they include curly braces.
- Pkg `subcaption` If selecting options with braces in `\usepackage` does not work:
- ```
\usepackage[font={it,small}]{caption}% does not work
```
- ... try instead selecting the package options before loading `lwarp`:
- ```
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{lwarp}
...
\usepackage{caption}
```
- ... or try setting package options after the package has been loaded:
- ```
\usepackage{caption}
\captionsetup{font={it,small}}
```

- ⚠ `numbering` To ensure proper float numbering, set caption positions such as:

```
\captionsetup[figure]{position=bottom}
\captionsetup[subfigure]{position=bottom}
\captionsetup[table]{position=top}
\captionsetup[subtable]{position=top}
```

Similarly for `longtable`. These positions depend on where the user places the `\caption` command inside each float.

### 8.11.4 subfig package

Pkg `subfig`

- ⚠ `table numbering` To have correct sub table numbers:

```
\usepackage{caption}
\captionsetup[table]{position=top}
```

- ⚠ `lof/lotdepth` At present, the package options for `lofdepth` and `lotdepth` are not working. These counters must be set separately after the package has been loaded.

- ⚠ `horizontal spacing` In the document source, use `\hfill` and `\hspace*` between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

### 8.11.5 floatrow package

- Pkg `floatrow` Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.

- ⚠ `Misplaced alignment tab character & subfig package` When combined with the `subfig` package, while inside a `subfloatrow \ffigbox` and

\ttabbox must have the caption in the first of the two of the mandatory arguments.

The emulation of **floatrow** does not support \FBwidth or \FBheight. These values are pre-set to .3\linewidth and 2in. Possible solutions include:

- Use fixed lengths. **l warp** will scale the HTML lengths appropriately.
- Use **warpprint** and **warpHTML** environments to select appropriate values for each case.
- Inside a **warpHTML** environment, manually change \FBwidth or \FBheight before the \ffigbox or \ttabbox. Use \FBwidth or \FBheight normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

#### 8.11.6 keyfloat package

Pkg keyfloat If placing a \keyfig[H] inside a **keywrap**, use an absolute width for \keyfig, instead of \w-proportional widths. (The [H] option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the \w option.)

### 8.12 KOMA-SCRIPT classes

Cls komascript Many features are ignored during the HTML conversion. The goal is source-level compatibility.

\captionformat, \figureformat, and \tableformat are not yet emulated.

**⚠ Not fully tested!** Please send bug reports!

Some features have not yet been tested. Please contact the author with any bug reports.

### 8.13 MEMOIR class

Cls memoir l warp uses **caption**, which causes a warning from **memoir**. This is normal. Adjust captions via **caption**, instead of **memoir**.

**⚠ options clash** While emulating **memoir**, **l warp** pre-loads a number of packages (section 676.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading **l warp**:

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{l warp}
...
\usepackage{package_name}
```

 **version numbers** `memoir` emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since `lwarf` is intended to support the freestanding packages, which are often newer than the date declared by `memoir`, it is hoped that `memoir` will update and change its emulated version numbers to match.

`\label(bookmark){tag}` `\label` accepts an optional (bookmark) argument, but this is ignored in `HTML`.

 **comment** The `comment` environment is from the `comment` package, and thus requires that the `\begin` and `\end` each be on its own line:

```
\begin{comment}
This is a comment.
\end{comment}
```

`\newcomment` Comments defined with `\newcomment` use `memoir`'s definitions, and behave as expected, where the `\begin` and `\end` do have to each be on its own line.

 **verbatim footnotes** `\verbfootnote` is not supported.

 `\newfootnoteseries` etc. are not supported.

 **page notes** `lwarf` loads `pagenote` to perform `memoir`'s pagenote functions, but there are minor differences in `\pagnotesubhead` and related macros.

`page notes with cleveref` To add support for pagenotes with `cleveref`, add:

```
\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}
```

`page note \nameref` Note that for print mode, `\nameref` prints the section name where the page notes are declared in the text, but for `HTML` it prints the name where the page notes are printed.

 **poems** Poem numbering is not supported.

 **verbatim** The `verbatim` environment does not yet support the `memoir` enhancements. It is currently recommended to load and use `fancyvrb` instead.

 **glossaries** The `memoir` glossary system is not yet supported by `lwarpmk`. The `glossaries` package may be used instead, but does require the glossary entries be changed from the `memoir` syntax to the `glossaries` syntax.

 **framewithtitle, titledframe** The custom frame commands in the `memoir` manual may be emulated by placing the original definitions in the preamble inside `warpprint` environments, and then providing an `HTML` equivalent:

```
\begin{warpHTML}
\newcommand{\FrameTitle}[2]{%
 \textbf{\#2}%
}

\newenvironment{framewithtitle}[2][\FrameFirst@Lab\ (cont.)]{%
 \begin{fminipage}{\linewidth}%
 \textbf{\#2}%
 \begin{minipage}{\linewidth}%
}
```

---

```

{\end{minipage}\end{fminipage}}

\newcommand{\TitleFrame}[2]{%
 \par
 \textbf{\#1}\par
 \fboxBlock{\#2}
}

\newenvironment{titledframe}[2][\FrameFirst@Lab\ (cont.)]{%
 \par
 \textbf{\#2}
 \begin{fminipage}{\linewidth}
}
{\end{fminipage}}
\end{warpHTML}

```

## 8.14 International languages

⚠ section and file names

If using *pdflatex* with the setting `\booltrue{FileSectionNames}`, non-ASCII text in section names can result in corrupted HTML file names. *pdflatex* may be used if setting `\boolfalse{FileSectionNames}`, in which case HTML file numbers will be generated.

For correct HTML file names, use *xelatex*, *lualatex*, or dedicated document classes/engines.

(As of this writing, this warning is only relevant to the *kotex* package.)

## 8.15 Miscellaneous packages

### 8.15.1 verse and memoir

Pkg `verse` When using `verse` or `memoir`, always place a `\\"` after each line.

Cls `memoir`  
`\attrib` The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. `lwarp` provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```

\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}

```

Len `\vleftskip` These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLvleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any `verse` environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

⚠ spacing Horizontal spacing relies on *pdftotext*’s ability to discern the layout (`-layout` option)

**⚠️ verse margin** of the text in the `HTML`-tagged `PDF` output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to `HTML`, the stanza numbers are kept out of the left margin, which would have caused `pdftotext` to shift everything over.

### 8.15.2 newclude package

**Pkg** `newclude` **⚠️ loading** `newclude` modifies `\label` in a non-adaptive way, so `newclude` must be loaded before `l warp` is loaded:

```
\documentclass{article}
. . .
\usepackage{newclude}
\usepackage[warpHTML]{l warp}
. . .
```

### 8.15.3 babel package

**Pkg** `babel` **⚠️ \CaptionSeparator** When French is used, the caption separator is changed to a dash. To restore it to a colon, the following may be placed before `l warp` is loaded:

```
\renewcommand*\CaptionSeparator}{:~}
```

**punctuation spaces** Also when French is used, `l warp` creates fixed-width space around punctuation by patching `\FBcolonspace`, `\FBthinspace`, `\FBguillspace`, `\FBmedkern`, `\FBthickkern`, `\FBtextellipsis`, and the tilde. If the user's document also changes these parameters, the user's changes should be placed inside a `warpprint` environment so that the user's changes do not affect the `HTML` output.

### 8.15.4 polyglossia package

**Pkg** `polyglossia` `l warp` uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . __hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the `HTML` version should work as well using `l warp`.

### 8.15.5 todonotes and luatodonotes packages

- Pkg todonotes The documentation for **todonotes** and **luatodonotes** have an example with a todo inside a caption. If this example does not work it will be necessary to move the todo outside of the caption.

### 8.15.6 fixme

- Pkg fixme External layouts (`\fxloadlayouts`) are not supported.

- ⚠ **external layouts** User control is provided for setting the **HTML** styling of the “faces”. The defaults are as follows, and may be changed in the preamble after **fixme** is loaded:

```
\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

### 8.15.7 acro package

- ⚠ **formats** Define acronymn formats using `\textbf` instead of `\bfseries` etc.

### 8.15.8 chemfig package

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```
\begin{lateximage}[-chemfig-~\PackageDiagramAltText]
\chemfig{...}
\polymerdelim[...]{...}
\end{lateximage}
```

### 8.15.9 chemformula package

- ⚠ **chemformula with MATHJAX** **chemformula** works best without **MATHJAX**. If **MATHJAX** is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The **chemformula** package adapts to `array`, but does not know about **MATHJAX**, and **MATHJAX** does not know about **chemformula**.)

While using **MATHJAX**, `\displaymathother` may also be used for other forms of display and inline math which contain **chemformula** expressions.

### 8.15.10 mhchem package

See section 401.

### 8.15.11 **kotex** package

Pkg **kotex** See section 8.14 regarding *pdflatex* and Korean section names.

⚠ Korean section names

## 9 Compiling using custom shell commands

*lwarp* and *lwarpmk* try to make it easy to process print and HTML compilation tasks in most situations. Depending on the operating system, command-line options, TeX engine, and *lwarp* options, the commands **lwarpmk print** and **lwarpmk html** are automatically set up to correctly recompile the project. These actions may be overridden using *lwarp* options, thus allowing the use of packages such as **perltx** and **pythontex**.

### 9.1 Command options

Opt PrintLatexCmd The **lwarp** options **PrintLatexCmd** and **HTMLLatexCmd** are used to set customized commands to be executed by **lwarpmk print** and **lwarpmk html**.

**PrintLatexCmd** should be set to shell commands which take `project.tex` and generate `project.pdf`.

**HTMLLatexCmd** should be set to take `project_html.tex` and generate `project_html.pdf`. *lwarpmk* will then take `project_html.pdf` and automatically convert it and generate `project.html`.

### 9.2 Literal character macros

The *lwarp* package options are parsed by TeX, and so some characters require the use of a special macro to represent them. See table 9. `\LWRopquote` and `\LWRopseq` may be used to increase operating-system portability. `\jobname` must have `_html` appended for processing HTML. `\space` may be necessary between other macros.

 **macro not found** To use these macros, either `kvoptions-patch` must be loaded before *lwarp*:

---

```
\usepackage{kvoptions-patch}
\usepackage[
 PrintLatexCmd={ ... } ,
 HTMLLatexCmd={ ... }
]{lwarp}
```

---

Table 9: Literal character macros

| Character | Macro         | Comment                          |
|-----------|---------------|----------------------------------|
| %         | \LWRpercent   |                                  |
| \$        | \LWRdollar    |                                  |
| &         | \LWRamp       |                                  |
| %         | \LWRhash      |                                  |
| \         | \LWRbackslash |                                  |
| ' or "    | \LWRopquote   | Depends on the operating system. |
| & or &&   | \LWRopseq     | Depends on the operating system. |
| (space)   | \space        | Forces an extra space.           |
| (jobname) | \jobname      | Without file extension.          |

or \lwarpsetup must be used to set PrintLatexCmd and HTMLLatexCmd:

---

```
\usepackage[...]{lwarp}
\lwarpsetup{
 PrintLatexCmd=
 {
 latex tm \LWRopseq
 dvips -o tm-pics.ps tm.dvi \LWRopseq
 ps2pdf tm-pics.ps \LWRopseq
 pdflatex tm.tex
 },
 HTMLLatexCmd=
 {
 latex tm_html \LWRopseq
 dvips -o tm_html-pics.ps tm_html.dvi \LWRopseq
 ps2pdf tm_html-pics.ps \LWRopseq
 pdflatex tm_html.tex
 }
}
```

---

### 9.3 *latexmk*

Prog **latexmk** If *latexmk* is used for a project, it may be easiest to continue using it.

**latexmk project.tex** would create project.pdf as normal.

**latexmk project\_html.tex** would create project\_html.pdf, then

**lwarpmk pdftohtml project\_html.pdf** would take project\_html.pdf and convert it to project.html.

Pkg sagetex *latexmk* may simplify the use of packages such as **sagetex**.

## 9.4 perltex package

Pkg perltx The **l warp** package option settings to use **perltx** would be similar to:

```
\usepackage[
 ...
 PrintLatexCmd={perltx -latex=pdflatex project.tex} ,
 HTMLLatexCmd={perltx -latex=pdflatex project_html.tex} ,
 ...
]{l warp}
```

**⚠ “impure” math** Place **perltx** math expressions between `\displaymathother` and `\displaymathnormal`, or `\inlinemathother` and `\inlinemathnormal`. See section 8.7.9.

## 9.5 pythontex package

Pkg pythontex An example using **pythontex**:

```
\usepackage[
 ...
 PrintLatexCmd={
 pdflatex project.tex \LWRopseq
 pythontex project \LWRopseq
 pdflatex project.tex
 } ,
 HTMLLatexCmd={
 pdflatex project_html.tex \LWRopseq
 pythontex project_html \LWRopseq
 pdflatex project_html.tex
 } ,
 ...
]{l warp}
```

Another possibility is to use **latexmk**, placing the `\ latexmk ...` commands in the `PrintLatexCmd` and `HTMLLatexCmd` options. While using these options, the **l warp** option `latexmk` would not be used.

**⚠ “impure” math** No attempt has yet been made to make **pythontex** robust with **HTML** output. Some math objects must be surrounded by `\displaymathother ... \displaymathnormal`, or `\inlinemathother ... \inlinemathnormal`. Displays of code may have to be enclosed inside a `lateximage` environment to prevent `<`, `>` and similar from being interpreted by the browser as **HTML** entities.

## 9.6 Other packages

Pkg sympytex Other packages such as **sympytex** and **rterface** would be set up similar to **pythontex**, and the same warnings would apply.

## 9.7 *make* program

**Prog make** To use **lwarf** with the *make* program, have the *makefile* take *project.tex* and generate the print version *project.pdf*, as normal. `\usepackage{lwarf}` must be used, and it generates *lwarpmk.conf* when the print version is created.

To generate HTML, first have *project\_html.tex* be compiled to generate *project\_html.pdf*. This must be in PDF format. Finally, have *project\_html.pdf* be converted to HTML using **lwarpmk pdftohtml project\_html.pdf**, and convert SVG math with **lwarpmk limages**.

## 9.8 UTF-8 locale

 **UTF-8 locale** *lwarpmk* uses the *texlua* program, which sets the “locale” to “C”, including for external operating-system calls such as when executing **lwarpmk html**. In some cases, an external program called from the user’s document may require the use of a UTF-8 “locale”. For UNIX-related operating systems, it may be required to use *lwarf*’s custom compilation options to add a locale change:

```
\usepackage{lwarf}[
 PrintLatexCmd={
 env LC_CTYPE=en_US.UTF-8
 xelatex -shell-escape project.tex
 }
 HTMLLatexCmd={
 env LC_CTYPE=en_US.UTF-8
 xelatex -shell-escape project_html.tex
 }
]
```

**Pkg ditaa** The only example seen so far where this is required is the *ditaa* package, where the locale change allows the use of UTF-8 with Xe<sup>L</sup>T<sub>E</sub>X and *ditaa*. To use Lua<sup>L</sup>T<sub>E</sub>X instead, the locale change would have to be made inside the *ditaa* package where its calls the *ditaa* program.

## 10 EPUB conversion

lwarf does not produce EPUB documents, but it may be told to modify its HTML output to greatly assist in the conversion. An external program may then be used to finish the conversion to EPUB.

`<meta> author` To assign the author's name for regular lwarf HTML files, and also for the EPUB, use \HTMLAuthor {*<name>*}. This assigns the name to the `<meta> author` element. It may be set empty, and it defaults to \theauthor.

A special boolean is provided to simplify the process of converting lwarf HTML output to EPUB:

### FormatEPUB

Bool FormatEPUB  
Default: false

FormatEPUB changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.

To help convert lwarf HTML output to EPUB, add

```
\booltrue{FormatEPUB}
```

to the project's source preamble after \usepackage{lwarf}. The EPUB version of the document cannot co-exist with the regular HTML version, so

```
Enter ⇒ lwarfmk cleanall
Enter ⇒ lwarfmk html
Enter ⇒ lwarfmk limages
```

to recompile with the FormatEPUB boolean turned on. Several changes are then made to the HTML output:

- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.

The resulting files will be ready to be loaded into an EPUB conversion program, such as the open-source program *Calibre* (<https://calibre-ebook.com/>).

 `search order` The EPUB conversion program must know what order the files are included. For lwarf projects, set the EPUB conversion software to do a breadth-first search of the files. For *Calibre*, this option is found in

**Preferences → Plugins → File type plugins → HTML to Zip**

 `encoding` Check the box **Add linked files in breadth first order**. Set the document encoding as utf-8, which is what lwarf generates for HTML, even if the original printed document uses some other encoding.

⚠ **section breaks** The EPUB-conversion program must also know where the section breaks are located. For a list of lwarf's section headings, see table 11. For example, an article class document would break at \section, which is mapped to HTML heading level <h4>, whereas a book class document would break at \chapter, which is HTML heading level <h3>. For *Calibre*, this option is found in

**Preferences → Conversion (Common Options) → Structure Detection → Detect chapters at (XPath expression)**

Select the “magic wand” to the right of this entry box, and set the first entry

**Match HTML tags with tag name:**

to “h4”. (Or “h3” for document classes with \chapters.) The **Detect chapters at** field should then show

**//h:h4      – or –      //h:h3**

This option is also available on the main tool bar at the **Convert books** button.

Once these settings have been made, the lwarf-generated HTML files may be loaded by *Calibre*, and then converted to an EPUB.

---

#### *MATHJAX support*

---

MATHJAX may be used in EPUB documents. Some e-readers include MATHJAX, but any given reader may or may not have a recent version, and may or may not include extensions such as support for siunitx.

lwarf adds some modifications to MathML to support equations numbered by chapter. These modifications may not be compatible with the e-reader’s version of MATHJAX, so lwarf requests that a known version be loaded instead. In some cases chapter numbering of equations still doesn’t work.

Until math support in EPUB documents is improved, it is recommended to use SVG images instead of MATHJAX, especially for equations numbered by chapter, or where siunitx support is important.

---

## 11 Word-processor conversion

lwarf may be told to modify its HTML output to make it easier to import the HTML document into a word processor. At the time of this writing, it seems that LIBREOFFICE works best at preserving table layout, but it still has some limitations, such as an inability to automatically assign figure and table frames and captions according to user-selected HTML classes. lwarf provides some assistance in locating these frame boundaries, as shown below.

### 11.1 Activating word-processor conversion

A special boolean is provided to simplify the process of converting lwarf HTML output to EPUB:

---

#### FormatWP

---

Bool FormatWP  
Default: false

Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments. Additionally, honors the booleans WPMarkFloats, WPMarkMinipages, WPMarkTOC, and WPMarkLOFT.

---

To help modify lwarf HTML output for easier import to a word processor, add

\booltrue{FormatWP}

to the project's source preamble after lwarf is loaded. The following changes are then made to the HTML output:  
[formatting adjustments](#)

- If using a class without chapters, \section and lower are shifted up in level for the HTML heading tags. The css has not been changed, so the section heading formats will not match the normal HTML output, but when imported to *LibreOffice Writer* the higher section headings will import as **Heading 1** for the title, **Heading 2** for \section, etc.
- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.
- Forces single-file output.
- Turns off HTML debugging comments. These are comments appearing inside the HTML code, marking the opening/closing of sections and <div>s, but they are no longer useful when the document has been imported into a word processor.
- An additional <div> with an id encapsulates each float and minipage, which on import into *LibreOffice Writer* causes a thin frame to appear around the text block for each.
- Float captions are given an explicit italic formatting.

- Tabular rule borders are made explicit for *LibreOffice Writer*. LIBREOFFICE displays a light border around each cell while editing, even those which have no border when printed, and lwarp also uses a light border for thin rules, so it will be best to judge the results using the print preview instead of while editing in LIBREOFFICE.
- \includegraphics and svg math width and height are made explicit for LIBREOFFICE.
- \hspace is approximated by a number of \quads, and rules are approximated by a number of underscores.
- Explicit HTML styles are given to:
  - \textsc, etc.
  - \underline, soul and ulem markup.
  - center, flushleft, flushright.
  - \marginpar, keyfloat, sidenotes, floatflt, and wrapfig.
  - fancybox \shadowbox, etc.
  - The L<sup>A</sup>T<sub>E</sub>X and T<sub>E</sub>X logos.
- Honors several booleans:

**WPMarkFloats:** Marks the begin and end of floats.

**WPMarkMinipages:** Marks the begin and end of minipages.

**WPMarkTOC:** Marks the location of the Table of Contents.

**WPMarkLOFT:** Marks the locations of the List of Figures/Tables.

**WPMarkMath:** Prints L<sup>A</sup>T<sub>E</sub>X math instead of using images.

**WPTitleHeading:** Adjusts title and section headings.

Several of these may be used to add markers to the HTML text which help determine where to adjust the word processor document after import.

## 11.2 Additional modifications

---

### WPMarkFloats

---

Bool WPMarkFloats

Default: false

Adds

==== begin table ===

...

==== end ===

or

==== begin figure ===

...

==== end ===

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.

---

---

### WPMarkMinipages

---

Bool WPMarkMinipages

Default: false

Adds

```
==== begin minipage ====
. . .
==== end minipage ===
```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

---

### WPMarkTOC

---

Bool WPMarkTOC

Default: true

While formatting for word processors, adds

```
==== table of contents ===
```

where the Table of Contents would have been. This helps identify where to insert the actual TOC.

*If set false, the actual TOC is printed instead.*

---

### WPMarkLOFT

---

Bool WPMarkLOFT

Default: false

While formatting for word processors, adds

```
==== list of figures === and/or
==== list of tables ===
```

where each of these lists would have been. This helps identify where to insert the actual lists.

*If set false, the actual lists are printed instead.*

---

### WPMarkMath

---

siunitx

Bool WPMarkMath

Default: false

Prog TeXMaths

While formatting for word processors, prints math as L<sup>E</sup>T<sub>E</sub>X code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

When using the **siunitx** package, enter

```
\usepackage{siunitx}
```

in the *TeXMaths* preamble. Equation numbering is problematic for *AMS* math environments.

---

### WPTitleHeading

---

Table 10: Section HTML headings for word-processor conversion

| Section        | HTML headings* |                |                  |                |
|----------------|----------------|----------------|------------------|----------------|
|                | With \chapter  |                | Without \chapter |                |
|                | WPTitleHeading | WPTitleHeading | WPTitleHeading   | WPTitleHeading |
| Title          | <h1>           | plain          | <h1>             | plain          |
| \book          | <div>          | <div>          | <div>            | <div>          |
| \part          | <h2>           | <h1>           | <h2>             | <h1>           |
| \chapter       | <h3>           | <h2>           | —                | —              |
| \section       | <h4>           | <h3>           | <h3>             | <h2>           |
| \subsection    | <h5>           | <h4>           | <h4>             | <h3>           |
| \paragraph     | <h6>           | <h5>           | <h5>             | <h4>           |
| \ subparagraph | <span>         | <h6>           | <h6>             | <h5>           |

\* For default depths when not FormatWP, see table 11 on page 200.

Bool WPTitleHeading  
 Default: false  
 section headings

While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.

See table 10 on page 184.

### 11.3 Recommendations

TOC, LOF, LOT For use with *LibreOffice Writer*, it is recommended to:

1. Set \booltrue{FormatWP}
2. Set \booltrue{WPMarkTOC} and \boolfalse{WPMarkLOFT}
3. Use `lwarp` to generate the HTML document.
4. Copy/paste from the HTML document into an empty *LibreOffice Writer* document.
5. Manually insert a LIBREOFFICE TOC in the LIBREOFFICE document.
6. Manually add frames around each float, adding a caption which is cut/pasted from each float's simulated caption.
7. Manually create cross references.

This process yields a document with an actual LIBREOFFICE Table of Contents, but a simulated List of Figures and List of Tables.

**siunitx** For **siunitx**, remember to adjust the preamble as mentioned above.

**LO view border options** LIBREOFFICE has options in the **View** menu to turn on/off the display of thin borders around table cells and text objects.

## 11.4 Limitations

Floats and captions are not explicitly converted to LIBREOFFICE floats with their own captions. Floats are surrounded by a thin frame in the LIBREOFFICE editor, and may be marked with **WPMarkFloats**, but are not given a proper LIBREOFFICE object frame. Captions are given an explicit italic formatting, but not a proper LIBREOFFICE paragraph style.

Cross references are not actual LIBREOFFICE linked cross references.

The List of Figures and List of Tables are not linked. The pasted pseudo **LOF** and **LOT** match the numbering of the **L<sup>T</sup>E<sub>X</sub>** and **HTML** versions.

Equation numbering is not automatic, but the equation numbers in **SVG** math will match the **L<sup>T</sup>E<sub>X</sub>** and **HTML** output. **SVG** math is recommended when using the **AMS** environments, which may have multiple numbered equations per object.

As of when last checked, LIBREOFFICE ignores the following:

- Minipage alignment.
- Tabular cell vertical alignment.
- Image rotation and scaling.
- Rounded border corners, which are also used by:
  - **\textcircled**
  - **booktabs trim**
- **\hspace** and **rules**, also used by **algorithmic**.
- Coloring of text decorations, used by **soul** and **ulem**.
- Overline text decoration, used by **romanbar**.

LIBREOFICE also has limitations with frames and backgrounds:

- Multiple lines in an object are framed individually instead of as a whole.
- Nested frames are not handled correctly.
- Images inside boxes are not framed correctly.
- Spans with background colors and frames are not displayed correctly.

## 12 Modifying lwarf

**locating something** To quickly find the source for a package in `lwarf.dtx`, search for `*packagename`, such as `*siunitx`.

Likewise, to quickly find the source for a file in `lwarf.dtx`, search for `*filename`, such as `*lwarf.css`.

Purely text-based packages probably will work as-is when generating HTML.

Look to existing code for ideas on how to expand into new code.

**image of TeX output** An environment may be converted to a `lateximage` then displayed with an image of the resulting `\TeX` output. See section 93 for an example of the `picture` environment.

**css classes** To create a custom HTML block or inline css class, see section 52.10.

**print/HTML macros** To create print and HTML versions of the same macro or environment, see section 36.

 **TeX boxes** Any `\TeX` boxes must be undone, as `SVG` math or `lateximages` require `\newpage`, which will not work in a `\TeX` box.

### 12.1 Creating a development system

The following creates a local development system for `lwarf` on a TeXLive system in a UNIX-like environment. Doing so allows anything requesting `lwarf` to use the development version instead of whichever version is installed in TeXLive.

#### Create a development directory:

Place into this directory `lwarf.dtx` and `lwarf.ins`.

To create `lwarf.sty`, execute

Enter ⇒ **pdflatex lwarf.ins**

which creates `lwarf.sty` and several hundred additional `lwarf-*.sty` files for the various packages which are supported.

To create the initial documentation `lwarf.pdf`, execute

Enter ⇒ **pdflatex lwarf.dtx**

#### To make the development files visible to other projects:

Create the directory

```
/usr/local/texlive/texmf-local/tex/latex/local/lwarf
```

Inside this directory, create the file `update`, containing:

---

```
rm lwarf-*.sty
ln -s /path_to_dev_directory/lwarf*.sty .
ln -s /path_to_dev_directory/lwarf_baseline_marker.png .
ln -s /path_to_dev_directory/lwarf_baseline_marker.eps .
mktexlsr
```

---

---

Run ./update now, and whenever a new lwarp-\* package is added.

**To make the development version of *lwarpmk* visible to other projects:**

---

```
cd /opt
ln -s /usr/local/texlive/texmf-local/bin/x86_64-linux texbin_local
cd texbin_local
ln -s ../../scripts/lwarp/lwarpmk.lua lwarpmk
cd /usr/local/texlive/texmf-local/scripts/
mkdir lwarp
cd lwarp
ln -s /path_to_dev_directory/lwarpmk.lua lwarpmk
```

---

Verify that the correct version is found with

Enter ⇒ **which lwarpmk**

**To make the local versions visible to the shell:**

Paths must be set by the shell startup, such as in .bashrc and .cshrc:

In .bashrc:

---

```
PATH=/opt/texbin_local:/opt/texbin:$PATH
```

---

In .cshrc:

---

```
setenv PATH ${HOME}/bin:/opt/texbin_local:/opt/texbin:${PATH}
```

---

**To fully compile the *lwarp* documentation and indexes:**

```
pdflatex lwarp.ins
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx -- -s gind.ist
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx -- -s gind.ist <again>
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
```

(The second round of index processing is required to fully resolve the final Index of Indexes.)

To make it easier to update the documentation after a minor change, it is useful to create a command script called `make_index`, containing:

```
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
splitindex lwarp.idx -- -s gind.ist
```

 **references**

Note that Index of Indexes and the cross-references to the indexes may not be correct until the above has been accomplished.

## 12.2 Modifying a package for l warp

If a class loads additional packages, it will be required to modify the class for **l warp**, since **l warp** must be loaded before most other packages.

To work with **l warp**, a class must first set up anything which replicates the functions of the basic L<sup>A</sup>T<sub>E</sub>X classes, load any required fonts, then load **l warp**, then finally load and adjust any other required packages.

When creating HTML, **l warp** redefines the \usepackage and \RequirePackage macros such that it first looks to see if a **l warp-<packagename>.sty** version exists. If so, the **l warp** version is used instead. This modular system allows users to create their own versions of packages for **l warp** to use for HTML, simply by creating a new package with a **l warp-** prefix. If placed in the local directory along with the source code, it will be seen by that project alone. If placed alongside the other **l warp-** packages where TeX can see it, then the user's new package will be seen by any documents using **l warp**. (Remember **mktexlsr** or **texhash**.)

An **l warp-<packagename>.sty** package is only used during HTML generation. Its purpose is to pretend to be the original package, while modify anything necessary to create a successful HTML conversion. For many packages it is sufficient to simply provide nullified macros, lengths, counters, etc. for anything which the original package does, while passing the raw text on to be typeset. See the pre-existing **l warp-** packages for examples.

Anything the user might expect of the original package must be replaced or emulated by the new **l warp-** package, including package options, user-adjustable counters, lengths, and booleans, and conditional behaviors. In many of these packages, most of the new definitions have a “local” prefix according to the package name, and @ characters inside the name, which hides these names from the user. In most cases these macros will not need to be emulated for HTML output. Only the “user-facing” macros need to be nullified or emulated.

Each **l warp-\*** package should first call either of:

```
\LWR@ProvidesPackageDrop
— or —
\LWR@ProvidesPackagePass
```

If “Drop”ped, the original print-version package is ignored, and only the **l warp-** version is used. Use this where the original print version is useless for HTML. If “Pass”ed, the original package is loaded first, with the user-supplied options, then the **l warp-** version continues loading as well. See section 447 (**ntheorem**) for an example of selectively disabling user options for a package. Use this when HTML output only requires some modifications of the original package. For a case where the original package is usable without changes, there is no need to create a **l warp-** version.

### 12.2.1 Adding a package to the **l warp.dtx** file

When adding a package to **l warp.dtx** for permanent including in **l warp**, provide the **l warp-<packagename>** code in **l warp.dtx**, add its entry into **l warp.ins**, and also remember to add

---

```
\LWR@loadafter{<packagename>}
```

to `lwarf.dtx` in section 20.1. This causes `lwarf` to stop with an error if `packagename` is loaded before `lwarf`. Finally, add an entry in table 2, [Supported packages and features](#), and also the Updates section.

### 12.3 Modifying a class for `lwarf`

If a class loads additional packages, it will be required to modify the class for `lwarf`, since `lwarf` must be loaded before most other packages.

To work with `lwarf`, a class must first set up anything which replicates the functions of the basic L<sup>A</sup>T<sub>E</sub>X classes, load any required fonts, then load `lwarf`, then finally load and adjust any other required packages.

### 12.4 Testing `lwarf`

When changes have been made, test the print output before testing the HTML. The print output compiles faster, and any errors in the printed version will be easier to figure out than the HTML version.

Remember that the configuration files are only rewritten when compiling the printed version of the document.

When changing the source to `lwarpmk` or a css file in `lwarf.dtx`:

1. Change the source in `lwarf.dtx`.
2. `pdflatex lwarf.ins`
3. `pdflatex lwarf.dtx`
4. If modifying `lwarpmk` the new version should now be active.
5. If modifying css files:
  - (a) For the document, `lwarpmk print` to update the css files in the project.
  - (b) Reload the HTML document to see the effect of the new css files.

Sometimes it is worth checking the `<project>.html.pdf` file, which is the PDF containing HTML tags. Also, `<project>.html.html` has the text conversion of these tags, before the file is split into individual HTML files.

It is also worth checking the browser's tools for verifying the correctness of HTML and css code.

### 12.5 Modifying `lwarpmk`

|      |                          |                                                                                                                                     |
|------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Prog | <code>lwarpmk</code>     | In most installations, <code>lwarpmk.lua</code> is an executable file located somewhere the operating system looks for executables. |
| File | <code>lwarpmk.lua</code> |                                                                                                                                     |

system knows about, and it is called by typing **lwarpmk** into a terminal.

A project-local copy of `lwarpmk.lua` may be generated, modified, and then used to compile documents:

1. Add the `lwarpmk` option to the `lwarp` package.
2. Recompile the printed version of the document. The `lwarpmk` option causes `lwarp` to create a local copy of `lwarpmk.lua`.
3. The `lwarpmk` option may now be removed from the `lwarp` package.
4. Copy and rename `lwarpmk.lua` to a new file such as `mymake.lua`.
5. Modify `mymake.lua` as desired.
6. If necessary, make `mymake.lua` executable.
7. Use `mymake.lua` instead of `lwarpmk.lua`.

## 13 Troubleshooting

### 13.1 lwarp package error conditions and warnings

lwarp tests for a number of error conditions and prints appropriate warnings. The following is a summary of these conditions.

#### 13.1.1 Configuration file `lwarpmk.conf`

**File does not exist:** The configuration file must exist for `lwarpmk`.

**Incorrect Unix /Windows selection:** The operating system which was detected by `lwarp`. So far only Unix and Windows are supported.

**Incorrect delimiter characters.** Older versions of `lwarpmk` used a different delimiter.

**Source name is set to lwarp:** `lwarp` has recently been recompiled in this directory, which overwrote the project's configuration files. This also occurs if `lwarpmk` is executed in `lwarp`'s source directory.

**Incorrect operating system:** The configuration file was set for a different operating system, perhaps due to sharing in a collaborative project.

**Outdated configuration files:** `lwarp` has been updated since this project was last compiled. If there appears to be a valid print command in the file, `lwarpmk` displays this to instruct the user how to recompile the print version, which then updates the configuration files.

**The designated source file does not exist:** For whatever reason...

**Unknown engine:** `lwarp` cannot determine which engine is being used. Supported are DVI L<sup>A</sup>T<sub>E</sub>X, PDF L<sup>A</sup>T<sub>E</sub>X, X<sup>A</sup>L<sup>A</sup>T<sub>E</sub>X, LuaL<sup>A</sup>T<sub>E</sub>X, and upL<sup>A</sup>T<sub>E</sub>X.

#### 13.1.2 Image generation with `lwarpmk limages`

**“Wait a moment for the images to complete before reloading page.”:**

Images are generated by background tasks. If the document is reloaded before these tasks are complete, some images may not yet be generated. `lwarpmk` tries to wait for background tasks to complete before exiting.

**HTML version does not exist:** Images are extracted from the HTML version, which must be compiled before images are generated.

**\*-images.txt does not exist:** This file tells which images to extract from the HTML file. If the file does not exist, it may be that no SVG math or `lateximages` were used. If so, `lwarpmk limages` is not necessary.

**Cross references are not correct:** The document must have up-to-date cross references to locate the images to extract. A number of conditions may cause incorrect cross references.

**“WARNING: Images will be incorrect.”:** An image reference was not found. Recompile.

**lwarpmk epstopdf \*** or **lwarpmk pdftosvg \***: Errors if filenames are not found.

### 13.1.3 Default bitmapped font

lwarf requires the use of a vector font. If lwarf detects that the document uses the default COMPUTER MODERN font, and the cm-super package is not installed, it is assumed that the font is bitmapped. An error is generated, along with the recommendation to install cm-super or use lmodern.

### 13.1.4 Packages

**Loaded before lwarf:** Some packages and classes must be loaded before lwarf. These include input and font encoding, morewrites and newclude, and a number of CJK-related packages and classes.

**Loaded after lwarf:** Most packages which are modified by lwarf must be loaded after lwarf.

**Loaded never:** Some packages do not work with lwarf. An error is generated, along with a list of alternatives to consider.

**Specific packages:** Some packages enforce a specific load order vs. certain other packages.

**Patching error:** lwarf tries to patch some packages using xpatch. If the original package has been updated more recently than lwarf, a patch may not work. It may be necessary to use an older version of the package until lwarf is updated.

**longtable:** lwarf’s longtable package issues detailed error messages regarding the use of the table headers and footers.

**polyglossia:** If used, an informative message is printed to instruct the user to be sure to set a language, without which an error will occur.

**babel or polyglossia:** An informative message is printed to note that not all languages are supported by cleveref.

### 13.1.5 Compiling

**SideTOCDepth < FileDepth:** A warning is displayed if these counters are set such that the sidetoc will not be able to access all pages of the website.

**Filenames:** lwarf may generate file names from section names. While doing so, the filenames are simplified, and special characters and math are removed. If this process generates a duplicate filename, an error is generated, describing the filename and which section name generated it. A warning is issued if dollar-delimited math is used. Parenthesis-delimited math is recommended instead.

- ⚠️ HTML corrupted**
- Multirow:** When `\multirow` or `\multicolumn` are used, `\mrowcell` or `\mcolrowcell` must be placed in the appropriate cells to avoid corrupted HTML output.
  - (width,height) missing a comma:** `\makebox` and `\framebox` can accept a parenthesis-delimited width and height, which must be separated by a comma.
  - “Load graphicx or graphics for improved svg math baselines.”:** SVG math sizing and baselines are improved if either of these packages are used.
  - “Load graphicx or graphics for improved XeTeX logo.”:** If these packages are loaded, the Xe<sup>L</sup>T<sub>E</sub>X logo can use the reversed “E”.
  - “It is recommended to use [width=xx\ linewidth] instead of [scale=yy]”:** Browser support of scale does not have the same effect as in L<sub>E</sub>T<sub>X</sub>.

## 13.2 Using the l warp package

The following address problems which may occur, and possible solutions to each.

Also see:

- Section 7.11: Commands to be placed into the warpprint environment
- Section 8: Special cases and limitations

- ⚠️ HTML corrupted** **Text is not converting correctly / corrupted HTML tags:**

- Font-related UTF-8 information must be embedded in the PDF file. See section 7.4 regarding bitmapped vs. vector fonts.
- See section 8.2.1 regarding HTML entities and the characters &, <, and >.

- ⚠️ dotless j (\j):** See section 7.4 regarding cmap, mmap.

**Undefined HTML settings:**

- See the warning regarding the placement of the HTML settings at section 7.6.

**Tabular problems:** See section 8.10.1.

**Obscure error messages:**

**Print first:** Be sure that a print version of the document compiles and that your document’s L<sub>E</sub>T<sub>X</sub> code is correct, before attempting to generate an HTML version.

**\end{warpHTML}, \end{warpprint}, \end{warpall}, \end{warpMathJax}:**  
Each of these must be without any other characters on the same line.

**“Runaway argument? File ended while scanning use of \next:**  
Don’t use warpHTML, warpprint, warpall, or warpMathJax inside itself.

**Options clash:** If using memoir, see section 8.13.

**“Missing \begin{document}.”:** Some packages require that their options be specified before l warp is loaded, or via the package’s setup macro, especially if these options include the use of braces. See section 8.1.

**“No room for a new \write.”:** Before `\usepackage{lwarp}`, add:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
```

**“! TeX capacity exceeded, sorry [text input levels=15].”:** Packages were nested too many levels deep. Locate the file `texmf.cnf` for your distribution, and add the line

```
max_in_open = 30
```

**“Missing \$ inserted.”:** If using a filename or URL in a footnote or `\item`, escape underscores with `\_`.

**“Label(s) may have changed. Rerun to get cross-references right.”:**

This warning may repeat endlessly if a math expression is used in a caption. Simple math expressions such as `$X=1$` may be replaced with

```
\textit{X}\,=\,\,1
```

**“Temporary page! LaTeX was unable to guess the total number of pages ...”:**  
Harmless. Recompile the document one more time.

**“Leaders not followed by proper glue”:**

This can be caused by a missing `\@floattype` or `\@sectiontype` definition. See `lwarp`'s definitions for examples.

**“Improper \prevdepth”:** `lateximages` and `svg` math require `\newpage`, which cannot work inside `\TeX` boxes or `\ensuremath`. Anything using `\newsavebox`, `\newbox`, `\rbox`, `\savebox`, `\hbox`, `\vbox`, `\usebox`, `\sbox`, etc., must be modified to work without box commands.

If you find something using `\ensuremath`, have it temporarily set:

```
\LetLtxMacro\@ensuredmath\LWR@origensuredmath
```

inside a group first.

As a stop-gap measure, you may wish to try incrementing the counter `LWR@texboxdepth` before the problematic macro, and then decrementing it after. Doing so tells `lwarp` to avoid using a `\newpage` inside the macro, which may avoid this error.

Also, custom macros which appear inside a section, figure, or table name should be made robust since they appear inside the `.toc`, `.lof`, or `.lot` files. Use `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

If using BibTeX, see section 8.6.9.

**“! Undefined control sequence. . . . \\_\\_hook begindocument”:**

See section 8.15.4 if using `polyglossia`.

**“\begin{equation} ended by \end{document}”:** Do not use custom macros such as `\beq` and `\eeq` to replace

```
\begin{equation}
...
\end{equation}
```

**“Misplaced \omit”:** If using `\LWR@formatted` to define new macros for print and HTML modes, see section 36 regarding `\LWR@expandableformatted`.

`LWR@texboxdepth`

⚠ macros in section, table,  
figure names

⚠ BibTeX

⚠ polyglossia

⚠ custom macros for  
environments

⚠ `\LWR@formatted`

**”Token not allowed in a PDF string”:** This hyperref warning appears while creating the print-mode document, not HTML. A low-level macro is being used in a section name which appears in the PDF bookmarks. hyperref removes this macro from the bookmark, and warns of doing so. To avoid this warning, use \pdfstringdefDisableCommands in the preamble to define simplified replacement macros for each, or use \texorpdfstring in the \section or related macro to declare what to use for the  $\text{\TeX}$  text, v.s. the PDF bookmark. See the [hyperref manual](#).

⚠ quote character

**“Command \textquoteright invalid in math mode”:** This can occur when the document source has math containing the slanted quote ‘ character, instead of using the upright quote ’ character.

⚠ “impure” math objects

**Complicated objects inside math:** Some objects, such as Tikz, may not compile in lwarp’s normal math emulation. Insert

`\displaymathother – or – \inlinemathother`

before the math, and then

`\displaymathnormal – or – \inlinemathnormal`

when displaying “normal” math. See section [8.7.9](#).

**Slow compilation of math objects:** Complicated math objects can also cause problems with alt tags, resulting in very slow compilation, large alt tags, and possible crashes. Use `\inlinemathother ... \inlinemathnormal` or `\displaymathother ... \displaymathnormal` around the math expression.

⚠ MATHJAX **Incorrect MATHJAX:** Some objects do not convert to MATHJAX. Use `\displaymathother` before these objects, then `\displaymathnormal` to return to “normal” display math. See section [8.7.9](#).

**Missing sections:** See section [7.6](#) regarding the `FileDepth` and `SideTOCDepth` counters, and the use of `\tableofcontents` in the home page.

**Misnumbered footnotes from section headings:** See section [8.5.4](#).

**Missing HTML files:**

- See the warning regarding changes to the HTML settings at section [7.6](#).
- Ensure that the filenames are unique after math and short words are removed. See `FileSectionNames` at section [7.6](#).

**Missing / incorrect cross-references:**

- Use `lwarpmk` again followed by `lwarpmk html` or `lwarpmk print` to compile the document one more time.
- Labels with special characters may be a problem. It is best to stick with alphanumeric, hyphen, underscore, and perhaps the colon (if not French). `\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.
- `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

⚠ labels

⚠ label characters

⚠ \nameref

⚠ empty link

⚠ cleveref page numbers

Ex:

`\cpageref{tab:first,tab:second}`

in `html` becomes:

“pages **for** table 4.1 and **for** table 4.2”

See `\cpagerefFor` at page 741 to redefine the message which is printed for page number references.

**BibTeX errors with `\etalchar`:** See section 8.6.9.

**Malformed URLs:** Do not use the % character between arguments of `\hyperref`, etc., as this character is among those which is neutralized for inclusion in HTML URLs.

**Em-dashes or En-dashes in listing captions and titles:**

Use X<sup>EL</sup>T<sub>E</sub>X or Lua<sup>EL</sup>T<sub>E</sub>X.

**Floats out of sequence:**

**Mixed “Here” and floating:** Floats [H]ere and regular floats may become out of order. `\clearpage` if necessary.

**Caption setup:** With `\captionsetup` set the positions for the captions above or below to match their use in the source code.

**Images are appearing in strange places:**

- Enter `lwarfmk limages` to refresh the `lateximage` images.

**svg images:**

⚠️ adding/removing

When a math expression, picture, or Tikz environment is added or removed, the SVG images must be re-created by entering `lwarfmk limages` to maintain the proper image-file associations. Inline SVG math may be hashed and thus not need to be recreated, but display math and objects such as Tikz may move to new image numbers when the document is changed.

recompile first

Before attempting to create the SVG image files, `lwarfmk` verifies that the HTML version of the document exists and has correct internal image references.<sup>16</sup> If it is necessary to recompile the document’s HTML version one more time, `lwarfmk` usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the L<sup>A</sup>T<sub>E</sub>X recompile warnings.

⚠️ HTML instead of images

If HTML appears where an SVG image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

Incorrect SVG images will also occur if the document changes the page counter:

`\setcounter{page}{<value>}`

The page counter must *not* be adjusted by the user.

Expressing math as SVG images has the advantage of representing the math exactly as L<sup>A</sup>T<sub>E</sub>X would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, `lwarf` uses an MD5 hash on its L<sup>A</sup>T<sub>E</sub>X source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as `picture` and `Tikz` require one image file each. For a document with a large amount of math, see section 5.5 to use MATHJAX instead.

---

<sup>16</sup>This becomes important when dealing with a document containing thousands of images.

**Plain-looking document:**

- The document's css stylesheet may not be available, or may be linked incorrectly. Verify any \CSSFilename statements point to a valid css file.

**HTML corrupted****Broken fragments of HTML:**

- Check the PDF file used to create HTML to see if the tags overflowed the margin. (This is why such large page size and margins are used.)

**Changes do not seem to be taking effect:**

- Be sure to l warpmk clean, recompile, then start by reloading the home page. You may have been looking at an older version of the document. If you changed a section name, you may have been looking at the file for the old name.
- See the warning regarding changes to the HTML settings at section 7.6.
- Verify that the proper css is actually being used.
- The browser may compensate for some subtle changes, such as automatically generating ligatures, reflowing text, etc.

**Un-matched conditional compiles:**

- Verify the proper begin/end of warpprint, warpHTML, and warpall environments.

**13.2.1 Debug tracing output**

\tracingl warp When \tracingl warp is used, l warp will add extra tracing messages to the . log file. The last several messages may help track down errors.

Place \tracingl warp just after \usepackage{l warp} to activate tracing.

**13.3 Compiling the l warp.dtx file**

**l warp\_tutorial.tex:** Copy or link l warp\_tutorial.txt from the TDS doc directory to the source directory, or wherever you wish to compile the documentation. This file is included verbatim in the documentation, but is in the doc directory so that it may be found by *texdoc* and copied by the user.

**Illogical error messages caused by an out-of-sync l warp.sty file:**

1. Delete the l warp.sty file.
2. Enter **pdflatex l warp.ins** to generate a new l warp.sty file.
3. Enter **pdflatex l warp.dtx** to recompile the l warp.pdf documentation.

**Un-nested environments:**

Be sure to properly nest:

- \begin{macrocode} and \end{macrocode}
- \begin{macro} and \end{macro}
- \begin{environment} and \end{environment}

## 14 Trademarks

- **T<sub>E</sub>X** is a trademark of American Mathematical Society.
- ADOBE® and ADOBE *Framemaker*® are either registered trademarks or trademarks of ADOBE SYSTEMS INCORPORATED in the United States and/or other countries.
- LINUX® is the registered trademark of Linus Torvalds in the U.S. and other countries.
- MAC OS® is a trademark of APPLE INC.
- MADCAP FLARE™ is the property of MADCAP SOFTWARE, INC.
- MATHJAX is copyright 2009 and later. The MATHJAX CONSORTIUM is a joint venture of the AMERICAN MATHEMATICAL SOCIETY (AMS) and the SOCIETY FOR INDUSTRIAL AND APPLIED MATHEMATICS (SIAM) to advance mathematical and scientific content on the web.
- MICROSOFT®, ENCARTA, MSN, and WINDOWS® are either registered trademarks or trademarks of MICROSOFT CORPORATION in the United States and/or other countries.
- UNIX® is a registered trademark of THE OPEN GROUP.
- YOUTUBE™ is trademark of GOOGLE LLC.

File 1 **lwarp.sty**

## 15 Implementation

This package is perhaps best described as a large collection of smaller individual technical challenges, in many cases solved through a number of *erude-haeks* clever tricks. Reference sources are given for many of the solutions, and a quick internet search will provide additional possibilities.

Judgement calls were made, and are often commented. Improvements are possible. The author is open to ideas and suggestions.

Packages were patched for re-use where they provided significant functionality. Examples include `xcolor` with its color models and conversion to `HTML` color output, and `siunitx` which provides many number and unit-formatting options, almost all of which are available in pure-text form, and thus easily used by `pdftotext`.

Packages were emulated where their primary purpose was visual formatting which is not relevant to `HTML` output. For example, packages related to sectioning are already patched by numerous other packages, creating a difficult number of combinations to try to support, and yet in `HTML` output all of the formatting is thrown away, so these packages are merely emulated.

Packages with graphical output are allowed as-is, but must be nested inside a `lateximage` environment to preserve the graphics.

Testing has primarily been done with the Iceweasel/Firefox browser.

Table 11: Section depths and **HTML** headings

| Section                     | <b>L<small>A</small>T<small>E</small>X</b><br>depth | HTML headings *                           |
|-----------------------------|-----------------------------------------------------|-------------------------------------------|
| Title of the entire website |                                                     | <h1>                                      |
| (none)                      | -5                                                  | new for this package                      |
| book                        | -2                                                  | <div class = "book">                      |
| part                        | -1                                                  | <h2>                                      |
| chapter                     | 0                                                   | <h3>                                      |
| section                     | 1                                                   | <h4>                                      |
| subsection                  | 2                                                   | <h5>                                      |
| subsubsection               | 3                                                   | <h6>                                      |
| paragraph                   | 4                                                   | <span class = "paragraph">                |
| subparagraph                | 5                                                   | <span class = "subparagraph">             |
| listitem                    | 7                                                   | new for this package, used for list items |

\* If `FormatWP` is true, section headings may be adjusted, depending on `WPTitleHeading`. See table 10 on page 184.

## 16 Section depths and **HTML** headings

Stacks are created to track depth inside the **LATEX** document structure. This depth is translated to **HTML** headings as shown in table 11. “Depth” here is not depth in the traditional computer-science stack-usage sense, but rather a representation of the nesting depth inside the **LATEX** document structure.

When starting a new section, the program first must close out any existing sections and lists of a deeper level to keep the **HTML** tags nested correctly.

Support for the `memoir` package will require the addition of a book level, which may push the **HTML** headings down a step, and also cause subsubsection to become a <div> due to a limit of six **HTML** headings.

It is possible to use **HTML5** <section> and <h1> for all levels, but this may not be well-recognized by older browsers.

Fixed levels for parts and chapters allow the css to remain fixed as well.

## 17 Source code

This is where the documented source code for `lwarp` begins, continuing through the following sections all the way to the change log and index at the end of this document.

The following sections document the actual implementation of the `lwarp` package.

**line numbers** The small numbers at the left end of a line refer to line numbers in the `lwarp.sty` file.

**subjects** Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph.

**objects** Black-colored tags in the left margin are used to identify programming objects such as

**index entries** files, packages, environments, booleans, and counters. Items without a tag are command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

**for HTML output:** Green-colored tags in the left margin show which sections of source code apply to the

**for PRINT output:** generation of HTML, print, or both forms of output.

**for HTML & PRINT:**

## 18 Detecting the T<sub>E</sub>X engine – *pdflatex*, *lualatex*, *xelatex*

See: <http://tex.stackexchange.com/a/47579>.

Detects X<sub>E</sub>T<sub>E</sub>X and Lua<sub>E</sub>T<sub>E</sub>X:

```

1 \RequirePackage{iftex}[2019/11/07]
2 \RequirePackage{ifpdf}
3 \RequirePackage{ifptex}
4
5 \newif\ifxetexorluatex
6
7 \ifXeTeX
8 \xetexorluatexttrue
9 \else
10 \ifLuaTeX
11 \xetexorluatexttrue
12 \else
13 \xetexorluatextfalse
14 \fi
15 \fi

```

## 19 Early package requirements

Pkg `etoolbox` Provides `\ifbool` and other functions.

Pkg `xpatch` Patches macros with optional arguments.

```

16 \RequirePackage{etoolbox}[2011/01/03]%
17 \RequirePackage{xpatch}

```

Pkg `ifplatform` Provides `\ifwindows` to try to automatically detect Windows OS.

```
18 \RequirePackage{ifplatform}%

```

Pkg `letltxmacro`

```
19 \RequirePackage{letltxmacro}
```

## 20 Package load order

Several packages must never be used with `l warp`, others should only be loaded before `l warp`, and others should only be loaded after. The `l warp` core checks most of these cases. In some `l warp-*` packages, `\LWR@loadbefore` is used to trigger an error if they are loaded after `l warp`, while additional code provides necessary patches for when they are loaded before.

Packages which must be loaded after **l warp** are enforced by a large number of `\LWR@loadafter` statements, below. Some packages are emulated by **memoir**, and so these are tested by `\LWR@notmemoirloadafter`, which does not cause an error if **memoir** is used.

`\LWR@checkloadfilename` is used to check each filename to see if it must never be loaded, or must always be loaded before **l warp**.

## 20.1 Tests of package load order

`\LWR@loadafter {<packagename>}` Error if this package was loaded before **l warp**.

```

20 \newcommand*{\LWR@Loadafter}[1]{%
21 \@ifpackageloaded{#1}%
22 {%
23 \PackageError{l warp}%
24 {%
25 Package #1,\MessageBreak
26 or one which uses #1,\MessageBreak
27 must be loaded after L warp.\MessageBreak
28 Enter 'H' for possible solutions%
29 }%
30 {%
31 Move ``\protect\usepackage{#1}'' after
32 ``\protect\usepackage{l warp}''.\MessageBreak
33 Package #1 may also be loaded by something else,\MessageBreak
34 which must also be moved after L warp.%%
35 }%
36 }
37 {\relax}
38 }
```

`\LWR@notmemoirloadafter {<packagename>}` Error if not **memoir** class and this package was loaded before **l warp**.

**memoir** emulates many packages, and pretends that they have already been loaded.

```

39 \@ifclassloaded{memoir}%
40 {\newcommand*{\LWR@notmemoirloadafter}[1]{}}
41 {\LetLtxMacro{\LWR@notmemoirloadafter}{\LWR@loadafter}}
```

`\LWR@notltjloadafter {<packagename>}` Error if not a **ltjs\*** class and this package was loaded before **l warp**.

```

42 \LetLtxMacro{\LWR@notltjloadafter}{\LWR@loadafter}
43
44 \@ifclassloaded{ltjarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
45 \@ifclassloaded{ltjbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
46 \@ifclassloaded{ltjreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
47 \@ifclassloaded{ltjsarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
48 \@ifclassloaded{ltjsbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
49 \@ifclassloaded{ltjsreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
50 \@ifclassloaded{ltjspf}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
51 \@ifclassloaded{ltjskiyou}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
52 \@ifclassloaded{ltjtarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
```

---

```

53 \@ifclassloaded{\ltjtbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
54 \@ifclassloaded{\ltjtreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}

```

\LWR@loadbefore {*packagename*} Error if this package is loaded after lwarp.

```

55 \newcommand*{\LWR@loadbefore}[1]{%
56 \@ifpackageloaded{#1}%
57 {\relax}%
58 {%
59 \PackageError{lwarp}%
60 {%
61 Package #1 must be loaded before lwarp.\MessageBreak
62 Enter 'H' for possible solutions%%
63 }%
64 {Move ``\protect\usepackage{#1}'' before ``\protect\usepackage{lwarp}''.%}
65 }%
66 }

```

\LWR@checkloadbefore {*thispackagename*} {*packagename*}

If package names match, error if it is loaded after lwarp.

```

67 \newcommand*{\LWR@checkloadbefore}[2]{%
68 \edef\LWR@tempone{#1}%
69 \ifdefstring{\LWR@tempone}{#2}{%
70 \LWR@loadbefore{#1}%
71 }%
72 }

```

\LWR@loadnever {*badpackagename*} {*replacementpkgnames*}

The first packages is not supported, so tell the user to use the second instead.

```

73 \newcommand*{\LWR@loadnever}[2]{%
74 \PackageError{lwarp}%
75 {%
76 Package #1 is not supported\MessageBreak
77 by lwarp's HTML conversion.\MessageBreak
78 Package(s)\MessageBreak
79 \space\space#2\MessageBreak
80 may be useful instead%
81 }%
82 {%
83 Package #1 might conflict with lwarp in some way,\MessageBreak
84 or is superceded by another package.\MessageBreak
85 For a possible alternative, see package(s) #2.
86 }%
87 }

```

\LWR@checkloadnever {*thispackagename*} {*badpackagename*} {*replacementpkgnames*}

If this package name is the bad packagename, suggest the replacements instead.

```

88 \newcommand*{\LWR@checkloadnever}[3]{%
89 \edef\LWR@tempone{\#1}%
90 \ifdefstring{\LWR@tempone}{\#2}{%
91 \LWR@loadnever{\#2}{\#3}%
92 }{}%
93 }

```

\LWR@earlyloadnever {*badpackagename*} {*replacementpkgname*}

The first package is not supported, so tell the user to use the second instead. This version checks immediately for packages which may have been loaded before lwarp.

```

94 \newcommand*{\LWR@earlyloadnever}[2]{%
95 \@ifpackageloaded{\#1}{%
96 \LWR@loadnever{\#1}{\#2}%
97 }{}%
98 }

```

\LWR@earlyclassloadnever {*badclassname*} {*replacementclassname*}

The first class is not supported, so tell the user to use the second instead. This version checks immediately for classes which may have been loaded before lwarp.

```

99 \newcommand*{\LWR@earlyclassloadnever}[2]{%
100 \@ifclassloaded{\#1}{%
101 \PackageError{lwarp}{%
102 Class #1 is not supported\MessageBreak
103 by lwarp's HTML conversion.\MessageBreak
104 Class(es) #2 may be useful instead
105 }%
106 }%
107 {%
108 Class #1 might conflict with lwarp in some way,\MessageBreak
109 or is superceded by another class.\MessageBreak
110 For a possible alternative, see class(es) #2.
111 }%
112 }{\relax}%
113 }

```

## 20.2 Error for disallowed packages and classes loaded before lwarp

```

114 \LWR@earlyclassloadnever{jarticle}{ujarticle}
115 \LWR@earlyclassloadnever{jbook}{ujbook}
116 \LWR@earlyclassloadnever{jreport}{ujreport}
117 \LWR@earlyclassloadnever{tarticle}{utarticle}
118 \LWR@earlyclassloadnever{tbook}{utbook}
119 \LWR@earlyclassloadnever{treport}{utreport}
120 \LWR@earlyloadnever{ae}{cm-super, lmodern}
121 \LWR@earlyloadnever{aecompl}{cm-super, lmodern}
122 \LWR@earlyloadnever{aecc}{cm-super, lmodern}
123 \LWR@earlyloadnever{alg}{algorithm2e, algorithmicx}
124 \LWR@earlyloadnever{algorithmic}{algorithm2e, algorithmicx}

```

```

125 \LWR@earlyloadnever{bitfield}{bytefield}
126 \LWR@earlyloadnever{caption2}{caption}
127 % \LWR@earlyloadnever{ccaption}{caption}% might be preloaded by memoir
128 \LWR@earlyloadnever{colortab}{colortbl}
129 \LWR@earlyloadnever{csvtools}{datatool}
130 \LWR@earlyloadnever{doublespace}{setspace}
131 \LWR@earlyloadnever{fancyheadings}{fancyhdr}
132 \LWR@earlyloadnever{fncylab}{cleveref}
133 \LWR@earlyloadnever{formula}{siunitx}
134 \LWR@earlyloadnever{glossary}{glossaries}
135 \LWR@earlyloadnever{hyper}{hyperref}
136 \LWR@earlyloadnever{libgreek}{libertinust1math, newtx}
137 \LWR@earlyloadnever{newthm}{ntheorem}
138 \LWR@earlyloadnever{pdfcprot}{microtype}
139 \LWR@earlyloadnever{picins}{floatflt, wrapfig}
140 \LWR@earlyloadnever{rplain}{fancyhdr}
141 \LWR@earlyloadnever{si}{siunitx}
142 \LWR@earlyloadnever{sistyle}{siunitx}
143 \LWR@earlyloadnever{slashbox}{diagbox}
144 \LWR@earlyloadnever{statex}{statex2}
145 \LWR@earlyloadnever{t1enc}{fontenc, inputenc, inputenx}
146 \LWR@earlyloadnever{ucs}{inputenc, inputenx}
147 \LWR@earlyloadnever{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}

```

The older CJK and CJKutf8 only work with xeCJK:

```

148 \@ifpackageloaded{xeCJK}{}{
149 \LWR@earlyloadnever{CJK}{ctex, xeCJK}
150 \LWR@earlyloadnever{CJKutf8}{ctex, xecjk}
151 }

```

**bxcjkjatype** is based on CJK:

```
152 \LWR@earlyloadnever{bxcjkjatype}{upLaTeX, bxjsarticle, ujarticle, utarticle}
```

**hangul** is not in TeXLive, and is not tested:

```
153 \LWR@earlyloadnever{hangul}{kotex, xetexko, luatexko}
```

### 20.3 Enforcing package loading after l warp

Packages which should only be loaded after l warp are tested here to trip an error if they have already been loaded.

The following packages must be loaded after l warp:

```

154 \LWR@loadafter{2in1}
155 \LWR@loadafter{2up}
156 \LWR@loadafter{a4}
157 \LWR@loadafter{a4wide}
158 \LWR@loadafter{a5comb}
159 \LWR@notmemoirloadafter{abstract}
160 \LWR@loadafter{academicons}
161 \LWR@loadafter{accents}
162 \LWR@loadafter{accessibility}

```

```
163 \LWR@loadaft{accsupp}
164 \LWR@loadaft{acro}
165 \LWR@loadaft{acronym}
166 \LWR@loadaft{adjmulticol}
167 \LWR@loadaft{addlines}
168 \LWR@loadaft{afterpage}
169 \LWR@loadaft{algorithm2e}
170 \LWR@loadaft{algorithmicx}
171 \LWR@loadaft{alltt}
172 \LWR@loadaft{amscdx}
173 % \LWR@loadaft{amsmath}% may be preloaded
174 % \LWR@loadaft{amsthm}% may be preloaded
175 \LWR@loadaft{anonchap}
176 \LWR@loadaft{anyfontsize}
177 \LWR@notmemoirloadaft{appendix}
178 \LWR@loadaft{ar}
179 \LWR@loadaft{arabicfront}
180 \LWR@notmemoirloadaft{array}
181 \LWR@loadaft{arydshln}
182 \LWR@loadaft{asymptote}
183 % \LWR@loadaft{atbegshi}% now in LaTeX core, also used by morewrites
184 \LWR@loadaft{attachfile}
185 \LWR@loadaft{attachfile2}
186 \LWR@loadaft{authblk}
187 \LWR@loadaft{authoraftertitle}% Supported as-is, but must be loaded after.
188 \LWR@loadaft{autobreak}
189 \LWR@loadaft{autonum}
190 \LWR@loadaft{awesomebox}
191 \LWR@loadaft{axessibility}
192 \LWR@loadaft{axodraw2}
193 \LWR@loadaft{backnaur}
194 \LWR@loadaft{backref}
195 \LWR@loadaft{balance}
196 \LWR@loadaft{bbding}
197 \LWR@loadaft{bigdelim}
198 \LWR@loadaft{bigfoot}
199 \LWR@loadaft{bigstrut}
200 \LWR@loadaft{bitpattern}
201 \LWR@loadaft{blowup}
202 \LWR@loadaft{bm}
203 \LWR@loadaft{booklet}
204 \LWR@loadaft{bookmark}
205 \LWR@notmemoirloadaft{booktabs}
206 \LWR@loadaft{bophook}
207 \LWR@loadaft{bounddvi}
208 \LWR@loadaft{boxedminipage}
209 \LWR@loadaft{boxedminipage2e}
210 \LWR@loadaft{braket}
211 \LWR@loadaft{breakurl}
212 \LWR@loadaft{breqn}
213 \LWR@loadaft{bsheaders}
214 \LWR@loadaft{bussproofs}
215 \LWR@loadaft{bxpapersize}
216 \LWR@loadaft{bytefield}
217 \LWR@loadaft{ccicons}
```

```
218 \LWR@loadaft{cancel}
219 \LWR@loadaft{canoniclayout}
220 \LWR@loadaft{caption}
221 \LWR@loadaft{caption2}
222 \LWR@loadaft{caption3}
223 \LWR@loadaft{cases}
224 % catoptions is supported by the lwarf core
225 % \LWR@loadaft{ccaption}% may be preloaded by memoir
226 % \LWR@loadaft{centernot}% may be preloaded by newtx
227 \LWR@loadaft{changebar}
228 \LWR@loadaft{changelayout}
229 \LWR@notmemoirloadaft{changepage}
230 \LWR@loadaft{changes}
231 \LWR@loadaft{chappg}
232 \LWR@loadaft{chapterbib}
233 \LWR@loadaft{chemfig}
234 \LWR@loadaft{chemformula}
235 \LWR@loadaft{chemgreek}
236 \LWR@loadaft{chemmacros}
237 \LWR@loadaft{chemnum}
238 \LWR@loadaft{chkfloat}
239 \LWR@notmemoirloadaft{chngpage}
240 \LWR@loadaft{cite}
241 \LWR@loadaft{citeref}
242 \LWR@loadaft{classicthesis}
243 \LWR@loadaft{cleveref}
244 % cmbright may be preloaded
245 \LWR@loadaft{cmdtrack}
246 \LWR@loadaft{colonequals}
247 \LWR@loadaft{color}
248 \LWR@loadaft{colortbl}
249 \LWR@loadaft{continue}
250 \LWR@loadaft{copyrightbox}
251 \LWR@notmemoirloadaft{crop}
252 % ctex must be loaded before lwarf
253 \LWR@loadaft{ctable}
254 \LWR@loadaft{cuted}
255 \LWR@loadaft{cutwin}
256 \LWR@loadaft{dblfloatfix}
257 \LWR@loadaft{dblfnote}
258 \LWR@notmemoirloadaft{dcolumn}
259 \LWR@loadaft{decimal}
260 \LWR@loadaft{diagbox}
261 \LWR@loadaft{dingbat}
262 \LWR@loadaft{DotArrow}
263 \LWR@loadaft{dotlessi}
264 \LWR@loadaft{dprogress}
265 \LWR@loadaft{draftcopy}
266 \LWR@loadaft{draftfigure}
267 \LWR@loadaft{draftwatermark}
268 \LWR@loadaft{drftcite}
269 \LWR@loadaft{easy-todo}
270 \LWR@loadaft{ebook}
271 \LWR@loadaft{econometrics}
272 \LWR@loadaft{ed}
```

```
273 \LWR@loadaft{ellipsis}
274 \LWR@loadaft{embrac}
275 \LWR@loadaft{emptypage}
276 \LWR@loadaft{endfloat}
277 \LWR@loadaft{endheads}
278 \LWR@loadaft{endnotes}
279 \LWR@loadaft{engtlc}
280 \LWR@loadaft{enotez}
281 \LWR@notmemoirloadaft{enumerate}
282 \LWR@loadaft{enumitem}
283 \LWR@notmemoirloadaft{epigraph}
284 \LWR@loadaft{epsf}
285 \LWR@loadaft{epsfig}
286 \LWR@loadaft{epstopdf}
287 \LWR@loadaft{epstopdf-base}
288 \LWR@loadaft{eqlist}
289 \LWR@loadaft{eqparbox}
290 \LWR@loadaft{errata}
291 \LWR@loadaft{eso-pic}
292 \LWR@loadaft{esvect}
293 \LWR@loadaft{etoc}
294 \LWR@loadaft{eurosym}
295 \LWR@loadaft{everypage}
296 % \LWR@loadaft{everyshi}% now in LaTeX core
297 \LWR@loadaft{extarrows}
298 \LWR@loadaft{extramarks}
299 \LWR@loadaft{fancybox}
300 \LWR@loadaft{fancyhdr}
301 \LWR@loadaft{fancyref}
302 \LWR@loadaft{fancytabs}
303 \LWR@loadaft{fancyvrb}
304 \LWR@loadaft{fbox}
305 \LWR@loadaft{fewerfloatpages}
306 \LWR@loadaft{figcaps}
307 \LWR@loadaft{figsize}
308 \LWR@loadaft{fitbox}
309 \LWR@loadaft{fix2col}
310 \LWR@loadaft{fixmath}
311 \LWR@loadaft{fixme}
312 \LWR@loadaft{fixmetodonotes}
313 \LWR@loadaft{flafter}
314 \LWR@loadaft{flippdf}
315 \LWR@loadaft{float}
316 \LWR@loadaft{floatflt}
317 \LWR@loadaft{floatpag}
318 \LWR@loadaft{floatrow}
319 \LWR@loadaft{fltrace}
320 \LWR@loadaft{flushend}
321 \LWR@loadaft{fnbreak}
322 \LWR@loadaft{fncychap}
323 \LWR@loadaft{fnlineno}
324 \LWR@loadaft{fnpara}
325 \LWR@loadaft{fnpos}
326 \LWR@loadaft{fontawesome}
327 \LWR@loadaft{fontawesome5}
```

```
328 % fontenc must be loaded before lwarp
329 % fontspec must be loaded before lwarp
330 \LWR@loadaft{footmisc}
331 \LWR@loadaft{footnote}
332 \LWR@loadaft{footnotebackref}
333 \LWR@loadaft{footnotehyper}
334 \LWR@loadaft{footnoterange}
335 \LWR@loadaft{footnpag}
336 \LWR@loadaft{foreign}
337 \LWR@loadaft{forest}
338 \LWR@loadaft{fouridx}
339 % fourier may be loaded before lwarp
340 \LWR@loadaft{framed}
341 \LWR@loadaft{ftcap}
342 \LWR@loadaft{ftnright}
343 \LWR@loadaft{fullminipage}
344 \LWR@loadaft{fullpage}
345 \LWR@loadaft{fullwidth}
346 \LWR@loadaft{fvextra}
347 \LWR@loadaft{fwlw}
348 \LWR@loadaft{gensymb}
349 \LWR@loadaft{gentombow}
350 % geometry is always loaded by lwarp, and lwarp-geometry is AtBeginDocument
351 \LWR@loadaft{ghsystem}
352 \LWR@loadaft{gindex}
353 \LWR@loadaft{glossaries}
354 \LWR@loadaft{gmeometric}
355 % \LWR@loadaft{graphics} pre-loaded by xunicode
356 % \LWR@loadaft{graphicx} pre-loaded by xunicode
357 \LWR@loadaft{gloss}
358 \LWR@loadaft{glossary}
359 \LWR@loadaft{grffile}
360 \LWR@loadaft{grid}
361 \LWR@loadaft{grid-system}
362 \LWR@loadaft{gridset}
363 \LWR@loadaft{hang}
364 \LWR@loadaft{hanging}
365 \LWR@loadaft{hepuits}
366 \LWR@loadaft{hhline}
367 \LWR@loadaft{hhtensor}
368 \LWR@loadaft{hypbmsec}
369 \LWR@loadaft{hypcap}
370 \LWR@loadaft{hypdestopt}
371 \LWR@loadaft{hypernat}
372 \LWR@loadaft{hyperref}
373 \LWR@loadaft{hyperxmp}
374 \LWR@loadaft{hyphenat}
375 \LWR@loadaft{idxlayout}
376 \LWR@loadaft{ifoddpage}
377 \LWR@loadaft{imakeidx}
378 \LWR@loadaft{impnattypo}
379 \LWR@notmemoirloadaft{index}
380 % inputenc must be loaded before lwarp
381 % inputenx must be loaded before lwarp
382 % inputrc may be loaded before lwarp
```

```
383 \LWR@loadafter{intopdf}
384 \LWR@loadafter{isomath}
385 \LWR@loadafter{isotope}
386 \LWR@loadafter{jurabib}
387 \LWR@loadafter{karnaugh-map}
388 \LWR@loadafter{keyfloat}
389 \LWR@loadafter{keystroke}
390 % kpfonts may be loaded before lwarp
391 % kpfonts-otf may be loaded before lwarp
392 \LWR@loadafter{layaureo}
393 \LWR@loadafter{layout}
394 \LWR@loadafter{layouts}
395 \LWR@loadafter{leading}
396 \LWR@loadafter{leftidx}
397 \LWR@loadafter{letterspace}
398 \LWR@loadafter{lettrine}
399 % libertinust1math may be loaded before lwarp
400 \LWR@loadafter{lineno}
401 \LWR@loadafter{lips}
402 \LWR@loadafter{listings}
403 \LWR@loadafter{listliketab}
404 \LWR@loadafter{longtable}
405 \LWR@loadafter{lpic}
406 \LWR@loadafter{lscape}
407 \LWR@loadafter{ltablex}
408 \LWR@loadafter{ltcaption}
409 \LWR@loadafter{ltxgrid}
410 \LWR@loadafter{ltxtable}
411 \LWR@loadafter{lua-check-hyphen}
412 \LWR@loadafter{lua-visual-debug}
413 \LWR@loadafter{luacolor}
414 \LWR@loadafter{luamplib}
415 \LWR@loadafter{luatodonotes}
416 \LWR@loadafter{luavlna}
417 \LWR@loadafter{lyluatex}
418 \LWR@loadafter{magaz}
419 \LWR@notmemoirloadafter{makeidx}
420 \LWR@loadafter{manyfoot}
421 \LWR@loadafter{marginfit}
422 \LWR@loadafter{marginfix}
423 \LWR@loadafter{marginnote}
424 \LWR@loadafter{marvosym}
425 % mathalpha may be loaded before lwarp
426 \LWR@loadafter{mathastext}
427 \LWR@loadafter{mathcomp}
428 \LWR@loadafter{mathdesign}
429 \LWR@loadafter{mathdots}
430 \LWR@loadafter{mathfixs}
431 \LWR@loadafter{mathpazo}
432 \LWR@loadafter{mathptmx}
433 \LWR@loadafter{mathspec}
434 \LWR@loadafter{mathtools}
435 \LWR@loadafter{mattens}
436 \LWR@loadafter{maybemath}
437 \LWR@loadafter{mcaption}
```

```
438 \LWR@loadafter{mdframed}
439 \LWR@loadafter{mdwmath}
440 \LWR@loadafter{media9}
441 \LWR@loadafter{memhfixc}
442 \LWR@loadafter{menukeys}
443 \LWR@loadafter{metalogo}
444 \LWR@loadafter{metalogox}
445 \LWR@loadafter{mhchem}
446 \LWR@loadafter{microtype}
447 \LWR@loadafter{midfloat}
448 \LWR@loadafter{midpage}
449 \LWR@loadafter{minibox}
450 \LWR@loadafter{minitoc}
451 \LWR@loadafter{minted}
452 \LWR@loadafter{mismath}
453 \LWR@loadafter{mleftright}
454 % morefloats must be allowed early for print mode
455 \LWR@notmemoirloadafter{moreverb}
456 % morewrites must be loaded before lwarf
457 \LWR@notmemoirloadafter{movie15}
458 \LWR@notmemoirloadafter{mparhack}
459 \LWR@loadafter{multibib}
460 \LWR@loadafter{multicap}
461 \% \LWR@loadafter{multicol} \% loaded by ltxdoc
462 \LWR@loadafter{multicolrule}
463 \LWR@loadafter{multimedia}
464 \LWR@loadafter{multiobjective}
465 \LWR@loadafter{multirow}
466 \LWR@loadafter{multitoc}
467 \LWR@loadafter{musicography}
468 \LWR@loadafter{nameauth}
469 \LWR@loadafter{nameref}
470 \LWR@loadafter{natbib}
471 \LWR@notmemoirloadafter{nccfancyhdr}
472 \LWR@loadafter{nccfoots}
473 \LWR@loadafter{nccmath}
474 \LWR@notmemoirloadafter{needspace}
475 % newclude must be loaded before lwarf
476 % newpxmath may be preloaded
477 % newtxmath may be loaded before lwarf
478 % newtxsf may be loaded before lwarf
479 % newunicodechar must be loaded before lwarf
480 \LWR@notmemoirloadafter{nextpage}
481 \LWR@loadafter{nicefrac}
482 \LWR@loadafter{niceframe}
483 \LWR@loadafter{nicematrix}
484 \LWR@loadafter{noitcrul}
485 \LWR@loadafter{nolbreaks}
486 \LWR@loadafter{nomencl}
487 \LWR@loadafter{nonfloat}
488 \LWR@loadafter{nonumonpart}
489 \LWR@loadafter{nopageno}
490 \LWR@loadafter{notes}
491 \LWR@loadafter{notespages}
492 \LWR@loadafter{nowidow}
```

```
493 \LWR@loadaft{ntheorem}
494 \LWR@loadaft{octave}
495 \LWR@loadaft{orcidlink}
496 \LWR@loadaft{overpic}
497 \LWR@loadaft{pagegrid}
498 \LWR@notmemoirloadaft{pagenote}
499 \LWR@loadaft{pagesel}
500 \LWR@loadaft{paralist}
501 \LWR@loadaft{parallel}
502 \LWR@loadaft{parcolumns}
503 \LWR@loadaft{parnotes}
504 \LWR@notmemoirloadaft{parskip}
505 \LWR@loadaft{pbox}
506 \LWR@loadaft{pdfcol}
507 \LWR@loadaft{pdfcolfoot}
508 \LWR@loadaft{pdfcolmk}
509 \LWR@loadaft{pdfcolparallel}
510 \LWR@loadaft{pdfcolparcolumns}
511 \LWR@loadaft{pdfcomment}
512 \LWR@loadaft{pdfcrypt}
513 \LWR@loadaft{pdflscape}
514 \LWR@loadaft{pdfmarginpar}
515 \LWR@loadaft{pdfpages}
516 \LWR@loadaft{pdfprivacy}
517 \LWR@loadaft{pdfrender}
518 \LWR@loadaft{pdfsync}
519 \LWR@loadaft{pdftricks}
520 \LWR@loadaft{pdfx}
521 \LWR@loadaft{perpage}
522 \LWR@loadaft{pfnote}
523 \LWR@loadaft{phfqit}
524 \LWR@loadaft{physics}
525 \LWR@loadaft{physunits}
526 \LWR@loadaft{picinpar}
527 \LWR@loadaft{pifont}
528 \LWR@loadaft{pinlabel}
529 \LWR@loadaft{placeins}
530 \LWR@loadaft{plarray}
531 \LWR@loadaft{plarydshln}
532 \LWR@loadaft{plextarray}
533 \LWR@loadaft{plextarydshln}
534 \LWR@loadaft{plcolortbl}
535 \LWR@loadaft{plextdelarray}
536 \LWR@loadaft{plimsoll}
537 \LWR@loadaft{prelim2e}
538 \LWR@loadaft{prettyref}
539 \LWR@loadaft{preview}
540 \LWR@loadaft{psfrag}
541 \LWR@loadaft{psfragx}
542 \LWR@loadaft{pst-eps}
543 \LWR@loadaft{pstool}
544 \LWR@loadaft{pstricks}
545 % \LWR@loadaft{pxatbegshi} may be used by morewrites
546 \LWR@loadaft{pxeveryshi}
547 % \LWR@loadaft{pxfonts} may be loaded before lwarp
```

```
548 \LWR@loadafter{pxftnright}
549 \LWR@loadafter{pxjahyper}
550 \LWR@loadafter{quotchap}
551 \LWR@loadafter{quoting}
552 \LWR@loadafter{ragged2e}
553 \LWR@loadafter{realscripts}
554 \LWR@loadafter{refcheck}
555 \LWR@loadafter{register}
556 \LWR@loadafter{relsize}
557 \LWR@loadafter{repeatindex}
558 \LWR@loadafter{resizegather}
559 \LWR@loadafter{returntogram}
560 \LWR@loadafter{rlepsf}
561 \LWR@loadafter{rmathbr}
562 \LWR@loadafter{rmpage}
563 \LWR@loadafter{romanbar}
564 \LWR@loadafter{romanbarpagename}
565 \LWR@loadafter{rotating}
566 \LWR@loadafter{rotfloat}
567 \LWR@loadafter{rviewport}
568 \LWR@loadafter{savetrees}
569 % scalefont is loaded by babel-french
570 \LWR@loadafter{scalerel}
571 \LWR@loadafter{schemata}
572 \LWR@loadafter{scrcxtrnd}
573 \LWR@loadafter{scrhack}
574 \LWR@loadafter{scrlayer}
575 \LWR@loadafter{scrlayer-notecolumn}
576 \LWR@loadafter{scrlayer-scrpage}
577 \LWR@loadafter{scrpge2}
578 \LWR@loadafter{section}
579 \LWR@loadafter{sectionbreak}
580 \LWR@loadafter{sectsty}
581 \LWR@loadafter{selectp}
582 \LWR@loadafter{semantic-markup}
583 \LWR@notmemoirloadafter{setspace}
584 \LWR@loadafter{shadow}
585 \LWR@loadafter{shapepar}
586 \LWR@notmemoirloadafter{showidx}
587 \LWR@loadafter{showkeys}
588 \LWR@loadafter{showtags}
589 \LWR@loadafter{shuffle}
590 \LWR@loadafter{sidecap}
591 \LWR@loadafter{sidenotes}
592 \LWR@loadafter{simplebnf}
593 \LWR@loadafter{SIunits}
594 \LWR@loadafter{siunitx}
595 \LWR@loadafter{skmath}
596 \LWR@loadafter{slantsc}
597 \LWR@loadafter{slashed}
598 \LWR@loadafter{soul}
599 \LWR@loadafter{soulpos}
600 \LWR@loadafter{soulutf8}
601 \LWR@loadafter{splitbib}
602 \LWR@loadafter{splitidx}
```

```
603 \LWR@loadafter{srcctx}
604 \LWR@loadafter{srctex}
605 \LWR@loadafter{stabular}
606 \LWR@loadafter{stackengine}
607 \LWR@loadafter{stackrel}
608 \LWR@loadafter{statex2}
609 \LWR@loadafter{statistics}
610 \LWR@loadafter{statmath}
611 \LWR@loadafter{steinmetz}
612 \LWR@notltjloadafter{stfloats}
613 \LWR@loadafter{struktex}
614 \LWR@loadafter{subcaption}
615 \LWR@loadafter{subfig}
616 \LWR@loadafter{subfigure}
617 \LWR@loadafter{subsupscripts}
618 \LWR@loadafter{supertabular}
619 \LWR@loadafter{svg}
620 \LWR@loadafter{swfigure}
621 \LWR@loadafter{syntonly}
622 \LWR@loadafter{t1inc}
623 \LWR@loadafter{tabfigures}
624 \LWR@loadafter{tables}
625 \LWR@loadafter{tablefootnote}
626 \LWR@notmemoirloadafter{tabularx}
627 \LWR@loadafter{tabulary}
628 \LWR@loadafter{tagpdf}
629 \LWR@loadafter{tascmac}
630 \LWR@loadafter{tcolorbox}
631 \LWR@loadafter{tensor}
632 \LWR@loadafter{termcal}
633 \LWR@loadafter{textarea}
634 % \LWR@loadafter{textcomp} maybe before lwarp with font packages
635 \LWR@loadafter{textfit}
636 \LWR@loadafter{textpos}
637 \LWR@loadafter{theorem}
638 \LWR@loadafter{thinsp}
639 \LWR@loadafter{thm-listof}
640 \LWR@loadafter{thm-restate}
641 \LWR@loadafter{thmbox}
642 \LWR@loadafter{thmtools}
643 \LWR@loadafter{threadcol}
644 \LWR@loadafter{threeparttable}
645 \LWR@loadafter{threeparttablex}
646 \LWR@loadafter{thumb}
647 \LWR@loadafter{thumbs}
648 \LWR@loadafter{tikz}
649 \LWR@loadafter{tikz-imagelabels}
650 \LWR@loadafter{titleps}
651 \LWR@loadafter{titlesec}
652 \LWR@loadafter{titletoc}
653 \LWR@notmemoirloadafter{titling}
654 % \LWR@loadafter{tocbasic} preloaded by koma-script classes
655 \LWR@notmemoirloadafter{tocbibind}
656 \LWR@loadafter{tocdata}
657 \LWR@loadafter{toccenter}
```

```
658 \LWR@notmemoirloadafter{tocloft}
659 \LWR@loadafter{tocstyle}
660 \LWR@loadafter{todo}
661 \LWR@loadafter{todonotes}
662 \LWR@loadafter{topcapt}
663 \LWR@loadafter{tram}
664 \LWR@loadafter{transparent}
665 \LWR@loadafter{trimclip}
666 \LWR@loadafter{trivfloat}
667 \LWR@loadafter{truncate}
668 \LWR@loadafter{turnthepage}
669 \LWR@loadafter{twoup}
670 % \LWR@loadafter{txfonts}% may be loaded before lwarf
671 % txgreeks may be loaded before lwarf

672 % \LWR@loadafter{typearea}% preloaded by koma-script classes
673 \LWR@loadafter{typicons}
674 % \LWR@loadafter{ulem}% preloaded by ctexart and related classes
675 \LWR@loadafter{umoline}
676 \LWR@loadafter{underscore}
677 % unicode-math may be loaded before lwarf
678 \LWR@loadafter{units}
679 \LWR@loadafter{unitsdef}
680 \LWR@loadafter{upgreek}
681 \LWR@loadafter{upref}
682 \LWR@loadafter{url}
683 \LWR@loadafter{ushort}
684 \LWR@loadafter{uspace}
685 \LWR@loadafter{varioref}
686 \LWR@notmemoirloadafter{verse}
687 \LWR@loadafter{versonotes}
688 \LWR@loadafter{vertbars}
689 \LWR@loadafter{vmargin}
690 \LWR@loadafter{vowel}
691 \LWR@loadafter{vpe}
692 \LWR@loadafter{vwcol}
693 \LWR@loadafter{wallpaper}
694 \LWR@loadafter{watermark}
695 \LWR@loadafter{widetable}
696 \LWR@loadafter{widows-and-orphans}
697 \LWR@loadafter{witharrows}
698 \LWR@loadafter{wrapfig}
699 \LWR@loadafter{xbmks}
700 \LWR@loadafter{xcolor}
701 \LWR@loadafter{xexchangebar}
702 \LWR@loadafter{xellipsis}
703 % xetexko must be loaded before lwarf
704 \LWR@loadafter{xevlna}
705 \LWR@loadafter{xfakebold}
706 \LWR@loadafter{xfrac}
707 \LWR@loadafter{xltabular}
708 \LWR@loadafter{xltxttra}
709 \LWR@loadafter{xmpincl}
710 \LWR@loadafter{xpiano}
711 \LWR@loadafter{xpinyin}
```

---

```

712 \LWR@loadaft{xr}
713 \LWR@loadaft{xr-hyper}
714 \LWR@loadaft{xtab}
715 % xunicode must be loaded before l warp
716 \LWR@loadaft{xurl}
717 \LWR@loadaft{xy}
718 \LWR@loadaft{zwpagelayout}
```

## 21 MD5 hashing

The MD5 hash is used for `\teximage` filenames for SVG math.

```

719 \newcommand{\LWR@mdfive}[1]{%
720 \PackageError{l warp}%
721 {No MD5 macro was found}%
722 {%
723 L warp must find the macros \protect\pdfmdfivesum\space
724 or \protect\mdfivesum.%%
725 }%
726 }
```

The default for pdf $\text{\LaTeX}$ , dv $\text{\LaTeX}$ , up $\text{\LaTeX}$ , etc:

```
727 \let\LWR@mdfive\pdfmdfivesum
```

For Lua $\text{\TeX}$ :

```

728 \ifLuaTeX
729 \RequirePackage{pdftexcmds}
730 \let\LWR@mdfive\pdf@mdfivesum
731 \fi
```

For Xe $\text{\TeX}$ :

```

732 \ifXeTeX
733 \@ifundefined{pdffivesum}{}%
734 {\let\LWR@mdfive\pdfmdfivesum}%
735 \@ifundefined{mdfivesum}{}%
736 {\let\LWR@mdfive\mdfivesum}%
737 \fi
```

## 22 pdf $\text{\LaTeX}$ T1 and UTF-8 encoding

When using pdf $\text{\LaTeX}$ , l warp requires T1 font encoding, and recommends UTF-8 input encoding.

If some other input encoding is already defined, l warp will try to use it instead, and hope for the best.

Xe $\text{\TeX}$  and Lua $\text{\TeX}$  are both UTF-8 by nature.

\LWR@pdfencoding Sets T1, and also utf8 if not already set.

```

738 \newcommand*{\LWR@pdfencoding}{%
739 \RequirePackage[T1]{fontenc}%
740 \@ifpackageloaded{inputenc}{}{%
741 \@ifpackageloaded{inputenx}{}{%
742 \RequirePackage[utf8]{inputenc}%
743 }%
744 }%
745 }%
746 }%

747 \ifPDFTeX% pdflatex or dvi latex
748 \LWR@pdfencoding
749 \fi
750
751 \ifpTeX
752 \LWR@pdfencoding
753 \fi

```

## 23 Unicode input characters

**for HTML & PRINT:** If using *pdflatex*, convert a minimal set of Unicode characters. Additional characters may be defined by the user, as needed.

A commonly-used multiply symbol is declared to be \texttimes.

The first arguments of \newunicodechar below are text ligatures in the source code, even though they are not printed in the following listing.

```

754 \ifpTeX
755 \else
756 \RequirePackage{newunicodechar}%
757
758 \newunicodechar{x}{\texttimes}%
759
760 \ifPDFTeX% pdflatex or dvi latex
761 \newunicodechar{ff}{ff}% Here, the first arguments are ligatures.
762 \newunicodechar{fi}{fi}
763 \newunicodechar{fl}{fl}
764 \newunicodechar{ffi}{ffi}
765 \newunicodechar{ffl}{ffl}
766 \newunicodechar{--}{---}
767 \newunicodechar{--}{--}
768 \fi
769
770 \fi

```

## 24 Avoid a bitmapped font

If DVI or PDF  $\text{\LaTeX}$ , and if the default Computer Modern is the selected font family, ensure that `cm-super` or `lmodern` is used to provide a vector font.

```

771 \ifxetexorluatex
772 \else
773 \ifdefstring{\f@family}{cmr}{
774 \IfFileExists{type1ec.sty}{% found in cm-super
775 {}
776 {% cm-super not installed
777 \IfFileExists{lmodern.sty}{
778 \PackageInfo{lwarp}{cm-super not installed, loading lmodern}
779 \RequirePackage{lmodern}
780 }{
781 \PackageError{lwarp}
782 {%
783 Lwarp requires a vector font.\MessageBreak
784 Install and load cm-super, lmodern, or another\MessageBreak
785 Type-1 vector font before loading lwarp.\MessageBreak
786 Enter 'H' for possible solutions%
787 }
788 {%
789 Install cm-super or lmodern.\MessageBreak
790 If lmodern, load it before lwarp:\MessageBreak
791 \space\space\protect\usepackage{lmodern}\MessageBreak
792 \space\space\protect\usepackage{lwarp}%
793 }
794 }
795 }% cm-super not installed
796 }{}% f@family
797 \fi

```

## 25 Upright quotes

In `pdftEX`, preserve upright quotes in verbatim text. `upquote` also loads `textcomp`.

```

798 \ifPDFTeX
799 \RequirePackage{upquote}
800 \fi
801
802 \ifpTeX
803 \RequirePackage{upquote}
804 \fi

```

## 26 Avoid bad font combinations

For  $\text{X}_\text{\LaTeX}$  and  $\text{Lua}_\text{\LaTeX}$ , certain font combinations cause problems with `lwarp`.

`libertinus-otf` has special handling for `\textquotedbl`. Search for `\LWR@orig@textquotedbl`.

```

805 \ifxetexorluatex
806 \AtBeginDocument{
807 \@ifpackageloaded{kpfonts}{
808 \PackageError{lwarp}{%
809 {%
810 When using XeLaTeX or LuaLaTeX, \MessageBreak
811 use kpfonts-otf instead of kpfonts%
812 }%
813 {%
814 Replace: \protect\usepackage{kpfonts}\MessageBreak
815 with: \protect\usepackage{kpfonts-otf}%
816 }%
817 }{}%
818 }%
819 \fi

```

## 27 Miscellaneous tools

### 27.1 Variables

```

820 \newlength{\LWR@templengthone}
821 \newlength{\LWR@templengthtwo}
822 \newlength{\LWR@templengththree}
823 \newcounter{\LWR@tempcountone}

```

### 27.2 Lengths and units

`\LWR@providelength`  $\{\langle\text{lengthname}\rangle\}$  Provides the length if it isn't defined yet.

Used to provide source compatibility for lengths which will be ignored, but might or might not be already provided by other packages.

```

824 \newcommand*\LWR@providelength[1]{%
825 \ifdeflength{#1}{\newlength{#1}}%
826 }

```

`\LWR@convertto`  $\{\langle\text{dest unit}\rangle\} \{\langle\text{length}\rangle\}$

Prints a length in the given units, without printing the unit itself.

```
827 \newcommand*{\LWR@convertto}[2]{\strip@pt\dimexpr #2*65536/\number\dimexpr 1#1}
```

`\LWR@printpercentlength`  $\{\langle\text{smaller}\rangle\} \{\langle\text{larger}\rangle\}$

Prints a percent ratio of the two lengths.

```

828 \newcommand*{\LWR@printpercentlength}[2]{%
829 \setcounter{\LWR@tempcountone}{100*\ratio{#1}{#2}}%

```

```
830 \arabic{LWR@tempcountone}%
831 }
```

### 27.3 Counters

\defaddtocounter {⟨name⟩} {⟨value⟩}

Locally add to a counter.

```
832 \providecommand*\defaddtocounter[2]{%
833 \defcounter{#1}{\value{#1}+#2}%
834 }
```

### 27.4 Patching

\LWR@patcherror {⟨packagename⟩} {⟨macroname⟩}

Prints an error if could not patch a macro.

```
835 \newcommand*\LWR@patcherror[2]{%
836 \PackageError{l warp}{%
837 {%
838 Unable to patch package #1,\MessageBreak
839 macro \LWRbackslash #2.\MessageBreak
840 Lwarp or #1 may need to be updated%
841 }%
842 {Please contact the maintainer of the Lwarp package.}%
843 }}
```

### 27.5 Chinese text isolation

\LWR@isolate {⟨text⟩} Isolates Chinese characters from the surrounding text. This is required to avoid extra spaces on either side of the Chinese characters, especially when written to a file.

```
844 \newcommand{\LWR@isolate}[1]{#1}%
845
846 @ifpackageloaded{ctexpatch}%
847 \renewcommand{\LWR@isolate}[1]{\null#1\null}%
848 }{}%
849
850 @ifpackageloaded{xeCJK}%
851 \renewcommand{\LWR@isolate}[1]{\null#1\null}%
852 }{}
```

\LWR@disablepinyin Disable xpinyin during file, sidetoc, and footnote generation. Set by xpinyin.

```
853 \newcommand*\LWR@disablepinyin{}
```

## 27.6 Inserting vertical space

\LWR@forceemptyline Extra vertical space in the HTML output. Use after \LWR@stopars.

```
854 \newcommand*{\LWR@forceemptyline}{%
855 \LWR@origrule{0pt}{1\baselineskip}%
856 \LWR@orignewline%
857 }
```

## 27.7 Argument selection

\LWR@firstoffive {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩} {⟨fifth⟩}

\LWR@secondoffive {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩} {⟨fifth⟩}

\LWR@thirdoffive {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩} {⟨fifth⟩}

\LWR@fourthoffive {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩} {⟨fifth⟩}

\LWR@fifthoffive {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩} {⟨fifth⟩}

Expands to the nth of the five arguments. Used for extra cross referencing.

```
858 \long\def\LWR@firstoffive#1#2#3#4#5{#1}
859 \long\def\LWR@secondoffive#1#2#3#4#5{#2}
860 \long\def\LWR@thirdoffive#1#2#3#4#5{#3}
861 \long\def\LWR@fourthoffive#1#2#3#4#5{#4}
862 \long\def\LWR@fifthoffive#1#2#3#4#5{#5}
```

## 27.8 Inside boxes

Greater than zero if currently inside a TeX box, thus should not use \LWR@orignewline. See section 13.2.

```
863 \newcounter{LWR@texboxdepth}
864 \setcounter{LWR@texboxdepth}{0}
```

\LWR@maybe@orignewpage Only do \LWR@orignewline if not inside a TeX box.

```
865 \newcommand*{\LWR@maybe@orignewpage}{%
866 \LWR@traceinfo{LWR@maybe@orignewpage}%
867 \ifnumgreater{\value{LWR@texboxdepth}}{0}%
868 {}%
869 {\LWR@orignewline}%
870 \LWR@traceinfo{LWR@maybe@orignewpage done}%
871 }
```

## 27.9 Global boxes

\LWR@gsavebox {⟨macroname⟩} {⟨contents⟩}

From <https://tex.stackexchange.com/questions/288702/savebox-forgets-its-content-across-columns-inside-align>

```

872 \DeclareRobustCommand{\LWR@gsavebox}[1]{%
873 \@ifnextchar(%)
874 {\LWR@gsavepicbox#1}{\@ifnextchar[{\LWR@gsavebox#1}{\LWR@gsbox#1}}%
875 \long\def\LWR@gsbox#1#2{\global\setbox#1\hbox{%
876 \color@setgroup#2\color@endgroup}}
877 \def\LWR@gsavebox#1[#2]{%
878 \@ifnextchar [{\LWR@igsavebox#1[#2]}{\LWR@igsavebox#1[#2][c]}}
879 \long\def\LWR@igsavebox#1[#2][#3]{%
880 \LWR@gsbox#1{@imakebox[#2][#3]{#4}}}
881 \def\LWR@gsavepicbox#1(#2,#3){%
882 \@ifnextchar[%]
883 {\LWR@igsavepicbox#1(#2,#3)}{\LWR@igsavepicbox#1(#2,#3)[[]]}}
884 \long\def\LWR@igsavepicbox#1(#2,#3)[#4]{%
885 \LWR@gsbox#1{@imakepicbox(#2,#3)[#4]{#5}}}

```

Env \LWR@glrbox {⟨macroname⟩}

```

886 \def\LWR@glrbox#1{%
887 \edef\reserved@a{%
888 \endgroup
889 \global\setbox#1\hbox{%
890 \begingroup\aftergroup}%
891 \def\noexpand\@currenvir{\currenvir}%
892 \def\noexpand\@currenline{\on@line}%
893 \reserved@a
894 \endpfalse
895 \color@setgroup
896 \ignorespaces}
897 \let\LWR@endglrbox\LWR@endlrbox

```

## 27.10 Converting a macro name to a cs name

\macro{csname} {⟨macro name with backslash⟩}

Results in the macro name without the leading backslash.

Ref: <https://tex.stackexchange.com/questions/42318/removing-a-backslash-from-a-character-sequence>

```

898 \newcommand*{\macro{csname}}[1]{%
899 \ifcat\relax\noexpand#1%
900 \expandafter\expandafter\expandafter\@gobble\expandafter\string
901 \fi
902 #1%
903 }

```

## 27.11 Title case

```
\LWRtexttitlecase

904 \ExplSyntaxOn
905 \newcommand*\LWRtexttitlecase[1]{%
906 \text_titlecase:n{#1}%
907 }
908 \ExplSyntaxOff
```

## 27.12 LetLtxMacros

```
\LWR@LetLtxMacros {⟨newcsname⟩} {⟨oldcsname⟩}

\LetLtxMacro with cs names.
```

```
909 \newcommand*\LWR@LetLtxMacros[2]{%
910 \expandafter\LetLtxMacro\csname #1\expandafter\endcsname%
911 \csname#2\endcsname%
912 }
```

## 27.13 Absorbing a star

```
\LWR@absorbstar {⟨csname⟩}
```

Modifies a macro to absorb a star. Used for `cleveref`, since `hyperref` is emulated, so the starred macros are not created by `cleveref`.

```
913 \newcommand*\LWR@absorbstar[1]{%
914 \LWR@LetLtxMacros{\LWR@origns@#1}{#1}%
915 \csdef{#1}{\@ifstar{\csuse{\LWR@origns@#1}}{\csuse{\LWR@origns@#1}}}
916 \expandafter\robustify\csname #1\endcsname
917 }
```

# 28 Operating-System portability

|                 |                                                                                                                                                                                                                        |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prog Unix       | lwarp tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as “UNIX” in the configuration files), and MS-WINDOWS is supported as well.                 |
| Prog Mac OS     |                                                                                                                                                                                                                        |
| Prog Linux      |                                                                                                                                                                                                                        |
| Prog MS-Windows | If MS-WINDOWS is not correctly detected, use the <code>lwarp</code> option <code>OSWindows</code> .                                                                                                                    |
| Prog Windows    |                                                                                                                                                                                                                        |
| Opt OSWindows   | When detected or specified, the operating-system path separator used by <code>lwarp</code> is modified, and the boolean <code>usingOSWindows</code> is set true. This boolean may be tested by the user for later use. |

## 28.1 Literal characters

Literal characters to be used in `PrintLatexCmd` and `HTMLLatexCmd`. These are defined without @ to easily allow their inclusion in the user's document.

The literal % character:

```
918 \let\LWRpercent\@percentchar
```

The literal \$ character:

```
919 \catcode`\$=12
920 \def\LWRdollar{\$}
921 \catcode`\$=3
```

The literal & character:

```
922 \catcode`\&=12
923 \def\LWRamp{\&}
924 \catcode`\&=4
```

The literal \ character. The ampersand is temporarily set to the escape character during the definition of the backslash macro.

```
925 \catcode`\&=0
926 &\catcode`\&=12
927 &\def\LWRbackslash{\}
928 &\catcode`\&=0
929 \catcode`\&=4
```

The literal { character. The ampersand is temporarily set to the begin group character during the definition of the leftbrace macro.

```
930 \catcode`\&=1
931 \catcode`\{=12
932 \def\LWRleftbrace{\{
933 \catcode`\{=1
934 \catcode`\&=4
```

The literal } character. The ampersand is temporarily set to the end group character during the definition of the leftbrace macro.

```
935 \catcode`\&=2
936 \catcode`\}=12
937 \def\LWRrightbrace{\}&
938 \catcode`\}=2
939 \catcode`\&=4
```

The literal # character:

```
940 \catcode`\#=12
941 \def\LWRhash{\#}
942 \catcode`\#=6
```

\LWRopquote The operating system's quote mark, UNIX default. For WINDOWS, see \LWR@setOSWindows, below.

```
943 \def\LWRopquote{'}
```

\LWRopseq The operating system's sequential execution command, UNIX default. For WINDOWS, see \LWR@setOSWindows, below.

```
944 \def\LWRopseq{\space\LWRamp\LWRamp\space\space}
```

## 28.2 Common portability code

Bool usingOSWindows Set if the OSWindows option is used, or if WINDOWS is automatically detected.

```
945 \newbool{usingOSWindows}
946 \boolfalse{usingOSWindows}
```

## 28.3 UNIX, LINUX, and MAC OS

\OSPathSymbol Symbol used to separate directories in a path.

```
947 \newcommand*{\OSPathSymbol}{/}
```

## 28.4 MS-WINDOWS

For MS-WINDOWS:

\LWR@setOSWindows Set defaults for the MS-WINDOWS operating system. **lwarp** attempts to auto-detect the operating system, and the OSWindows option may also be used to force MS-WINDOWS compatibility.

```
948 \newcommand*{\LWR@setOSWindows}
949 {
950 \booltrue{usingOSWindows}
951 \renewcommand*{\OSPathSymbol}{\backslash}
952 \def\LWRopquote{"}
953 \def\LWRopseq{\space\LWRamp\space\space}
954 }
```

Test for windows during compile. The user may also specify OSWindows package option in case this test fails.

```
955 \ifwindows
956 \LWR@setOSWindows
957 \fi
```

## 29 Package options

Pkg kvoptions Allows key/value package options.

```
958 \RequirePackage{kvoptions}
959 \SetupKeyvalOptions{family=LWR,prefix=LWR@}
```

\l warpsetup A user interface to set the keys:

```
960 \newcommand{\l warpsetup}[1]{\setkeys{LWR}{#1}}
```

Bool warpingprint

Bool warpingHTML

Bool mathjax

Bool LWR@origmathjax

Set to true/false depending on the package option selections for print/HTML/EPUB output and mathsvg/mathjax.

LWR@origmathjax remembers the original setting to be restored by \displaymathnormal.

```
961 \newbool{warpingprint}
962 \newbool{warpingHTML}
963 \newbool{mathjax}
964 \newbool{LWR@origmathjax}
```

**defaults** The default is print output, and SVG math if the user chose HTML output.

```
965 \booltrue{warpingprint}%
966 \boolfalse{warpingHTML}%
967 \boolfalse{mathjax}%
```

Opt warpprint If the warpprint option is given, boolean warpingprint is true and boolean warpingHTML is false, and may be used for \ifbool tests.

```
968 \DeclareVoidOption{warpprint}{%
969 \PackageInfo{l warp}{Using option 'warpprint'}%
970 \booltrue{warpingprint}%
971 \boolfalse{warpingHTML}%
972 }
```

Opt warpHTML Anything in the warpHTML environment will be generated for HTML output only.

Opt warpHTML If the warpHTML option is given, boolean warpingHTML is true and boolean warpingprint is false, and may be used for \ifbool tests.

```
973 \DeclareVoidOption{warpHTML}{%
974 \PackageInfo{l warp}{Using option 'warpHTML'}%
975 \booltrue{warpingHTML}%
976 \boolfalse{warpingprint}%
977 }
```

Opt mathsvg Option mathsvg selects SVG math display: If the mathsvg option is given, boolean mathjax is false, and may be used for \ifbool tests.

---

```

978 \DeclareVoidOption{mathsvg}{%
979 \PackageInfo{lwarf}{Using option 'mathsvg'}%
980 \boolfalse{mathjax}%
981 \boolfalse{LWR@origmathjax}%
982 }

```

**Opt** `mathjax` Option `mathjax` selects MATHJAX math display: If the `mathjax` option is given, boolean `mathjax` is true, may be used for `\ifbool` tests.

```

983 \DeclareVoidOption{mathjax}{%
984 \PackageInfo{lwarf}{Using option 'mathjax'}%
985 \booltrue{mathjax}%
986 \booltrue{LWR@origmathjax}%
987 }

```

**Opt** `BaseJobname` Option `BaseJobname` sets the `\BaseJobname` for this document.

**Default:** `\jobname`

This is the `\jobname` of the printed version, even if currently compiling the `HTML` version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.

```
988 \DeclareStringOption[\jobname]{BaseJobname}
```

**Opt** `ImagesDirectory` Option `ImagesDirectory` sets the name of the directory to use for the `lateximage` images.

**Default:** `\jobname-images`

```
989 \DeclareStringOption[\BaseJobname-images]{ImagesDirectory}
```

**Opt** `ImagesName` Option `ImagesName` sets the prefix to use for the `lateximage` images.

**Default:** `image-`

```
990 \DeclareStringOption[image-]{ImagesName}
```

**Opt** `makeindexStyle` Selects a custom `.ist` file. A customized file should be based on `lwarf.ist`. See section 8.6.20.

**Default:** `lwarf.ist`

```
991 \DeclareStringOption[lwarf.ist]{makeindexStyle}
```

**Opt** `xindyStyle` Selects a custom `.xdy` file. A customized file should be based on `lwarf.xdy`. See section 8.6.21.

**Default:** `lwarf.xdy`

```
992 \DeclareStringOption[lwarf.xdy]{xindyStyle}
```

**Opt** `xindyLanguage` Sets the `xindy` language to be assigned in `lwarpmk`'s configuration files. This is then used by `lwarpmk` while processing the index and glossary.

**Default:** `english`

```
993 \DeclareStringOption[english]{xindyLanguage}
```

**Opt** `xindyCodepage` Sets the `xindy` codepage to be assigned in `lwarpmk`'s configuration files. This is then used by `lwarpmk` while processing the index.

**Default:** `utf8`

```
994 \DeclareStringOption[utf8]{xindyCodepage}
```

Opt `xindexConfig` Selects a custom `xindex-*.lua` file. A customized file should be based on `xindex-cfg.lua`.  
 Default: <empty> See section [8.6.22](#).

```
995 \DeclareStringOption[]{xindexConfig}
```

Opt `pdftotextEnc` The option `pdftotextEnc` sets the encoding used by `pdftotext`. This is passed to `pdftotext` using its `-enc` option, and is used when converting L<sup>A</sup>T<sub>E</sub>X PDF output with HTML tags into a plain-text file with HTML tags.

```
996 \DeclareStringOption[UTF-8]{pdftotextEnc}
```

Opt `lwarpmk` Tells `lwarp` to generate a local copy of `lwarpmk` called `lwarpmk.lua`. Useful for archiving for future use. This file may be made executable and acts just like `lwarpmk`.

If `lwarpmk` option, creates a local copy of `lwarpmk.lua`:

```
997 \newbool{LWR@creatinglwarpmk}
998 \boolfalse{LWR@creatinglwarpmk}
999
1000 \DeclareVoidOption{lwarpmk}{
1001 \PackageInfo{lwarp}{Using option 'lwarpmk'}
1002 \booltrue{LWR@creatinglwarpmk}
1003 }
```

Opt `OSWindows` Tells `lwarp` to use MS-Windows compatibility. Auto-detection of the operating system is attempted, and this option is only necessary if the auto-detection fails. See the automatically-generated `lwarpmk.conf` file to find out whether the operating system was detected correctly.

```
1004 \DeclareVoidOption{OSWindows}{
1005 \PackageInfo{lwarp}{Using option 'OSWindows'}
1006 \LWR@setOSWindows
1007 }
```

Opt `HomeHTMLFilename` The filename of the homepage. The default is the jobname. This option is stored into `\LWR@HomeHTMLFilename`, and later transferred into `\HomeHTMLFilename` for internal use.  
 Default: `\BaseJobname`

```
1008 \DeclareStringOption[]{HomeHTMLFilename}
```

Opt `HTMLFilename` The filename prefix of web pages after the homepage. The default is empty, no prefix. This option is stored into `\LWR@HTMLFilename`, and later transferred into `\HTMLFilename` for internal use.  
 Default: <empty>

```
1009 \DeclareStringOption[]{HTMLFilename}
```

Opt `PrintLatexCmd` The shell commands to use to compile the print document.  
 Default: `<automatic>`

```
1010 \DeclareStringOption[]{PrintLatexCmd}
```

Opt `HTMLLatexCmd` The shell commands to use to compile the HTML document.  
 Default: `<automatic>`

```
1011 \DeclareStringOption[]{HTMLLatexCmd}
```

- Opt `PrintIndexCmd` The shell commands to use to compile the print indexes.  
 Default: <empty>  
 1012 \DeclareStringOption[]{}{PrintIndexCmd}
- Opt `HTMLIndexCmd` The shell commands to use to compile the HTML indexes.  
 Default: <empty>  
 1013 \DeclareStringOption[]{}{HTMLIndexCmd}
- Opt `LatexmkIndexCmd` The shell commands to be used by *latexmk* to compile the print indexes. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include the filename, which will be provided by *latexmk*.  
 Default: <empty>  
 1014 \DeclareStringOption[]{}{LatexmkIndexCmd}
- Opt `makeindex` Tells **lwarf** to use *makeindex* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *makeindex* with a single index file.  
 1015 \DeclareBoolOption[false]{makeindex}
- Opt `xindy` Tells **lwarf** to use *xindy* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *xindy* with a single index file.  
 1016 \DeclareBoolOption[false]{xindy}
- Opt `xindex` Tells **lwarf** to use *xindex* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *xindex* with a single index file.  
 1017 \DeclareBoolOption[false]{xindex}
- Opt `IndexRef` Tells **lwarf** how to display the index entries in `HTMLoutput`. See section 7.5.  
 Default: `cref`  
 1018 \DeclareStringOption[cref]{IndexRef}
- Opt `GlossaryCmd` The shell command to use to compile the glossary. The print or HTML version of the glossary filename will be appended to this command.  
 Default: `makeglossaries`  
 1019 \DeclareStringOption[makeglossaries]{GlossaryCmd}
- Opt `latexmk` Option `latexmk` tells *lwarpmk* to use *latexmk* when compiling documents.  
 1020 \DeclareBoolOption[false]{latexmk}
- Opt `dvips` Option `dvips` tells *lwarpmk* to use *dvips* when compiling DVI *latex* documents.  
 1021 \DeclareBoolOption[false]{dvips}
- Opt `dvipdfm` Option `dvipdfm` tells *lwarpmk* to use *dvipdfm* when compiling DVI *latex* documents.  
 1022 \DeclareBoolOption[false]{dvipdfm}

Opt dvipdfmx Option `dvipdfmx` tells *lwarfmk* to use `dvipdfmx` when compiling DVI *latex* documents.

```
1023 \DeclareBoolOption[false]{dvipdfmx}
```

**Execute options** Execute the package options, with the defaults which have been set just above:

```
1024 \ProcessKeyvalOptions*\relax
```

## 29.1 Additional options support

Assign the `\BaseJobname` if the user hasn't provided one:

```
1025 \providecommand*\BaseJobname{\LWR@BaseJobname}
```

Defaults unless already over-ridden by the user:

```
1026 \ifcsempty{\LWR@HomeHTMLFilename}{%
1027 \newcommand*\HomeHTMLFilename{\BaseJobname}%
1028 }{%
1029 \csedef{HomeHTMLFilename}{\LWR@HomeHTMLFilename}%
1030 }%
1031 \csedef{HTMLFilename}{\LWR@HTMLFilename}
```

Special handling for underscores in labels and filenames.

`\LWR@sanitized` The sanitized version of what was given to `\LWR@sanitize`. Characters are set to their detokenized versions. Required for underscores in labels and filenames.

```
1033 \newcommand*\LWR@sanitized{}
```

`\LWR@sanitize {<text>}`

Sanitizes the text and returns the result in `\LWR@sanitized`.

```
1034 \newcommand*\LWR@sanitize[1]{%
1035 \edef\LWR@sanitized{\#1}%
1036 \edef\LWR@sanitized{\detokenize\expandafter{\LWR@sanitized}}%
1037 }
```

Sanitize some string options to neutralize underscores.

```
1038 \LWR@sanitize{\LWR@BaseJobname}
1039 \edef\LWR@BaseJobname{\LWR@sanitized}
1040
1041 \LWR@sanitize{\LWR@ImagesDirectory}
1042 \edef\LWR@ImagesDirectory{\LWR@sanitized}
1043
1044 \LWR@sanitize{\LWR@ImagesName}
1045 \edef\LWR@ImagesName{\LWR@sanitized}
```

\LWR@PrintIndexCmd and \LWR@HTMLIndexCmd are tested to see if they are empty. If so, they are set to a reasonable defaults for a single index using *makeindex*, then possibly set to defaults for *xindy* if the l warp xindy option was selected, then likewise for *xindex* if the xindex option was selected.

```
1046 \ifdefempty{\LWR@PrintIndexCmd}{%
1047 \renewcommand{\LWR@PrintIndexCmd}{%
1048 makeindex -s \LWR@makeindexStyle \space \jobname.idx%
1049 }
1050 \ifbool{LWR@xindy}{%
1051 \renewcommand{\LWR@PrintIndexCmd}{%
1052 xindy
1053 -M \LWR@xindyStyle \space
1054 -L \LWR@xindyLanguage \space
1055 -C \LWR@xindyCodepage \space
1056 \jobname.idx%
1057 }
1058 }{}
1059 \ifbool{LWR@xindex}{%
1060 \ifdefvoid{\LWR@xindexConfig}{%
1061 \renewcommand{\LWR@PrintIndexCmd}{%
1062 xindex
1063 \jobname.idx%
1064 }
1065 }{
1066 \renewcommand{\LWR@PrintIndexCmd}{%
1067 xindex
1068 -c \LWR@xindexConfig \space
1069 \jobname.idx%
1070 }
1071 }{}
1072 }{}
1073 }{}
1074
1075 \ifdefempty{\LWR@HTMLIndexCmd}{%
1076 \renewcommand{\LWR@HTMLIndexCmd}{%
1077 makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%
1078 }
1079 \ifbool{LWR@xindy}{%
1080 \renewcommand{\LWR@HTMLIndexCmd}{%
1081 xindy
1082 -M \LWR@xindyStyle \space
1083 -L \LWR@xindyLanguage \space
1084 -C \LWR@xindyCodepage \space
1085 \jobname_html.idx%
1086 }
1087 }{}
1088 \ifbool{LWR@xindex}{%
1089 \ifdefvoid{\LWR@xindexConfig}{%
1090 \renewcommand{\LWR@HTMLIndexCmd}{%
1091 xindex
1092 \jobname_html.idx%
1093 }
1094 }{
1095 \renewcommand{\LWR@HTMLIndexCmd}{%
```

```

1096 xindex
1097 -c \LWR@xindexConfig \space
1098 \jobname_html.idx%
1099 }
1100 }
1101 }()
1102 }()
1103
1104 \ifdefempty{\LWR@LatexmkIndexCmd}{%
1105 \renewcommand{\LWR@LatexmkIndexCmd}{%
1106 makeindex -s \LWR@makeindexStyle%
1107 }
1108 \ifbool{\LWR@xindy}{%
1109 \renewcommand{\LWR@LatexmkIndexCmd}{%
1110 xindy
1111 -M \LWR@xindyStyle \space
1112 -L \LWR@xindyLanguage \space
1113 -C \LWR@xindyCodepage%
1114 }
1115 }()
1116 \ifbool{\LWR@xindex}{%
1117 \ifdefvoid{\LWR@xindexConfig}{%
1118 \renewcommand{\LWR@LatexmkIndexCmd}{%
1119 xindex
1120 }
1121 }()
1122 \renewcommand{\LWR@LatexmkIndexCmd}{%
1123 xindex
1124 -c \LWR@xindexConfig
1125 }
1126 }()
1127 }()
1128 }()

```

## 29.2 Conditional compilation

\warpprintonly {\langle contents\rangle}

Only process the contents if producing printed output.

```
1129 \newcommand{\warpprintonly}[1]{\ifbool{warpingprint}{#1}{}}
```

\warpHTMLonly {\langle contents\rangle}

Only process the contents if producing HTML output.

```
1130 \newcommand{\warpHTMLonly}[1]{\ifbool{warpingHTML}{#1}{}}
```

Pkg comment Provides conditional code blocks.

Attempts to use **versions** or **verbatim** fail in some cases, and do not provide much of a speed benefit even when they do work.

```

1131 \RequirePackage{comment}

\LWR@includecomment {\langle env name\rangle} {\langle partial filename\rangle}

\LWR@excludecomment {\langle env name\rangle} {\langle partial filename\rangle}

```

Use many **comment** cut files to avoid collision in case the user uses the **comment** package. Each filename is “comment\_\#2.cut”. Based on the **comment** package.

```

1132 \def\LWR@includecomment
1133 #1#2{\message{Lwarp: Including comment '#1'}%
1134 \csarg\def{After#1Comment}{%
1135 \CloseAndInputCutFile%
1136 \csundef{LWR@#1commentused}%
1137 }%
1138 \csarg\def{#1}{%
1139 \endgroup%
1140 \ifcsdef{LWR@#1commentused}{%
1141 \PackageError{lwarp}%
1142 {Nested #1 environment}%
1143 {%
1144 Environment #1 cannot be nested.\MessageBreak
1145 This can happen when a package is loaded
1146 from inside a\MessageBreak
1147 #1 environment.%%
1148 }%
1149 }{\relax}%
1150 \csdef{LWR@#1commentused}{}%
1151 \message{Including '#1' comment.}%
1152 \def\CommentCutFile{comment_\#2.cut}%
1153 \SetUpCutFile%
1154 \ProcessComment{#1}%
1155 }%
1156 \CommentEndDef{#1}%
1157 }%
1158
1159 \def\LWR@excludecomment
1160 #1#2{\message{Lwarp: Excluding comment '#1'}%
1161 \csarg\def{#1}{%
1162 \endgroup%
1163 \message{Excluding '#1' comment.}%
1164 \begin{group}%
1165 \def\CommentCutFile{comment_\#2.cut}%
1166 \def\ProcessCutFile{}%
1167 \def\ThisComment####1{}%
1168 \ProcessComment{#1}%
1169 }%
1170 \csarg\def{After#1Comment}{\CloseAndInputCutFile \endgroup}%
1171 \CommentEndDef{#1}%

```

**Env** warpall Anything in the warpall environment will be generated for print or HTML outputs.

```
1172 \LWR@includecomment{warpall}{all}
```

Env warpHTML For HTML output:

```
1173 \ifbool{warpingHTML}{\LWR@includecomment{warpHTML}{html}}{\LWR@excludecomment{warpHTML}{html}}
```

Env warpprint Anything in the warpprint environment will be generated for print output only.

```
1176 \ifbool{warpingprint}{\LWR@includecomment{warpprint}{print}}{\LWR@excludecomment{warpprint}{print}}
```

Env warpMathJax Only if MATHJAX is being used along with HTML.

```
1179 \begin{warpprint}
1180 \LWR@excludecomment{warpMathJax}{mathjax}
1181 \end{warpprint}
1182
1183 \begin{warpHTML}
1184 \ifbool{mathjax}{\LWR@includecomment{warpMathJax}{mathjax}}{\LWR@excludecomment{warpMathJax}{mathjax}}
1187 \end{warpHTML}
```

Env LWRcreatelwarpmk Optionally generate a local copy of *lwarpmk*. Default to no.

```
1188 \ifbool{LWR@creatinglwarpmk}{\LWR@includecomment{LWRcreatelwarpmk}{lwarpmk}}{\LWR@excludecomment{LWRcreatelwarpmk}{lwarpmk}}
```

## 30 Required packages

These packages are automatically loaded by **l warp** when generating HTML output. Some of them are also automatically loaded when generating print output, but some are not.

**for HTML output:** 1191 \begin{warpHTML}

Pkg fontspec Load **fontspec** if necessary:

```
1192 \ifxetexorluatex
1193 \@ifpackageloaded{fontspec}{}{\usepackage[no-math]{fontspec}}
1195 }
```

The monospaced font is used for HTML tags, so turn off its TeX ligatures and common ligatures:

```
1196 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
1197 \defaultfontfeatures[\sfamily]{Ligatures={NoCommon,TeX}}
1198 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
1199 \else
```

*pdflatex* only: Only pre-loaded if *pdflatex* is being used.

Pkg `microtype`

**ligatures** Older browsers don't display ligatures. Turn off letter ligatures, keeping L<sup>A</sup>T<sub>E</sub>X dash and quote ligatures, which may fail on older browsers but at least won't corrupt written words.

```

1200 \RequirePackage {microtype}
1201
1202 \microtypesetup{
1203 protrusion=false,
1204 expansion=false,
1205 tracking=false,
1206 kerning=false,
1207 spacing=false}
1208 % \begin{macrocode}
1209 %
1210 % Disable ligatures for typewriter fonts.
1211 % The comma was causing issues with \brand{MathJax} and \cs{,} followed by a comma.
1212 % Ligatures for f, q, t, etc used to be disabled for non-typewriter fonts, but
1213 % are now allowed.
1214 % \changes{v0.89}{2020/08/01}{Disable typewriter ligatures.}
1215 % ^^A \DisableLigatures[{},f,q,t,T,Q]{encoding = *,family = *}% previous
1216 % \begin{macrocode}
1217 \DisableLigatures{encoding = *,family = tt*}

1218 \fi

1219 \end{warpHTML}
```

Pkg `geometry` Tactics to avoid unwanted page breaks and margin overflow:

- Uses a very long and wide page to minimize page breaks and margin overflow.
- Uses a scriptsize font.
- Uses extra space at the margin to avoid HTML tag overflow off the page.
- Forces a new PDF page before some environments.
- Forces line break between major pieces of long tags.

**for HTML output:** 1220 \begin{warpHTML}

If `geometry` has not yet been loaded, use the preexisting page and text sizes to be preserved for later reuse. These will be replaced by `lwarp \AtBeginDocument` with a very large page size to reduce HTML tag overflow off the page.

```

1221 \@ifpackageloaded{geometry}
1222 {}{
1223 \RequirePackage[
1224 reset,
1225 paperwidth=\paperwidth,
1226 paperheight=\paperheight,
```

---

```

1227 textwidth=\textwidth,
1228 textheight=\textheight,
1229 left=\oddsidemargin,
1230 top=\topmargin,
1231 marginparsep=\marginparsep,
1232 marginparwidth=\marginparwidth,
1233]{geometry}
1234 }
```

Remember the original definitions for later reuse. If the **geometry** package is loaded by the user, **lwarp-geometry** will nullify the user-level originals.

```

1235 \LetLtxMacro{\LWR@origgeometry}{\geometry}
1236 \LetLtxMacro{\LWR@orignewgeometry}{\newgeometry}
1237 \LetLtxMacro{\LWR@origrestoregeometry}{\restoregeometry}
1238 \LetLtxMacro{\LWR@origsavegeometry}{\savegeometry}
1239 \LetLtxMacro{\LWR@origloadgeometry}{\loadgeometry}
```

**Bool** **geometry** may be loaded by the user before **lwarp**, after **lwarp**, or not at all. If before **lwarp**, it will have already been loaded by now and its page layout has already been saved. If **geometry** is loaded after **lwarp**, its layout will be set at that time and the user macros nullified. **\AtEndPreamble** this layout will be saved. If the user never loads **geometry**, **lwarp-geometry** will be loaded **\AtBeginDocument**, but it should not change the page layout set here. This is controlled by the boolean **LWR@allowanothergeometry**. Geometry may be adjusted throughout the preamble until **\AtEndPreamble**, when this boolean is set false.

```

1240 \newbool{LWR@allowanothergeometry}
1241 \booltrue{LWR@allowanothergeometry}
```

Use **\AtEndPreamble** to avoid class and option conflict by changing settings after other packages load, instead of using **geometry** package options:

```
1242 \AtEndPreamble{
```

Whatever geometry choices the user has made in the preamble, either before or after **lwarp** was loaded, are now saved for possible temporary reuse, such as by **lyluatex**.

See the **lwarp-geometry** section for what happens if **geometry** is loaded after **lwarp**.

```
1243 \LWR@origsavegeometry{LWR@usergeometry}
```

The user's paper size is saved for later reuse, such as by the **pdffpages** or **parallel** packages.

```

1244 \newlength{\LWR@userspaperwidth}
1245 \setlength{\LWR@userspaperwidth}{\paperwidth}
1246
1247 \newlength{\LWR@userspaperheight}
1248 \setlength{\LWR@userspaperheight}{\paperheight}
1249
1250 \newlength{\LWR@usersmarginparwidth}
1251 \setlength{\LWR@usersmarginparwidth}{\marginparwidth}
1252
```

```

1253 \newlength{\LWR@userstextwidth}
1254 \setlength{\LWR@userstextwidth}{\textwidth}
1255
1256 \newlength{\LWR@userstextheight}
1257 \setlength{\LWR@userstextwidth}{\textheight}

```

For `lwarp`, use a very large page and margins to help avoid letting HTML tags run off the edge:

```

1258 \LWR@origgeometry{
1259 reset,
1260 paperheight=190in,
1261 paperwidth=20in,
1262 left=2in,
1263 right=6in,
1264 top=1in,
1265 bottom=1in,
1266 heightrounded,%

1267 }

```

The `lwarp` page geometry is saved for future restore:

```
1268 \LWR@origsavegeometry{\LWR@lwarpgeometry}
```

No longer adjust the page layout when `lwarp-geometry` is loaded `\AtBeginDocument`:

```
1269 \boolfalse{\LWR@allowanothergometry}%
```

`ltjsbook` and other classes can print vertically, and require these to be reset by `lwarp`:

```

1270 \setlength{\textheight}{0.8\paperheight}
1271 \setlength{\textwidth}{0.7\paperwidth}
1272
1273 \@twosidefalse
1274 \@mparswitchfalse
1275 }% \AtEndPreamble
1276
1277 \end{warpHTML}

```

**for HTML & PRINT:** 1278 `\begin{warpall}`

Pkg xparse

LaTeX3 command argument parsing

```
1279 \RequirePackage{xparse}
```

Pkg calc

```
1280 \RequirePackage{calc}
```

```
1281 \end{warpall}
```

**for HTML output:** 1282 `\begin{warpHTML}`

Pkg expl3

L<sup>A</sup>T<sub>E</sub>X3 programming

1283 \RequirePackage{expl3}

Pkg gettitlestring

Used to emulate \nameref.

1284 \RequirePackage{gettitlestring}

Pkg everyhook

**everyhook** is used to patch paragraph handling.

1285 \@ifundefined{bxjs@everypar}{}{\let\everypar\bxjs@everypar}

1286

1287 \RequirePackage{everyhook}

1288 \end{warpHTML}

**for HTML & PRINT:** 1289 \begin{warpall}

Pkg filecontents

Used to write helper files while creating the print version.

Recent versions of L<sup>A</sup>T<sub>E</sub>X (as of Fall 2019) now include the functionality of the **filecontents** package, but with a new optional argument used to specify whether to force the overwriting of an existing file. If an older L<sup>A</sup>T<sub>E</sub>X kernel is used, the original **filecontents** package is used, but it is patched to throw away the new optional argument.

1290 \@ifundefined{filec@ntents@opt}{% older kernel, discard optional args  
1291  
1292 \RequirePackage{filecontents}  
1293  
1294 \LetLtxMacro{\LWR@orig@filec@ntents}{filec@ntents}  
1295  
1296 \@ifpackagelater{filecontents}{2011/10/08}  
1297 {

For a newer version of the **filecontents** package, simply discard the optional argument.

1298 \renewcommand\*{\filec@ntents}[1][]{\LWR@orig@filec@ntents}  
1299 }  
1300 {% patch older package for morewrites

For an older version of **filecontents**, discard the optional argument, and also patch to work with **morewrites**, per <https://tex.stackexchange.com/questions/312830/does-morewrites-not-support-filecontents-and-can-i-write-body-of-environment-us/312910>

1301 \newwrite\fcwrite  
1302 \renewcommand\*{\filec@ntents}[1][]{%

```

1303 \def\chardef##1\write{\let\reserved@c\fcwrite}%
1304 \LWR@orig@filec@ntents%
1305 }
1306 }
1307
1308 }% older kernel
1309 {% newer kernel

```

For a newer kernel with a `filecontents` environment which accepts the optional `overwrite` argument, use the environment as-is.

```

1310 }% newer kernel, filecontents env accepts optional args, do not load package
1311 \end{warpall}

```

**for HTML output:** 1312 `\begin{warpHTML}`

Pkg `xifthen`

```
1313 \RequirePackage{xifthen}
```

Pkg `verbatim`

```
1314 \RequirePackage{verbatim}
```

Pkg `refcount`

Provides `\setcounterref`, `\setcounterpageref`, etc.

```
1315 \RequirePackage{refcount}
```

Pkg `newfloat`

```
1316 \RequirePackage{newfloat}
```

```
1317 \end{warpHTML}
```

**for HTML & PRINT:** 1318 `\begin{warpall}`

Pkg `xstring` There was a short-term bug in `xstring` regarding `\IfInteger` which affected `lwarp`'s index generation. The updated version is requested here.

⚠️ index

```
1319 \RequirePackage{xstring}[2019/02/01]
```

Pkg `environ` Used to encapsulate math environments for re-use in `HTML <alt>` text.

```
1320 \RequirePackage{environ}
```

```
1321 \end{warpall}
```

**for HTML output:** 1322 `\begin{warpHTML}`

Pkg printlen Used to convert lengths for image width/height options.

```
1323 \RequirePackage{printlen}
```

\LWR@printlength {*length*}

Prints a length using a locally-controlled unit and space. Rounding is used unless the length is small.

```
1324 \newrobustcmd*\{\LWR@printlength}[1]{%
1325 \begingroup%
1326 \uselengthunit{PT}%
1327 \renewcommand*\{\unitspace}{\relax}%
1328 \ifdimless{#1}{10pt}{%
1329 \printlength{#1}%
1330 }{%
1331 \rndprintlength{#1}%
1332 }%
1333 \endgroup%
1334 }
```

```
1335 \end{warpHTML}
```

**for PRINT output:** 1336 \begin{warpprint}

Pkg varwidth Used for print-mode `lateximage`.

```
1337 \RequirePackage{varwidth}
```

```
1338 \end{warpprint}
```

## 31 Loading packages

**for HTML & PRINT:** 1339 \begin{warpall}

Remember the original \RequirePackage:

```
1340 \LetLtxMacro{\LWR@origRequirePackage}{\RequirePackage}
1341 \LetLtxMacro{\LWR@origRequirePackageWithOptions}{\RequirePackageWithOptions}
```

\LWR@requirepackagenames Stores the list of required package names.

```
1342 \newcommand*\{\LWR@requirepackagenames}{}
```

\LWR@parsedrequirepackagenames Stores the parsed list of required package names after spaces are removed and `lwarp-` is prepended.

```
1343 \newcommand*\{\LWR@parsedrequirepackagenames}{}
```

\LWR@nullifycomment Remove the preexisting comment environment. Certain packages define it for their own use.

```
1344 \newcommand*{\LWR@nullifycomment}{}%
1345 \PackageInfo{lwarp}{%
1346 Nullifying the comment environment before loading \LWR@strresulttwo,}%
1347 \let\comment\relax%
1348 \let\endcomment\relax%
1349 }
```

\LWR@findword [*1: separator*] [*2: list*] [*3: index*] [*4: destination*]

Note that argument 4 is passed directly to \StrBetween.

```
1350 \newcommand*{\LWR@findword}[3][,]{%
1351 \StrBetween[#3,\numexpr#3+1]{#1#2#1}{#1}{#1}%
1352 }
```

\LWR@checkloadfilename {*filename*} Checks if this filename should be loaded after lwarp, or never at all.

The following should never be loaded:

```
1353 \newcommand*{\LWR@checkloadfilename}[1]{%
1354 \LWR@checkloadnever{#1}{ae}{cm-super, lmodern}%
1355 \LWR@checkloadnever{#1}{aecc}{cm-super, lmodern}%
1356 \LWR@checkloadnever{#1}{ae compl}{cm-super, lmodern}%
1357 \LWR@checkloadnever{#1}{alg}{algorithm2e, algorithmicx}%
1358 \LWR@checkloadnever{#1}{algorithmic}{algorithm2e, algorithmicx}%
1359 \LWR@checkloadnever{#1}{bitfield}{bytefield}%
1360 \LWR@checkloadnever{#1}{caption2}{caption}%
1361 \LWR@checkloadnever{#1}{ccaption}{caption}%
1362 \LWR@checkloadnever{#1}{colortab}{colortbl}%
1363 \LWR@checkloadnever{#1}{csvtools}{datatool}%
1364 \LWR@checkloadnever{#1}{doublespace}{setspace}%
1365 \LWR@checkloadnever{#1}{fancyheadings}{fancyhdr}%
1366 \LWR@checkloadnever{#1}{fncylab}{cleveref}%
1367 \LWR@checkloadnever{#1}{formula}{siunitx}%
1368 \LWR@checkloadnever{#1}{glossary}{glossaries}%
1369 \LWR@checkloadnever{#1}{hyper}{hyperref}%
1370 \LWR@checkloadnever{#1}{libgreek}{libertinust1math, newtx}%
1371 \LWR@checkloadnever{#1}{newthm}{ntheorem}%
1372 \LWR@checkloadnever{#1}{pdffcprot}{microtype}%
1373 \LWR@checkloadnever{#1}{picins}{floatflt, wrapfig}%
1374 \LWR@checkloadnever{#1}{rplain}{fancyhdr}%
1375 \LWR@checkloadnever{#1}{si}{siunitx}%
1376 \LWR@checkloadnever{#1}{sistyle}{siunitx}%
1377 \LWR@checkloadnever{#1}{slashbox}{diagbox}%
1378 \LWR@checkloadnever{#1}{statex}{statex2}%
1379 \LWR@checkloadnever{#1}{t1enc}{fontenc, inputenc, inputenx}%
1380 \LWR@checkloadnever{#1}{ucs}{inputenc, inputencx}%
1381 \LWR@checkloadnever{#1}{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}%
1382 \LWR@checkloadnever{#1}{bcxjkgatyp}{upLaTeX, bxjsarticle, ujarticle, utarticle}%
1383 \LWR@checkloadnever{#1}{hangul}{kotex, xetexko, luatexko}
```

The following should only be loaded before **l warp**:

```

1384 \LWR@checkloadbefore{#1}{ctex}
1385 \LWR@checkloadbefore{#1}{fontspec}
1386 \LWR@checkloadbefore{#1}{inputenc}
1387 \LWR@checkloadbefore{#1}{inputenx}
1388 \LWR@checkloadbefore{#1}{nfssext-cfr}
1389 \LWR@checkloadbefore{#1}{fontaxes}
1390 \LWR@checkloadbefore{#1}{kotex}
1391 \LWR@checkloadbefore{#1}{kpfonts}% textcomp option clash
1392 \LWR@checkloadbefore{#1}{luatexja}
1393 \LWR@checkloadbefore{#1}{luatexja-fontspec}
1394 \LWR@checkloadbefore{#1}{luatexko}
1395 \LWR@checkloadbefore{#1}{morewrites}
1396 \LWR@checkloadbefore{#1}{newclude}
1397 \LWR@checkloadbefore{#1}{newunicodechar}
1398 \LWR@checkloadbefore{#1}{plext}
1399 \LWR@checkloadbefore{#1}{xeCJK}
1400 \LWR@checkloadbefore{#1}{xetexko}
1401 \LWR@checkloadbefore{#1}{zxjatype}
1402 }

```

\LWR@lookforpackagename {*<index>*}

If **HTML**, and if this is an **l warp**-supported package name, re-direct it to the **l warp** version by renaming it **l warp-** followed by the original name.

Looks *index* deep into the list of package names, \LWR@requirepackagenames, and builds \LWR@parsedrequirepackagenames which is the modified list of names.

```
1403 \newcommand*{\LWR@lookforpackagename}[1]{%
```

Find the *index*'th package name from the list:

```
1404 \LWR@findword{\LWR@requirepackagenames}{#1}[\LWR@strresult]%
```

Remove blanks. The original name with blanks is in **LWR@strresult** and the final name with no blanks goes into **LWR@strresulttwo**.

```
1405 \StrSubstitute[100]{\LWR@strresult}{ }{}[\LWR@strresulttwo]%
```

See if the package name was found:

```

1406 \IfStrEq{\LWR@strresulttwo}{}%
1407 {}% no filename
1408 {}% yes filename was found

```

Possible adjustments before loading the package. Maybe nullify the **comment** environment if the new package will be redefining it for a new purpose.

```

1409 \ifdefstring{\LWR@strresulttwo}{easyReview}{\LWR@nullifycomment}{}%
1410 \ifdefstring{\LWR@strresulttwo}{changes}{\LWR@nullifycomment}{}%

```

If **HTML**, check if the package should be loaded before **l warp**, or never at all:

```
1411 \ifbool{warpingHTML}{\LWR@checkloadfilename{\LWR@strresulttwo}}{}%
```

If `HTML`, and if found, and if an `l warp`-equivalent name exists, use `l warp-*` instead.

```
1412 \ifboolexpr{
1413 bool{warpingHTML} and
1414 test{\IfFileExists{l warp-\LWR@strresulttwo.sty}}
1415 }%
1416 {% l warp-* file found
1417 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1418 \edef\LWR@parsedrequirepackagenames{l warp-\LWR@strresulttwo}%
1419 }{%
1420 \edef\LWR@parsedrequirepackagenames{%
1421 \LWR@parsedrequirepackagenames,l warp-\LWR@strresulttwo}%
1422 }%
1423 }%
1424 }%
1425 {%
```

Otherwise, use the current package name.

```
1426 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1427 \edef\LWR@parsedrequirepackagenames{\LWR@strresulttwo}%
1428 }{%
1429 \edef\LWR@parsedrequirepackagenames{%
1430 \LWR@parsedrequirepackagenames,\LWR@strresulttwo}%
1431 }%
1432 }%
1433 }% no l warp-* file
1434 }% yes filename
1435 }
```

`\RequirePackage` [*1: options*] {[*2: package names*] [*3: version*]}

For each of many package names in a comma-separated list, if an `l warp` version of a package exists, select it instead of the `LATEX` version.

```
1436 \RenewDocumentCommand{\RequirePackage}{o m o}{%
```

Redirect up to twenty names:<sup>17</sup>

```
1437 \renewcommand*{\LWR@requirepackagenames}{#2}%
1438 \renewcommand*{\LWR@parsedrequirepackagenames}{}%
1439 \LWR@lookforpackagename{1}%
1440 \LWR@lookforpackagename{2}%
1441 \LWR@lookforpackagename{3}%
1442 \LWR@lookforpackagename{4}%
1443 \LWR@lookforpackagename{5}%
1444 \LWR@lookforpackagename{6}%
1445 \LWR@lookforpackagename{7}%
1446 \LWR@lookforpackagename{8}%
1447 \LWR@lookforpackagename{9}%
1448 \LWR@lookforpackagename{10}%
```

---

<sup>17</sup>This was originally nine names, but then I came across a package which used twelve...

---

```

1449 \LWR@lookforpackagename{11}%
1450 \LWR@lookforpackagename{12}%
1451 \LWR@lookforpackagename{13}%
1452 \LWR@lookforpackagename{14}%
1453 \LWR@lookforpackagename{15}%
1454 \LWR@lookforpackagename{16}%
1455 \LWR@lookforpackagename{17}%
1456 \LWR@lookforpackagename{18}%
1457 \LWR@lookforpackagename{19}%
1458 \LWR@lookforpackagename{20}%

```

Error if braces are used in optional argument. This can cause an error, so tell how to avoid.

```

1459 \IfSubStr{\detokenize\expandafter{#1}}{\LWRleftbrace}%
1460 {%
1461 \PackageError{lwarf}{%
1462 You used: \MessageBreak
1463 \protect\requirepackage[#1]{#2}\MessageBreak
1464 Braces in the package options will fail with Lwarf.\MessageBreak
1465 Instead, use:\MessageBreak
1466 \protect\PassOptionsToPackage{#1}{#2}\MessageBreak
1467 \protect\requirepackage{#2}\MessageBreak
1468 near the line number given below.\MessageBreak
1469 Enter 'h' for more info%
1470 }%
1471 {%
1472 See the Lwarf manual troubleshooting index entry for\MessageBreak
1473 ‘package, options with braces’%
1474 }%
1475 }%
1476 {()} no brace

```

\RequirePackage depending on the options and version:

```

1477 \IfValueTF{#1}%
1478 {%
1479 options given
1480 \IfValueTF{#3}{%
1481 version given?
1482 {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}{#3}}%
1483 }%
1484 {%
1485 no options given
1486 \IfValueTF{#3}{%
1487 version given?
1488 {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}{#3}}%
1489 }%
1490 }%
1491 \LetLtxMacro\usepackage\RequirePackage
1492 \onlypreamble\RequirePackage
1493 \onlypreamble\usepackage
1494 \end{warpall}

```

**for HTML output:** 1493 \begin{warpHTML}

---

```
\LWR@ProvidesPackagePass {⟨pkgnname⟩} [⟨version⟩]
```

Uses the original package, including options.

```
1494 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}{%
1495 \PackageInfo{l warp}{%
1496 Using package '#1', \MessageBreak
1497 and adding l warp modifications, including options, \MessageBreak%
1498 }%
1499 \IfValueTF{#2}{%
1500 {\ProvidesPackage{l warp-#1}[#2]}%
1501 {\ProvidesPackage{l warp-#1}}%
1502 \DeclareOption*{%
1503 \PassOptionsToPackage{\CurrentOption}{#1}%
1504 }%
1505 \ProcessOptions\relax%
```

If using **catoptions**, an error occurs if a package is loaded with an option then loaded again with no options. **l warp** does this if a package is preloaded then later patched. To avoid an error while using **catoptions**, if a package has already been loaded, it is loaded again with its original options.

```
1506 @ifpackageloaded{#1}{%
1507 \edef\LWR@tempone{\csuse{opt@#1.sty}}%
1508 \IfValueTF{#2}{%
1509 {%
1510 \expandafter\LWR@origRequirePackage%
1511 \expandafter[\LWR@tempone]{#1}[#2]%
1512 }%
1513 {%
1514 \expandafter\LWR@origRequirePackage%
1515 \expandafter[\LWR@tempone]{#1}%
1516 }%
1517 }{%
1518 \IfValueTF{#2}{%
1519 {\LWR@origRequirePackage{#1}[#2]}%
1520 {\LWR@origRequirePackage{#1}}%
1521 }%
```

In some cases, the following seems to be required to avoid an “unknown option” error, such as when loading **xcolor** with options.

```
1522 \DeclareOption*{}%
1523 \ProcessOptions\relax%
1524 }
```

```
\LWR@ProvidesPackageDropA {⟨name⟩} {⟨date or -NoValue-⟩}
```

Declares the package. Factored for reuse.

```
1525 \newcommand*{\LWR@ProvidesPackageDropA}[2]{%
1526 \PackageInfo{l warp}{%
1527 Replacing package '#1' with the l warp version, \MessageBreak
1528 and discarding options, %
```

```

1529 }%
1530 \IfValueTF{#2}%
1531 {\ProvidesPackage{lwarf-#1}[#2]}%
1532 {\ProvidesPackage{lwarf-#1}}%
1533 }

```

\LWR@ProvidesPackageDropB Nullifies then processes the options.

Seems to be required when options contain curly braces, which were causing “Missing \begin{document}”.

```

1534 \newcommand*\LWR@ProvidesPackageDropB{%
1535 % \ProcessOptions\relax% original LaTeX code
1536 \let\ds@\empty% from the original \ProcessOptions
1537 \edef\@curroptions{}% lwarf modification to \ProcessOptions
1538 \@process@ptions\relax% from the original \ProcessOptions
1539 }

```

\LWR@ProvidesPackageDrop {*pkgnname*} [*version*]

Ignores the original package and uses lwarf’s version instead. Drops/discards all options.

```
1540 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{
```

Declare the package:

```
1541 \LWR@ProvidesPackageDropA{#1}{#2}
```

Ignore all options:

```
1542 \DeclareOption*{}
```

Process the options:

```

1543 \LWR@ProvidesPackageDropB
1544 }
```

```
1545 \end{warpHTML}
```

## 32 File handles

Defines file handles for writes.

**for HTML & PRINT:** 1546 \begin{warpall}

\LWR@quickfile For quick temporary use only. This is reused in several places.

```
1547 \newwrite\LWR@quickfile%
```

```
1548 \end{warpall}
```

**for HTML output:** 1549 \begin{warpHTML}

\LWR@lateximagesfile For <project>-images.txt:

```
1550 \newwrite\LWR@lateximagesfile
1551 \end{warpHTML}
```

### 33 Include a file

During HTML output, \include{<filename>} causes the following to occur:

1. lwarp creates <filename>\_html\_inc.tex whose contents are:  
`\input <filename>.tex`
2. <filename>\_html\_inc.tex is then \included instead of <filename>.tex.
3. <filename>\_html\_inc.aux is automatically generated and used by L<sup>A</sup>T<sub>E</sub>X.

**for HTML output:** 1552 \begin{warpHTML}

\@include {<filename>} Modified to load \_html\_inc files.

(Below, \clearpage caused missing text, and was changed to \newpage.)

```
1553 \def\@include#1 {%
1554 \immediate\openout\LWR@quickfile #1_html_inc.tex% lwarp
1555 \immediate\write\LWR@quickfile{\string\input{#1.tex}}% lwarp
1556 \immediate\closeout\LWR@quickfile% lwarp
1557 \LWR@maybe@orignewpage% changed from clearpage
1558 \if@files
1559 \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
1560 \fi
1561 \@tempswatru
1562 \if@partsw
1563 \@tempswafalse
1564 \edef\reserved@b{#1}%
1565 \for\reserved@a:=\partlist\do
1566 {\ifx\reserved@a\reserved@b\@tempswatru\fi}%
1567 \fi
1568 \if@tempswa
1569 \let\@auxout\@partaux
1570 \if@files
1571 \immediate\openout\@partaux #1_html_inc.aux % changed
1572 \immediate\write\@partaux{\relax}%
1573 \fi
1574 \input{#1_html_inc.tex}% changed
1575 \LWR@maybe@orignewpage% changed from clearpage
1576 \writeckpt{#1}%
1577 \if@files
```

```

1578 \immediate\closeout\@partaux
1579 \fi
1580 \else
1581 \deadcycles\z@
1582 \nameuse{cp@\#1}%
1583 \fi
1584 \let\auxout\mainaux%
1585 }

1586 \end{warpHTML}

```

## 34 Copying a file

**for HTML output:** 1587 \begin{warpHTML}

```
\LWR@copyfile {<source filename>} {<destination filename>}
```

Used to copy the .toc file to .sidetoc to re-print the toc in the sidetoc navigation pane.

```

1588 \newwrite\LWR@copyoutfile % open the file to write to
1589 \newread\LWR@copyinfile % open the file to read from
1590
1591 \newcommand*\LWR@copyfile[2]{%
1592 \LWR@traceinfo{\LWR@copyfile: copying #1 to #2}
1593
1594 \immediate\openout\LWR@copyoutfile=#2
1595 \openin\LWR@copyinfile=#1
1596 \begingroup\endlinechar=-1
1597 \makeatletter
1598
1599 \LWR@traceinfo{\LWR@copyfile: about to loop}
1600
1601 \loop\unless\ifeof\LWR@copyinfile
1602 \LWR@traceinfo{\LWR@copyfile: one line}
1603 \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
1604 % \LWR@fileline\par % print the content into the pdf
1605 % print the content:
1606 \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
1607 \repeat
1608 \immediate\closeout\LWR@copyoutfile
1609 \LWR@traceinfo{\LWR@copyfile: done}
1610 \endgroup
1611 }

1612 \end{warpHTML}

```

## 35 Debugging messages

**HTML comments** To have the HTML output include additional HTML comments, such as which <div> is

closing, use

```
\booltrue{HTMLDebugComments}
```

**debugging information** To have debug information written to the log, use

```
\tracingl warp
```

**for HTML & PRINT:** 1613 \begin{warpall}

Bool LWR@tracingl warp True if tracing is turned on.

```
1614 \newbool{LWR@tracingl warp}
```

\tracingl warp Turns on the debug tracing messages.

```
1615 \newcommand{\tracingl warp}{\booltrue{LWR@tracingl warp}}
```

\LWR@traceinfo {\text} If tracing is turned on, writes the text to the .log file.

```
1616 \newcommand{\LWR@traceinfo}[1]{%
1617 \ifbool{LWR@tracingl warp}{%
1618 {%
1619 \typeout{*** l warp: #1}%
1620 }%
1621 {}}%
1622 }
```

Bool HTMLDebugComments Add comments in HTML about closing <div>s, sections, etc.

**Default:** false

```
1623 \newbool{HTMLDebugComments}
1624 \boolearn{HTMLDebugComments}
```

If \tracingl warp, show where preamble hooks occur:

```
1625 \AfterEndPreamble{%
1626 \LWR@traceinfo{AfterEndPreamble}%
1627 }%
1628 %
1629 \AtBeginDocument{%
1630 \LWR@traceinfo{AtBeginDocument}%
1631 }%
1632 \end{warpall}
```

## 36 Defining print and HTML versions of macros and environments

The following refers to defining objects inside l warp, and is not for the user's document.

Many macros and environments must be provided as both print and HTML versions.

While generating the print version of a document, the original macros as defined by L<sup>A</sup>T<sub>E</sub>X and its packages are used as-is.

While generating the HTML version of a document, the original macro or environment is redefined to call a new HTML version or a copy of the original print version. The new HTML versions of macros and environments are used most of the time. Copies of the print versions are used inside a `lateximage` environment, which draws and remembers an image of the printed output, and also several other places.

The general structure for providing print and HTML versions of a macro or environment is as follows:

**For a preexisting macro, not defined with `xparse`:** An HTML version is provided with a special name, inside a `warpHTML` environment, then `\LWR@formatted` is used to redefine and patch various macros:

```
\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}% may also use xparse

\LWR@formatted{name}
\end{warpHTML}
```

`\LWR@formatted{name}` copies the original print version, then redefines `\name` to use either the print or HTML version depending on which mode `lwarp` is using. `xparse` may be used to define the new HTML version, even if the original did not use `xparse`. `expl3` syntax may be used as well.

**For a preexisting environment, not defined with `xparse`:** The process is similar. Note the use of `\LWR@formattedsenv` instead of `\LWR@formatted`.

```
\begin{warpHTML}
\newenvironment{\LWR@HTML@name}{...}% may also use xparse

\LWR@formattedsenv{name}
\end{warpHTML}
```

**If the original used `xparse`:** A copy must be made using a new name:

```
\begin{warpHTML}
\NewDocumentCommand{\LWR@print@name}{...}{...}% copy the original

\NewDocumentCommand{\LWR@HTML@name}{...}{...}% or use \newcommand

\LWR@formatted{name}
\end{warpHTML}
```

Similar for an environment, using `\LWR@formattedsenv`. (`\LWR@formatted` and `\LWR@formattedsenv` use `\LetLtxMacro` to copy the original print definition, which may not work with macros and environments created by `xparse`, so the print version must be manually recreated in the `lwarp` source.)

**For a new macro or environment, not using `xparse` for the print version:**

```
\begin{warpall}
\newcommand{\name}{...}% NOT xparse!
\end{warpall}

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}% may use xparse for HTML

\LWR@formatted{name}
\end{warpHTML}
```

Similar for an environment. The plain `\name` or environment name is used for the printed version, and is placed inside `warpall`. `xparse` may be used for the `\LWR@HTML@<name>` version. `expl3` syntax may be used for the print and `HTML` versions.

**For a new macro or environment, using `xparse`:** It is possible to use `xparse` for an entirely new macro or environment by defining the `\LWR@print@<name>` version with `xparse`, along with `\name` defined without `xparse` to refer directly to the `\LWR@print` version:

```
\begin{warpall}
\NewDocumentCommand{\LWR@print@name}{...} {...}% -or-
\NewDocumentEnvironment{\LWR@print@name}{...} {...} {...}

% Simply a call to \LWR@print@name:
\newcommand{\name}{\LWR@print@name}% -or-
\newenvironment{name}{\LWR@print@name}{\endLWR@print@name}
\end{warpall}

\begin{warpHTML}
\NewDocumentCommand{\LWR@HTML@name}{...} {...}% -or-
\NewDocumentEnvironment{\LWR@HTML@name}{...} {...} {...}

\LWR@formatted{name}% -or-
\LWR@formattedenv{name}
\end{warpHTML}
```

In general, `\LWR@formatted` or `\LWR@formattedenv` are placed inside a `warpHTML` environment, and while producing an `HTML` document they do the following:

- Macros are modified:
  1. The pre-existing print version `\name` is saved as `\LWR@print@<name>`, unless `\LWR@print@<name>` is already defined.
  2. The original `\name` is redefined to call either the print or `HTML` version depending on which format is in use at the moment, as set by `\LWR@formatting`, which is defined as either “print” or “HTML”.
- When `lwarp` is producing a print document, the original definitions are used, as well as any new definitions defined in `warpall` above.

- When `lwarp` is generating `HTML` output, `\LWR@formatting` is set to “`HTML`”, and `\name` is directed to `\LWR@HTML@<name>`.
- When `lwarp` is generating `HTML` output but enters a `lateximage` environment, or for some other reason needs to draw images using the original print definitions, `\LWR@formatting` is changed to “`print`” and `\name` is then redirected to `\LWR@print@<name>`, which was the original `\name`.

Since arguments are not handled by the new `\name`, any star and other arguments are processed by the `print` or `HTML` version.

Expandable versions are also provided as well. These usually are necessary for anything which could appear inside a `tabular`, without which a “`Misplaced \omit`” error may occur.

```
\LWR@expandableformatted
\LWR@expandableformattedenv
```

(Older versions of `lwarp` used `\LetLtxMacro` for everything, but this could fail when using macros defined by `xparse`. This older system is still in use for many definitions.)

**for HTML output:** 1633 `\begin{warpHTML}`

`\LWR@formatting` Remembers if selected `print/HTML` formatting.

Used while `\LWR@restoreorigformatting`, such as in an `lateximage`. May be set to either “`print`” or “`HTML`”.

```
1634 \newcommand*{\LWR@formatting}{HTML}
```

`\LWR@formatted@checkname {<name>}`

```
1635 \newcommand*{\LWR@formatted@checkname}[1]{%
1636 \ifcsundef{\LWR@HTML@#1}{%
1637 \PackageError{lwarp}%
1638 {%
1639 \protect\LWR@HTML@#1 is not defined%
1640 }%
1641 {Perhaps it is misspelled.}%
1642 }{\relax}%
1643 }
```

`\LWR@formatted@checkendname {<name>}`

```
1644 \newcommand*{\LWR@formatted@checkendname}[1]{%
1645 \ifcsundef{\endLWR@HTML@#1}{%
1646 \PackageError{lwarp}%
1647 {%
1648 \protect\endLWR@HTML@#1 is not defined%
1649 }%
1650 {Perhaps it is misspelled.}%
1651 }{\relax}%
1652 }
```

---

\LWR@formatted {*macroname*} No backslash in the macro name.

If not yet defined, defines \LWR@print@<name> as the original print-mode \<name>. Also redefines <name> to use \LWR@<format>@<name>, where <format> is set by \LWR@formatting, and is print or HTML.

```

1653 \newcommand*{\LWR@formatted}[1]{%
1654 \LWR@formatted@checkname{#1}%
1655 \ifcsundef{\LWR@print@#1}{%
1656 \expandafter\LetLtxMacro\csname \LWR@print@#1\expandafter\endcsname%
1657 \csname#1\endcsname%
1658 }{%
1659 \ifcsundef{#1}{%
1660 \expandafter\newrobustcmd\csname #1\endcsname{%
1661 \nameuse{\LWR@\LWR@formatting @#1}%
1662 }%
1663 }{%
1664 \expandafter\renewrobustcmd\csname #1\endcsname{%
1665 \nameuse{\LWR@\LWR@formatting @#1}%
1666 }%
1667 }%
1668 }

```

\LWR@expandableformatted {*macroname*} No backslash in the macro name.

An expandable version of \LWR@formatted.

```

1669 \newcommand*{\LWR@expandableformatted}[1]{%
1670 \LWR@formatted@checkname{#1}%
1671 \ifcsundef{\LWR@print@#1}{%
1672 \expandafter\LetLtxMacro\csname \LWR@print@#1\expandafter\endcsname%
1673 \csname#1\endcsname%
1674 }{%
1675 \ifcsundef{#1}{%
1676 \expandafter\newcommand\csname #1\endcsname{%
1677 \nameuse{\LWR@\LWR@formatting @#1}%
1678 }%
1679 }{%
1680 \expandafter\renewcommand\csname #1\endcsname{%
1681 \nameuse{\LWR@\LWR@formatting @#1}%
1682 }%
1683 }%
1684 }

```

\LWR@formattedenv {*environmentname*}

If not yet defined, defines the environment \LWR@print@<name> as the original print-mode <name>. Also redefines the environment <name> to use environment \LWR@<format>@<name>, where <format> is set by \LWR@formatting, and is print or HTML.

```

1685 \newcommand*{\LWR@formattedenv}[1]{%
1686 \LWR@formatted@checkname{#1}%
1687 \LWR@formatted@checkendname{#1}%
1688 \ifcsundef{\LWR@print@#1}{%

```

```

1689 \expandafter\LetLtxMacro\csname LWR@print@\#1\expandafter\endcsname%
1690 \csname#1\endcsname%
1691 \csletcs{endLWR@print@#1}{end#1}%
1692 }{}%
1693 \DeclareDocumentEnvironment{#1}{}%
1694 {%
1695 \@nameuse{LWR@\LWR@formatting @#1}%
1696 }%
1697 {%
1698 \@nameuse{endLWR@\LWR@formatting @#1}%
1699 }%
1700 }

```

\LWR@expandableformattedenv {*environmentname*}

An expandable version of LWR@formattedenv.

```

1701 \newcommand*{\LWR@expandableformattedenv}[1]{%
1702 \LWR@formatted@checkname{#1}%
1703 \LWR@formatted@checkendname{#1}%
1704 \ifcsundef{LWR@print@#1}{}%
1705 \expandafter\LetLtxMacro\csname LWR@print@\#1\expandafter\endcsname%
1706 \csname#1\endcsname%
1707 \csletcs{endLWR@print@#1}{end#1}%
1708 }{}%
1709 \DeclareExpandableDocumentEnvironment{#1}{}%
1710 {%
1711 \@nameuse{LWR@\LWR@formatting @#1}%
1712 }%
1713 {%
1714 \@nameuse{endLWR@\LWR@formatting @#1}%
1715 }%
1716 }

```

1717 \end{warpHTML}

## 37 HTML-conversion output modifications

These booleans modify the HTML output in various ways to improve conversion to EPUB or word processor imports.

**for HTML & PRINT:** 1718 \begin{warpall}

### 37.1 User-level controls

**Bool FormatEPUB** Changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.  
**Default:** false

```

1719 \newbool{FormatEPUB}
1720 \boolfalse{FormatEPUB}

```

Bool FormatWP Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments.

```
1721 \newbool{FormatWP}
1722 \boolfalse{FormatWP}
```

Bool WPMarkFloats Adds  
 Default: false  
     ==== begin table ====  
     ...  
     ==== end ====  
 or  
     ==== begin figure ====  
     ...  
     ==== end ====  
 around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.<sup>18</sup>

```
1723 \newbool{WPMarkFloats}
1724 \boolfalse{WPMarkFloats}
```

Bool WPMarkMinipages Adds  
 Default: false  
     ==== begin minipage ====  
     ...  
     ==== end minipage ====  
 around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

```
1725 \newbool{WPMarkMinipages}
1726 \boolfalse{WPMarkMinipages}
```

Bool WPMarkTOC While formatting for word processors, adds  
 Default: true  
     ==== table of contents ====

where the Table of Contents would have been. This helps identify where to insert the actual TOC.

*If set false, the actual TOC is printed instead.*

```
1727 \newbool{WPMarkTOC}
1728 \booltrue{WPMarkTOC}
```

Bool WPMarkLOFT While formatting for word processors, adds  
 Default: false  
     ==== list of figures ==== and/or  
     ==== list of tables ====

---

<sup>18</sup>Perhaps some day word processors will have HTML import options for identifying <figure> and caption tags for figures and tables.

where each of these lists would have been. This helps identify where to insert the actual lists.

*If set false, the actual lists are printed instead.*

```
1729 \newbool{WPMarkLOFT}
1730 \boolefalse{WPMarkLOFT}
```

**Bool WPMarkMath** While formatting for word processors, prints math as L<sup>A</sup>T<sub>E</sub>X code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

```
1731 \newbool{WPMarkMath}
1732 \boolefalse{WPMarkMath}
```

**Bool WPTitleHeading** While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.

See table 10 on page 184.

```
1733 \newbool{WPTitleHeading}
1734 \boolefalse{WPTitleHeading}

1735 \end{warpall}
```

## 37.2 Heading adjustments

If formatting the HTML for a word processor, adjust heading levels.

If **WPTitleHeading** is true, adjust so that part is **Heading 1**.

If **WPTitleHeading** is false, use <h1> for the title, and set part to **Heading 2**.

**for HTML output:** 1736 \begin{warpHTML}

```
1737 \AtBeginDocument{
1738 \ifbool{FormatWP} {
1739 \@ifundefined{chapter} {
1740 \ifbool{WPTitleHeading}{% part and section starting at h2
1741 \renewcommand*\LWR@tagtitle}{h1}
1742 \renewcommand*\LWR@tagtitleend}{/h1}
1743 \renewcommand*\LWR@tagpart}{h2}
1744 \renewcommand*\LWR@tagpartend}{/h2}
1745 \renewcommand*\LWR@tagsection}{h3}
1746 \renewcommand*\LWR@tagsectionend}{/h3}
1747 \renewcommand*\LWR@tagsubsection}{h4}
1748 \renewcommand*\LWR@tagsubsectionend}{/h4}
1749 \renewcommand*\LWR@tagsubsubsection}{h5}
1750 \renewcommand*\LWR@tagsubsubsectionend}{/h5}
1751 \renewcommand*\LWR@tagparagraph}{h6}
1752 \renewcommand*\LWR@tagparagraphend}{/h6}
```

```

1753 \renewcommand*\{\LWR@tagsubparagraph\}{span class=\textquotedbl{}subparagraph\textquotedbl}
1754 \renewcommand*\{\LWR@tagsubparagraphend\}{/span}
1755 }% WPTitleHeading
1756 {% not WPTitleHeading, part and section starting at h1
1757 \renewcommand*\{\LWR@tagtitle\}{div class=\textquotedbl{}title\textquotedbl}
1758 \renewcommand*\{\LWR@tagtitleend\}{/div}
1759 \renewcommand*\{\LWR@tagpart\}{h1}
1760 \renewcommand*\{\LWR@tagpartend\}{/h1}
1761 \renewcommand*\{\LWR@tagsection\}{h2}
1762 \renewcommand*\{\LWR@tagsectionend\}{/h2}
1763 \renewcommand*\{\LWR@tagsubsection\}{h3}
1764 \renewcommand*\{\LWR@tagsubsectionend\}{/h3}
1765 \renewcommand*\{\LWR@tagsubsubsection\}{h4}
1766 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h4}
1767 \renewcommand*\{\LWR@tagparagraph\}{h5}
1768 \renewcommand*\{\LWR@tagparagraphend\}{/h5}
1769 \renewcommand*\{\LWR@tagsubparagraph\}{h6}
1770 \renewcommand*\{\LWR@tagsubparagraphend\}{/h6}
1771 }% not WPTitleHeading
1772 }% chapter undefined
1773 {% chapter defined
1774 \ifbool{WPTitleHeading}{}%
1775 {% not WPTitleHeading, part and chapter starting at h1
1776 \renewcommand*\{\LWR@tagtitle\}{div class=\textquotedbl{}title\textquotedbl}
1777 \renewcommand*\{\LWR@tagtitleend\}{/div}
1778 \renewcommand*\{\LWR@tagpart\}{h1}
1779 \renewcommand*\{\LWR@tagpartend\}{/h1}
1780 \renewcommand*\{\LWR@tagchapter\}{h2}
1781 \renewcommand*\{\LWR@tagchapterend\}{/h2}
1782 \renewcommand*\{\LWR@tagsection\}{h3}
1783 \renewcommand*\{\LWR@tagsectionend\}{/h3}
1784 \renewcommand*\{\LWR@tagsubsection\}{h4}
1785 \renewcommand*\{\LWR@tagsubsectionend\}{/h4}
1786 \renewcommand*\{\LWR@tagsubsubsection\}{h5}
1787 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h5}
1788 \renewcommand*\{\LWR@tagparagraph\}{h6}
1789 \renewcommand*\{\LWR@tagparagraphend\}{/h6}
1790 \renewcommand*\{\LWR@tagsubparagraph\}{span class=\textquotedbl{}subparagraph\textquotedbl}
1791 \renewcommand*\{\LWR@tagsubparagraphend\}{/span}
1792 }% not WPTitleHeading
1793 }% chapter defined
1794 }{}% FormatWP
1795 }% AtBeginDocument

1796 \end{warpHTML}

```

## 38 Remembering original formatting macros

**for HTML output:** 1797 \begin{warpHTML}

Remember original definitions of formatting commands. Will be changed to HTML commands for most uses. Will be temporarily restored to original meaning inside any `latextimage` environment. Also nullify unused commands.

Some packages redefine \#, which is used to generate HTML, so the original must be remembered here.

```
1798 \chardef\LWR@origpound='\#

1799 \let\LWR@origcomma\
1800 \let\LWR@origthinspace\thinspace
1801 \let\LWR@orignegthinspace\negthinspace
1802 \let\LWR@origtilde~
1803 \let\LWR@origenskip\enskip
1804 \let\LWR@origquad\quad
1805 \let\LWR@origqquad\qquad
1806 \let\LWR@orighfil\hfil
1807 \let\LWR@orighss\hss
1808 \let\LWR@origllap\llap
1809 \let\LWR@origrlap\rlap
1810 \let\LWR@orighfilneg\hfilneg
1811 \let\LWR@orighspace\hspace
1812
1813 \let\LWR@origrule\rule
1814
1815 \let\LWR@origmedskip\medskip
1816 \let\LWR@origbigskip\bigskip
1817
1818 \let\LWR@origtextellipsis\textellipsis

1819 \let\LWR@origvdots\vdots
```

**libertinus-otf** has too much kerning for \textquotedbl, causing an extra space.

```
1820 \LetLtxMacro{\LWR@orig@@textquotedbl}{\textquotedbl}
1821 \LetLtxMacro{\LWR@orig@textquotedbl}{\LWR@orig@@textquotedbl}
1822
1823 \AtEndPreamble{
1824 \@ifpackageloaded{libertinus-otf}{
1825 \renewcommand{\LWR@orig@textquotedbl}{\LWR@orig@@textquotedbl\kern-.15em}
1826 \LetLtxMacro{\textquotedbl}{\LWR@orig@textquotedbl}
1827 }{}}
1828 }

1829 \LetLtxMacro{\LWR@origttfamily}{\ttfamily}
1830
1831 \LetLtxMacro{\LWR@origem}{\em}
1832
1833 \LetLtxMacro{\LWR@orignormalfont}{\normalfont}
1834
1835 \let\LWR@origonecolumn\onecolumn
1836
1837 \let\LWR@origsp\sp
1838 \let\LWR@origsb\sb
1839
1840 \LetLtxMacro{\LWR@origunderline}{\underline}

1841 \let\LWR@orignewpage\newpage
```

```

1842
1843 \let\LWR@origpagestyle\pagestyle
1844 \let\LWR@origthispagestyle>thispagestyle
1845 \LetLtxMacro{\LWR@origpagenumbering}{\pagenumbering}
1846
1847 \let\LWR@orignewline\newline
1848
1849 \AtBeginDocument{%
1850 \let\LWR@orig@trivlist@\trivlist
1851 \let\LWR@origtrivlist\trivlist
1852 \let\LWR@origendtrivlist\endtrivlist
1853 \LetLtxMacro{\LWR@origitem}{\item}
1854 \LetLtxMacro{\LWR@origitemize}{\itemize}
1855 \LetLtxMacro{\LWR@endorigitemize}{\enditemize}
1856 \LetLtxMacro{\LWR@origenumerate}{\enumerate}
1857 \LetLtxMacro{\LWR@endorigenumerate}{\endenumerate}
1858 \LetLtxMacro{\LWR@origdescription}{\description}
1859 \LetLtxMacro{\LWR@endorigdescription}{\enddescription}
1860 \let\LWR@orig@mklab@\mklab
1861 \let\LWR@origmakelabel\makelabel
1862 \let\LWR@orig@donoparitem@\donoparitem
1863 \LetLtxMacro{\LWR@orig@item}{\item}
1864 \let\LWR@orig@nbitem@\nbitem
1865 }
1866
1867 \let\LWR@origpar\par
1868
1869 \LetLtxMacro{\LWR@origfootnote}{\footnote}
1870 \let\LWR@orig@mpfootnotetext@\mpfootnotetext
1871
1872
1873 \AtBeginDocument{%
1874 \LetLtxMacro{\LWR@orighline}{\hline}
1875 \LetLtxMacro{\LWR@origcline}{\cline}
1876 }

1877 \end{warpHTML}

```

## 39 Accents

Native  $\text{\LaTeX}$  accents such as  $\text{\^e}$  will work, but many more kinds of accents are available when using Unicode-aware  $\text{\XeLaTeX}$  and  $\text{\LuaLaTeX}$ . If using accents in section names which will become file names, it is recommended to use the  $\text{\LaTeX}$  accents such as  $\text{\^e}$  and  $\text{\v{e}}$  instead of Unicode accents. The  $\text{\LaTeX}$  accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

**for HTML output:** 1878  $\begin{warpHTML}$

Without  $\text{\AtBeginDocument}$ ,  $\text{\t}$  was being re-defined somewhere.

```
1879 \AtBeginDocument{
```

The following are restored for print when inside a `\teximage`.

For Unicode engines, only `\t` needs to be redefined:

```
1880 \LetLtxMacro{\LWR@origtie}{\t}
```

For pdf<sup>L</sup>T<sub>E</sub>X, additional work is required:

```
1881 \ifPDFTeX% pdflatex or dvi latex
1882 \LetLtxMacro{\LWR@origgraveaccent}{`}
1883 \LetLtxMacro{\LWR@origacuteaccent}{`}
1884 \LetLtxMacro{\LWR@origcircumflexaccent}{^}
1885 \LetLtxMacro{\LWR@origtildeaccent}{\~{}}
1886 \LetLtxMacro{\LWR@origmacronaccent}{=}
1887 \LetLtxMacro{\LWR@origbreve}{\u}
1888 \LetLtxMacro{\LWR@origdotaccent}{\cdot}
1889 \LetLtxMacro{\LWR@origdiaeresisaccent}{``}
1890 \LetLtxMacro{\LWR@origdoubleacuteaccent}{\H}
1891 \LetLtxMacro{\LWR@origcaronaccent}{\v}
1892 \LetLtxMacro{\LWR@origdotbelowaccent}{\d}
1893 \LetLtxMacro{\LWR@origcedillaaccent}{\c}
1894 \LetLtxMacro{\LWR@origmacronbelowaccent}{\b}
```

The HTML redefinitions follow.

For pdf<sup>L</sup>T<sub>E</sub>X, Unicode diacritical marks are used:

```
1895 \renewcommand*{'[1]{#1\HTMLunicode{0300}}
1896 \renewcommand*{'[1]{#1\HTMLunicode{0301}}
1897 \renewcommand*{'^}[1]{#1\HTMLunicode{0302}}
1898 \renewcommand*{'~}[1]{#1\HTMLunicode{0303}}
1899 \renewcommand*{'=}[1]{#1\HTMLunicode{0304}}
1900 \renewcommand*{'u}[1]{#1\HTMLunicode{0306}}
1901 \renewcommand*{'.}[1]{#1\HTMLunicode{0307}}
1902 \renewcommand*{'"}[1]{#1\HTMLunicode{0308}}
1903 \renewcommand*{'H}[1]{#1\HTMLunicode{030B}}
1904 \renewcommand*{'v}[1]{#1\HTMLunicode{030C}}
1905 \renewcommand*{'d}[1]{#1\HTMLunicode{0323}}
1906 \renewcommand*{'c}[1]{#1\HTMLunicode{0327}}
1907 \renewcommand*{'b}[1]{#1\HTMLunicode{0331}}
1908 \fi
```

For all engines, a Unicode diacritical tie is used:

```
1909 \def{\LWR@t#1#2}{#1\HTMLunicode{0361}#2}
1910 \renewcommand*{\t}[1]{\LWR@t#1}
```

`\LWR@restoreorigaccents` Called from `\restoreoriginalformatting` when a `\teximage` is begun.

```
1911 \ifPDFTeX% pdflatex or dvi latex
1912 \newcommand*{\LWR@restoreorigaccents}{%
1913 \LetLtxMacro{'\LWR@origgraveaccent}{`}
1914 \LetLtxMacro{'\LWR@origacuteaccent}{`}
1915 \LetLtxMacro{'\LWR@origcircumflexaccent}{^}
1916 \LetLtxMacro{'\LWR@origtildeaccent}{\~{}}
```

```

1917 \LetLtxMacro{\=}{\LWR@origmacronaccent}
1918 \LetLtxMacro{\u}{\LWR@origbreve}
1919 \LetLtxMacro{\.}{\LWR@origdotaccent}
1920 \LetLtxMacro{\\"}{\LWR@origdiaeresisaccent}
1921 \LetLtxMacro{\H}{\LWR@origdoubleacuteaccent}
1922 \LetLtxMacro{\v}{\LWR@origcaronaccent}
1923 \LetLtxMacro{\t}{\LWR@origtie}
1924 \LetLtxMacro{\d}{\LWR@origdotbelowaccent}
1925 \LetLtxMacro{\c}{\LWR@origcedillaaccent}
1926 \LetLtxMacro{\b}{\LWR@origmacronbelowaccent}
1927 }%
1928 \else% XeLaTeX, LuaLaTeX:
1929 \newcommand*{\LWR@restoreorigaccents}{%
1930 \LetLtxMacro{\t}{\LWR@origtie}%
1931 }%
1932 \fi%
1933 }% AtBeginDocument

1934 \end{warpHTML}

```

## 40 Configuration files

### 40.1 Decide whether to generate configuration files

Configuration files are only written if processing the print version of the document, and not processing a `pstool` image. `pstool` uses an additional compile for each image using the original document's preamble, which includes `lwarp`, so the `lwarp` configuration files are turned off if `-pstool` is part of the `\jobname`.

Default to no configuration files:

```
1935 \LWR@excludecomment{\LWRwriteconf}{\writeconf}
```

Generate configuration files if print mode and not `-pstool`:

```

for PRINT output: 1936 \begin{warpprint}
1937 \fullexpandarg%
1938 \IfSubStr*{\jobname}{-pstool}
1939 {
1940 \PackageInfo{lwarp}{%
1941 Jobname with -pstool is found.\MessageBreak
1942 Not generating lwarp configuration files,%
1943 }
1944 }
1945 {
1946 \PackageInfo{lwarp}{Generating lwarp configuration files,}%
1947 \LWR@includecomment{\LWRwriteconf}{\writeconf}
1948 }
1949 \end{warpprint}

```

## 40.2 <project>.html.tex

File \*\_html.tex Used to allow an HTML version of the document to exist alongside the print version.

```
Config file: 1950 \begin{LWRwriteconf}
1951 \immediate\openout\LWR@quickfile=\jobname_html.tex
1952 \immediate\write\LWR@quickfile{%
1953 \detokenize{\PassOptionsToPackage}{%
1954 {warpHTML,BaseJobname=\jobname}{l warp}}%
1955 }
1956 \immediate\write\LWR@quickfile{%
1957 \detokenize{\input}\string{\jobname.tex}\string }%
1958 }
1959 \immediate\closeout\LWR@quickfile
1960 \end{LWRwriteconf}
```

## 40.3 l warpmk configuration files

Config file: 1961 \begin{LWRwriteconf}

\LWR@lwarpcfversion The version number of the configuration file, allowing *l warpmk* to detect an obsolete configuration file format. Incremented by one each time the configuration file format changes. (This is NOT the same as the *l warp* version number.)

1962 \newcommand\*\{\LWR@lwarpcfversion\}[2]{% also in lwarpmk.lua

### 40.3.1 Helper macros

\LWR@shellescapecmd The LaTeX compile option for shell escape, if used.

```
1963 \ifshellescape
1964 \def\LWR@shellescapecmd{--shell-escape }
1965 \else
1966 \def\LWR@shellescapecmd{}
1967 \fi
```

\LWR@compilecmd {\langle engine\rangle} {\langle suffix\rangle}

Used to form the basic compilation command for a document, adding the optional shell escape.

Engine is *pdflatex*, etc. Suffix is empty or \_html

```
1968 \newcommand*\{\LWR@compilecmd\}[2]{%
1969 #1 \LWR@shellescapecmd \jobname#2%
1970 }
```

\LWR@addcompilecmd {\langle cmd\rangle} {\langle suffix\rangle}

Adds to the compilation command.

Cmd is *dvipdfmx*, etc. Suffix is empty or \_html

```
1971 \newcommand*{\LWR@addcompilecmd}[2]{%
1972 \LWRopseq
1973 #1 \jobname#2%
1974 }
```

\LWR@unknownengine Error message if not sure which L<sup>A</sup>T<sub>E</sub>X engine is being used.

```
1975 \newcommand*{\LWR@unknownengine}{%
1976 \PackageError{l warp}%
1977 {Unknown LATEX engine}%
1978 {%
1979 L warp only knows about pdflatex, DVI latex,
1980 xelatex, lualatex, and upLateX.%%
1981 }%
1982 }
```

\LWR@latexmkvar {<varname>} {<value>}

Adds a *latexmk* variable assignment.

```
1983 \newcommand*{\LWR@Latexmkvar}[2]{%
1984 -e
1985 \LWRopquote%
1986 \LWRdollar #1=q/#2/%
1987 \LWRopquote
1988 }
```

\LWR@latexmkcmd {<latextmk options>}

Sets a call to *latextmk* with the given options, possibly adding --shell-escape, and also adding the indexing program.

```
1989 \newcommand*{\LWR@Latexmkcmd}[1]{%
1990 latexmk \space \LWR@shellescapecmd \space #1 \space
1991 -recorder \space
1992 \LWR@Latexmkvar{makeindex}{\LWR@LatexmkIndexCmd}%
1993 }
```

\LWR@Latexmkdvipdfm {<*dvipdfm* or *dvipdfmx*>}

Adds the options settings for *dvipdfm* or *dvipdfmx*.

```
1994 \newcommand*{\LWR@Latexmkdvipdfm}[1]{%
1995 -pdfdvi \space
1996 \LWR@Latexmkvar{dvipdf}{%
1997 #1
1998 \@percentchar 0
1999 -o \@percentchar D
2000 \@percentchar S%
2001 }%
2002 }
```

---

\LWR@compileuplatex Sets compile options for up<sup>L</sup>TeX with **ujarticle** or related classes.

```

2003 \newcommand*{\LWR@compileuplatex}{
2004 \def\LWR@tempprintlatexcmd{%
2005 \LWR@compilecmd{uplatex}{}
2006 \LWR@addcompilecmd{dvipdfmx}{}
2007 }
2008 \def\LWR@tempHTMLlatexcmd{%
2009 \LWR@compilecmd{uplatex}{_html}
2010 \LWR@addcompilecmd{dvipdfmx}{_html}
2011 }
2012 }
```

\LWR@PrintLatexCmd If not set by the user, the following sets the command to use to compile the source to PDF form.  
 \LWR@HTMLLatexCmd

If using *latexmk*, a complicated string is created, eventually resulting in something such as:

For **xelatex** with --shell-escape:

---

```
[[latexmk -xelatex --shell-escape -recorder
-e '$makeindex = q/makeindex -s lwarf.ist/' <jobname>.html]]
```

---

For **dvipdfmx**:

---

```
[[latexmk -pdfdvi -e '$dvipdf=q/dvipdfmx %o -o %D %S/'
-recorder
-e '$makeindex=q/makeindex -s lwarf.ist/' <jobname>.html]]
```

---

For the following, temporary values are computed, but the permanent values are only set if the originals were not assigned by the user.

```
2013 \ifbool{\LWR@latexmk}{
```

For *latexmk* with **pdflatex** or **lualatex**:

```
2014 \ifpdf
```

For *latexmk* with **pdflatex**:

```

2015 \ifPDFTeX
2016 \def\LWR@latexcmd{\LWR@latexmkcmd{-pdf -dvi- -ps-}}
2017 \else
```

For *latexmk* with **lualatex**:

```

2018 \ifLuaTeX
2019 \def\LWR@latexcmd{\LWR@latexmkcmd{-lualatex}}
```

---

```

2020 \else
2021 \LWR@unknownengine
2022 \fi
2023 \fi
2024 \else% \ifpdf

```

For *latexmk* with *xelatex* or DVI *latex*:

```

2025 \ifXeTeX

```

For *latexmk* with *xelatex*:

```

2026 \def\LWR@latexcmd{\LWR@latexmkcmd{-xelatex}}
2027 \else% \ifXeTeX

```

For *latexmk* with DVI *latex*:

```

2028 \ifbool{LWR@dvipdfm}{
2029 \def\LWR@latexcmd{%
2030 \LWR@latexmkcmd{%
2031 \LWR@latexmkdvipdfm{dvipdfm}%
2032 }
2033 }
2034 }{
2035 \ifbool{LWR@dvipdfmx}{
2036 \def\LWR@latexcmd{%
2037 \LWR@latexmkcmd{%
2038 \LWR@latexmkdvipdfm{dvipdfmx}%
2039 }
2040 }
2041 }{
2042 \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}
2043 }
2044 }
2045 \fi
2046 \fi% \ifpdf

```

The final assignment if *latexmk*:

```

2047 \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
2048 \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
2049 }% latexmk

```

Without *latexmk*, the compiling command is simply the compiler name and the optional shell escape:

```

2050 {%
2051 \ifpdf

```

For *pdflatex* or *lualatex*:

```

2052 \ifPDFTeX

```

For *pdflatex*:

```

2053 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{}}
2054 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
2055 \else
2056 \ifLuaTeX

```

For *lualatex*:

```

2057 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{}}
2058 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
2059 \else
2060 \LWR@unknownengine
2061 \fi
2062 \fi
2063 \else% \ifpdf

```

For dvi *latex* or *xelatex*:

```
2064 \ifXeTeX
```

For *xelatex*:

```

2065 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}{}}
2066 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{xelatex}{_html}}
2067 \else

```

For dvi *latex*. Default to *dvips*, unless told to use *dvipdfm* or *dvipdfmx*:

```
2068 \ifbool{\LWR@dvipdfm}{%
```

For dvi *latex* with *dvipdfm*:

```

2069 \def\LWR@tempprintlatexcmd{%
2070 \LWR@compilecmd{latex}{}
2071 \LWR@addcompilecmd{dvipdfm}{}
2072 }
2073 \def\LWR@tempHTMLlatexcmd{%
2074 \LWR@compilecmd{latex}{_html}
2075 \LWR@addcompilecmd{dvipdfm}{_html}
2076 }
2077 }{
2078 \ifbool{\LWR@dvipdfmx}{%

```

For dvi *latex* with *dvipdfmx*:

```

2079 \def\LWR@tempprintlatexcmd{%
2080 \LWR@compilecmd{latex}{}
2081 \LWR@addcompilecmd{dvipdfmx}{}
2082 }
2083 \def\LWR@tempHTMLlatexcmd{%
2084 \LWR@compilecmd{latex}{_html}
2085 \LWR@addcompilecmd{dvipdfmx}{_html}
2086 }
2087 }% dvips

```

For dvi *latex* with *dvips* and *ps2pdf*:

```

2088 \def\LWR@tempprintlatexcmd{%
2089 \LWR@compilecmd{latex}{}
2090 \LWR@addcompilecmd{dvips}{}
2091 \LWR@addcompilecmd{ps2pdf}{}.ps
2092 }
2093 \def\LWR@tempHTMLlateXcmd{%
2094 \LWR@compilecmd{latex}{_html}
2095 \LWR@addcompilecmd{dvips}{_html}
2096 \LWR@addcompilecmd{ps2pdf}{_html}.ps
2097 }
2098 }
2099 }
2100 \fi% \ifXeTeX
2101 \fi% \ifpdf
2102 }% latexmk

```

For *ujarticle*, *utarticle*, and related, using up<sup>LATEX</sup> and *dvipdfmx*:

```

2103 \@ifclassloaded{ujarticle}{\LWR@compileuplateX}{}
2104 \@ifclassloaded{ujbook}{\LWR@compileuplateX}{}
2105 \@ifclassloaded{ujreport}{\LWR@compileuplateX}{}
2106 \@ifclassloaded{utarticle}{\LWR@compileuplateX}{}
2107 \@ifclassloaded{utbook}{\LWR@compileuplateX}{}
2108 \@ifclassloaded{utreport}{\LWR@compileuplateX}{}

```

Only make the setting permanent if the original was empty:

```

2109 \ifdefempty{\LWR@PrintLatexCmd}{%
2110 \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}
2111 }%
2112 \ifdefempty{\LWR@HTMLLatexCmd}{%
2113 \def\LWR@HTMLLatexCmd{\LWR@tempHTMLlateXcmd}
2114 }%

```

\LWR@writeconf {<filename>}

Common code for each of *lwarfpmk.conf* and <project>.lwarfpmkconf. Each entry is a variable name, the equal sign, and a quoted string inside [[ and ]], which are *lua*'s long quote characters, allowing the use of single and double quotes inside.

```

2115 \newcommand{\LWR@writeconf}[1]{%
2116 \ifcsdef{LWR@quickfile}{}{\newwrite{\LWR@quickfile}}
2117 \immediate\openout\LWR@quickfile=\#1
2118 \immediate\write\LWR@quickfile{confversion = [[\LWR@lwarfconfversion]]}
2119 \ifbool{usingOSWindows}{%
2120 \immediate\write\LWR@quickfile{opsystem = [[Windows]]}
2121 }%
2122 \immediate\write\LWR@quickfile{opsystem = [[Unix]]}
2123 }%
2124 \immediate\write\LWR@quickfile{sourcename = [[\jobname]]}
2125 \immediate\write\LWR@quickfile{homehtmlfilename = [[\HomeHTMLFilename]]}
2126 \immediate\write\LWR@quickfile{htmlfilename = [[\HTMLFilename]]}

```

```

2127 \immediate\write\LWR@quickfile{imagesdirectory = [[\LWR@ImagesDirectory]]}
2128 \immediate\write\LWR@quickfile{imagesname = [[\LWR@ImagesName]]}
2129 \immediate\write\LWR@quickfile{latexmk = [[\ifbool{\LWR@latexmk}{true}{false}]]]
2130 \immediate\write\LWR@quickfile{printlatexcmd = [[\LWR@PrintLatexCmd]]}
2131 \immediate\write\LWR@quickfile{HTMLlateXcmd = [[\LWR@HTMLLateXCmd]]}
2132 \immediate\write\LWR@quickfile{printindexcmd = [[\LWR@PrintIndexCmd]]}
2133 \immediate\write\LWR@quickfile{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}
2134 \immediate\write\LWR@quickfile{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}
2135 \immediate\write\LWR@quickfile{glossarycmd = [[\LWR@GlossaryCmd]]}
2136 \immediate\write\LWR@quickfile{pdftotextenc = [[\LWR@pdftotextEnc]]}
2137 \immediate\closeout\LWR@quickfile
2138 }
2139

2140 \end{LWRwriteconf}

```

### 40.3.2 lwarpmk.conf

File `lwarpmk.conf` `lwarpmk.conf` is automatically (re-)created by the `lwarp` package when executing `pdflatex <project.tex>`, or similar for `xelatex` or `lualatex`, in print-document generation mode, which is the default unless the `warpHTML` option is given. `lwarpmk.conf` is then used by the utility `lwarpmk`.

**Config file:**

```

2141 \begin{LWRwriteconf}
2142
2143 \AtBeginDocument{\LWR@writeconf{lwarpmk.conf}}
2144
2145 \end{LWRwriteconf}

```

### 40.3.3 <project>.lwarpmkconf

File `project.lwarpmkconf` A project-specific configuration file for `lwarpmk`.

The `makeindex` and `xindy` options have already been handled for `lwarp.conf`.

**Config file:**

```

2146 \begin{LWRwriteconf}
2147
2148 \AtBeginDocument{\LWR@writeconf{\jobname.lwarpmkconf}}
2149
2150 \end{LWRwriteconf}

```

## 40.4 lwarp.css

File `lwarp.css` This is the base css layer used by `lwarp`.

This must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```

2151 \begin{LWRwriteconf}
2152 \begin{filecontents*}[overwrite]{lwarp.css}
2153 /*

```

```
2154 CSS stylesheet for the LaTeX Lwarp package
2155 Copyright 2016-2021 Brian Dunn - BD Tech Concepts LLC
2156 */
2157
2158
2159 /* a fix for older browsers: */
2160 header, section, footer, aside, nav, main,
2161 article, figure { display: block; }
2162
2163
2164 A:link {color:#000080 ; text-decoration: none ; }
2165 A:visited {color:#800000 ; }
2166 A:hover {color:#000080 ; text-decoration: underline ;}
2167 A:active {color:#800000 ; }
2168
2169 a.tocbook {display: inline-block ; margin-left: 0em ;
2170 font-weight: bold ; margin-top: 1ex ; margin-bottom: 1ex ; }
2171 a.tocpart {display: inline-block ; margin-left: 0em ;
2172 font-weight: bold ;}
2173 a.tocchapter {display: inline-block ; margin-left: 0em ;
2174 font-weight: bold ;}
2175 a.tocsection {display: inline-block ; margin-left: 1em ;
2176 text-indent: -.5em ; font-weight: bold ;}
2177 a.tocsubsection {display: inline-block ; margin-left: 2em ;
2178 text-indent: -.5em ;}
2179 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
2180 text-indent: -.5em ;}
2181 a.tocparagraph {display: inline-block ; margin-left: 4em ;
2182 text-indent: -.5em ;}
2183 a.tocsubparagraph {display: inline-block ; margin-left: 5em ;
2184 text-indent: -.5em ;}
2185 a.tocfigure {margin-left: 0em}
2186 a.tocsubfigure {margin-left: 2em}
2187 a.toctable {margin-left: 0em}
2188 a.tocsubtable {margin-left: 2em}
2189 a.toctheorem {margin-left: 0em}
2190 a.toclstlisting {margin-left: 0em}
2191
2192 body {
2193 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2194 "Lucida Bright", Georgia, serif;
2195 background: #FAF7F4 ;
2196 color: black ;
2197 margin:0em ;
2198 padding:0em ;
2199 font-size: 100% ;
2200 line-height: 1.2 ;
2201 }
2202
2203 p {margin: 1.5ex 0em 1.5ex 0em ;}
2204 table p {margin: .5ex 0em .5ex 0em ;}
2205
2206 /* Holds a section number */
2207 span.sectionnumber { margin-right: 0em }
```

```
2209 /* Inserted in front of index lines */
2210 span.indexitem {margin-left: 0em}
2211 span.indexsubitem {margin-left: 2em}
2212 span.indexsubsubitem {margin-left: 4em}
2213 div.indexheading {margin-top: 2ex ; font-weight: bold}
2214
2215 div.hidden, span.hidden { display: none ; }
2216
2217 kbd, span.texttt, p span.texttt {
2218 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2219 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2220 "Courier New", monospace;
2221 font-size: 100% ;
2222 }
2223
2224 pre { padding: 3pt ; }
2225
2226 span.strong, span.textbf, div.strong, div.textbf { font-weight: bold; }
2227
2228 span.textit, div.textit { font-style: italic; }
2229
2230 span.textmd, div.textmd { font-weight: normal; }
2231
2232 span.textup, div.textup {
2233 font-style: normal;
2234 font-variant: normal;
2235 font-variant-numeric: normal ;
2236 }
2237
2238 span.textsc, div.textsc {
2239 font-variant: small-caps;
2240 font-variant-numeric: oldstyle-nums ;
2241 }
2242
2243 span.textulc, div.textulc {
2244 font-variant: normal ;
2245 font-variant-numeric: normal ;
2246 }
2247
2248 span.textsl, div.textsl { font-style: oblique; }
2249
2250 span.textrm, div.textrm {
2251 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2252 "Lucida Bright", Georgia, serif;
2253 }
2254
2255 span.textsf, div.textsf {
2256 font-family: "DejaVu Sans", "Bitstream Vera Sans",
2257 Geneva, Verdana, sans-serif ;
2258 }
2259
2260 /* nfssext-cfr lining figures */
2261 span.textln, div.textln {
2262 font-variant-numeric: lining-nums ;
2263 }
```

```
2264
2265 /* nfssext-cfr proportional figures */
2266 span.textp, div.textp {
2267 font-variant-numeric: proportional-nums ;
2268 }
2269
2270 /* nfssext-cfr tabular figures */
2271 span.textt, div.textt {
2272 font-variant-numeric: tabular-nums ;
2273 }
2274
2275 /* nfssext-cfr font weights */
2276 span.textdb, div.textdb {
2277 font-weight: 500 ;
2278 }
2279
2280 span.textsb, div.textsb {
2281 font-weight: 600 ;
2282 }
2283
2284 span.texteb, div.texteb {
2285 font-weight: 800 ;
2286 }
2287
2288 span.textub, div.textub {
2289 font-weight: 900 ;
2290 }
2291
2292 span.textlg, div.textlg {
2293 font-weight: 300 ;
2294 }
2295
2296 span.textel, div.textel {
2297 font-weight: 200 ;
2298 }
2299
2300 span.textul, div.textul {
2301 font-weight: 100 ;
2302 }
2303
2304
2305
2306 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
2307
2308 span.underline {
2309 text-decoration: underline ;
2310 text-decoration-skip: auto ;
2311 }
2312
2313 span.overline {
2314 text-decoration: overline ;
2315 text-decoration-skip: auto ;
2316 }
2317
2318 div.hrule { border-top: 1px solid silver }
```

```
2319
2320
2321 /* for vertical text: */
2322 div.verticalrl { writing-mode: vertical-rl }
2323 div.horizontaltb { writing-mode: horizontal-tb }
2324
2325
2326 /* for diagbox */
2327 div.diagboxtileN { border-bottom: 1px solid gray }
2328 div.diagboxtileS { border-top: 1px solid gray }
2329
2330 div.diagboxE {
2331 padding-left: 2em ;
2332 text-align: right ;
2333 }
2334
2335 div.diagboxW {
2336 padding-right: 2em ;
2337 text-align: left ;
2338 }
2339
2340
2341
2342 /* For realscripts */
2343 .supsubscript {
2344 display: inline-block;
2345 text-align:left ;
2346 }
2347
2348 .supsubscript sup,
2349 .supsubscript sub {
2350 position: relative;
2351 display: block;
2352 font-size: .7em;
2353 line-height: 1;
2354 }
2355
2356 .supsubscript sup {
2357 top: .3em;
2358 }
2359
2360 .supsubscript sub {
2361 top: .3em;
2362 }
2363
2364 div.attribution p {
2365 text-align: right ;
2366 font-size: 80%
2367 }
2368
2369 span.poemtitle {
2370 font-size: 120% ; font-weight: bold;
2371 }
2372
2373 pre.tabbing {
```

```
2374 font-family: "Linux Libertine Mono O", "Lucida Console",
2375 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2376 "Liberation Mono", "FreeMono", "Andale Mono",
2377 "Nimbus Mono L", "Courier New", monospace;
2378 }
2379
2380blockquote {
2381 display: block ;
2382 margin-left: 2em ;
2383 margin-right: 2em ;
2384 }
2385
2386 /* quotchap is for the quotchap package */
2387div.quotchap {
2388 display: block ;
2389 font-style: oblique ;
2390 overflow-x: auto ;
2391 margin-left: 2em ;
2392 margin-right: 2em ;
2393 }
2394
2395blockquote p, div.quotchap p {
2396 line-height: 1.5;
2397 text-align: left ;
2398 font-size: .85em ;
2399 }
2400
2401 /* qauthor is for the quotchap package */
2402div.qauthor {
2403 display: block ;
2404 text-align: right ;
2405 margin-left: auto ;
2406 margin-right: 2em ;
2407 font-size: 80% ;
2408 font-variant: small-caps;
2409 }
2410
2411div.qauthor p {
2412 text-align: right ;
2413 }
2414
2415div.epigraph, div.dictum {
2416 line-height: 1.2;
2417 text-align: left ;
2418 padding: 3ex 1em 0ex 1em ;
2419 margin: 3ex auto 3ex auto ; /* Epigraph centered */
2420 margin: 3ex 1em 3ex auto ; /* Epigraph to the right */
2421 margin: 3ex 1em 3ex 1em ; /* Epigraph to the left */
2422 font-size: .85em ;
2423 max-width: 27em ;
2424 }
2425
2426div.epigraphsource, div.dictumauthor {
2427 text-align:right ;
2428 margin-left:auto ;
```

```
2429 /* max-width: 50% ; */
2430 border-top: 1px solid #A0A0A0 ;
2431 padding-bottom: 3ex ;
2432 line-height: 1.2;
2433 }
2434
2435 div.epigraph p, div.dictum p { padding: .5ex ; margin: 0ex ;}
2436 div.epigraphsource p, div.dictumauthor p { padding: .5ex 0ex 0ex 0ex ; margin: 0ex ;}
2437 div.dictumauthor { font-style:italic }
2438
2439
2440 /* copyrightbox package: */
2441 div.copyrightbox { margin: .5ex .5em }
2442 div.copyrightbox p {margin: 0px .5em ; padding: 0px}
2443 div.copyrightboxnote {text-align: left ; font-size: 60%}
2444
2445
2446 /* lettrine package: */
2447 span.lettrine { font-size: 4ex ; float: left ; }
2448 span.lettrinetext { font-variant: small-caps ; }
2449
2450 /* ulem, soul, umoline packages: */
2451 span.uline {
2452 text-decoration: underline ;
2453 text-decoration-skip: auto ;
2454 }
2455
2456 span.uuline {
2457 text-decoration: underline ;
2458 text-decoration-skip: auto ;
2459 text-decoration-style: double ;
2460 }
2461
2462 span.uwave {
2463 text-decoration: underline ;
2464 text-decoration-skip: auto ;
2465 text-decoration-style: wavy ;
2466 }
2467
2468 span.sout {
2469 text-decoration: line-through ;
2470 }
2471
2472 span.oline {
2473 text-decoration: overline ;
2474 text-decoration-skip: auto ;
2475 }
2476
2477 span.xout {
2478 text-decoration: line-through ;
2479 }
2480
2481 span.dashuline {
2482 text-decoration: underline ;
2483 text-decoration-skip: auto ;
```

```
2484 text-decoration-style: dashed ;
2485 }
2486
2487 span.dotuline {
2488 text-decoration: underline ;
2489 text-decoration-skip: auto ;
2490 text-decoration-style: dotted ;
2491 }
2492
2493 span.letterspacing { letter-spacing: .2ex ; }
2494
2495 span.capsspacing {
2496 font-variant: small-caps ;
2497 letter-spacing: .1ex ;
2498 }
2499
2500 span.highlight { background: #F8E800 ; }
2501
2502
2503 /* keystroke package: */
2504 span.keystroke {
2505 border-style: outset ;
2506 padding: 0pt .5em 0pt .5em ;
2507 }
2508
2509
2510 html body {
2511 margin: 0 ;
2512 line-height: 1.2;
2513 }
2514
2515
2516 body div {
2517 margin: 0ex;
2518 }
2519
2520
2521 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2522 {
2523 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
2524 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
2525 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
2526 "Times New Roman", serif;
2527 font-style: normal ;
2528 font-weight: bold ;
2529 text-align: left ;
2530 }
2531
2532 h1 { /* title of the entire website, used on each page */
2533 text-align: center ;
2534 font-size: 2.5em ;
2535 padding: .4ex 0em 0ex 0em ;
2536 }
2537
2538 div.book {
```

```
2539 text-align: center ;
2540 font-size: 2.325em ;
2541 padding: .4ex 0em 0ex 0em ;
2542 }
2543
2544 h2 { font-size: 2.25em }
2545 h3 { font-size: 2em }
2546 h4 { font-size: 1.75em }
2547 h5 { font-size: 1.5em }
2548 h6 { font-size: 1.25em }
2549 span.paragraph {font-size: 1em ; font-variant: normal ;
2550 margin-right: 1em ; }
2551 span.subparagraph {font-size: 1em ; font-variant: normal ;
2552 margin-right: 1em ; }
2553
2554 div.minisec {
2555 font-family: "DejaVu Sans", "Bitstream Vera Sans",
2556 Geneva, Verdana, sans-serif ;
2557 font-style: normal ;
2558 font-weight: bold ;
2559 text-align: left ;
2560 }
2561
2562 h1 {
2563 margin: 0ex 0em 0ex 0em ;
2564 line-height: 1.3;
2565 text-align: center ;
2566 }
2567
2568 h2 {
2569 margin: 1ex 0em 1ex 0em ;
2570 line-height: 1.3;
2571 text-align: center ;
2572 }
2573
2574 h3 {
2575 margin: 3ex 0em 1ex 0em ;
2576 line-height: 1.3;
2577 }
2578
2579 h4 {
2580 margin: 3ex 0em 1ex 0em ;
2581 line-height: 1.3;
2582 }
2583
2584 h5 {
2585 margin: 3ex 0em 1ex 0em ;
2586 line-height: 1.3;
2587 }
2588
2589 h6 {
2590 margin: 3ex 0em 1ex 0em ;
2591 line-height: 1.3;
2592 }
2593
```

```
2594
2595 div.titlepage {
2596 text-align: center ;
2597 }
2598
2599 .footnotes {
2600 text-align: left ;
2601 font-size: .85em ;
2602 margin: 3ex 2em 0ex 2em ;
2603 border-top: 1px solid silver ;
2604 }
2605
2606 .marginpar, .marginparblock {
2607 max-width: 50%;
2608 float: right ;
2609 clear: both ;
2610 text-align: left ;
2611 margin: 1ex 0.5em 1ex 1em ;
2612 padding: 1ex 0.5em 1ex 0.5em ;
2613 font-size: 85% ;
2614 border-top: 1px solid silver ;
2615 border-bottom: 1px solid silver ;
2616 overflow-x: auto ;
2617 }
2618
2619 .marginpar br { margin-bottom: 2ex ; }
2620
2621 div.marginblock, div.marginparblock {
2622 max-width:50%;
2623 min-width: 10em; /* room for caption */
2624 float:right;
2625 text-align:left;
2626 margin: 1ex 0.5em 1ex 1em ;
2627 padding: 1ex 0.5em 1ex 0.5em ;
2628 overflow-x: auto;
2629 }
2630
2631 div.marginblock div.minipage,
2632 div.marginparblock div.minipage {
2633 display: inline-block ;
2634 margin: 0pt auto 0pt auto ;
2635 }
2636
2637 div.marginblock div.minipage p ,
2638 div.marginparblock div.minipage p
2639 { font-size: 85%}
2640
2641 div.marginblock br ,
2642 div.marginparblock br
2643 { margin-bottom: 2ex ; }
2644
2645 main.bodycontainer {
2646 float: left ;
2647 width: 80% ;
2648 }
```

```
2649
2650 div.bodywithoutsidetoc main.bodycontainer {
2651 float: none ;
2652 width: 100% ;
2653 }
2654
2655 section.textbody div.footnotes{
2656 margin: 3ex 2em .5ex 2em ;
2657 border-bottom: 2px solid silver ;
2658 }
2659
2660 .footnoteheader {
2661 border-top: 2px solid silver ;
2662 margin-top: 3ex ;
2663 padding-top: 1ex ;
2664 font-weight: bold ;
2665 }
2666
2667 .mpfootnotes {
2668 text-align: left ;
2669 font-size: .85em ;
2670 margin-left: 1em ;
2671 border-top: 1px solid silver ;
2672 }
2673
2674 /* Remove footnote top border in the title page. */
2675 div.titlepage div.mpfootnotes {
2676 border-top: none ;
2677 }
2678
2679
2680
2681 ul, ol {
2682 margin: 1ex 1em 1ex 0em;
2683 line-height: 1.2;
2684 }
2685
2686 body dir, body menu {
2687 margin: 3ex 1em 3ex 0em;
2688 line-height: 1.2;
2689 }
2690
2691 li { margin: 0ex 0em 1ex 0em; }
2692
2693 html {
2694 margin: 0;
2695 padding: 0;
2696 }
2697
2698 .programlisting {
2699 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2700 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2701 "Courier New", monospace;
2702 margin: 1ex 0ex 1ex 0ex ;
2703 padding: .5ex 0pt .5ex 0pt ;
```

```
2704 overflow-x: auto;
2705 }
2706
2707 section.textbody>pre.programlisting {
2708 border-top: 1px solid silver ;
2709 border-bottom: 1px solid silver ;
2710 }
2711
2712
2713 div.displaymath {
2714 text-align: center ;
2715 }
2716
2717 div.displaymathnumbered {
2718 text-align: right ;
2719 margin-left: 5% ;
2720 margin-right: 5% ;
2721 min-width: 2.5in ;
2722 }
2723
2724 @media all and (min-width: 400px) {
2725 div.displaymathnumbered {
2726 margin-left: 10% ;
2727 margin-right: 10% ;
2728 }
2729 }
2730
2731 @media all and (min-width: 800px) {
2732 div.displaymathnumbered {
2733 margin-right: 20% ;
2734 }
2735 }
2736
2737 @media all and (min-width: 1200px) {
2738 div.displaymathnumbered {
2739 margin-right: 30% ;
2740 }
2741 }
2742
2743
2744 .inlineprogramlisting {
2745 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2746 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2747 "Courier New", monospace;
2748 overflow-x: auto;
2749 }
2750
2751 span.listinglabel {
2752 display: inline-block ;
2753 font-size: 70% ;
2754 width: 4em ;
2755 text-align: right ;
2756 margin-right: 2em ;
2757 }
2758
```

```
2759 div.abstract {
2760 margin: 2em 5% 2em 5% ;
2761 padding: 1ex 1em 1ex 1em ;
2762 /* font-weight: bold ; */
2763 font-size: 90% ;
2764 text-align: left ;
2765 }
2766
2767 div.abstract dl {line-height:1.5;}
2768 div.abstract dt {color:#304070;}
2769
2770 div.abstracttitle{
2771 font-family: "URW Classico", Optima, "Linux Biolinum 0",
2772 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2773 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2774 font-weight:bold;
2775 font-size:1.25em;
2776 text-align: center ;
2777 }
2778
2779 span.abstractrunintitle{
2780 font-family: "URW Classico", Optima, "Linux Biolinum 0",
2781 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2782 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2783 font-weight:bold;
2784 }
2785
2786
2787 .verbatim {
2788 overflow-x: auto ;
2789 }
2790
2791 .alltt {
2792 overflow-x: auto ;
2793 }
2794
2795
2796 .bverbatim {
2797 margin: 1ex 0pt 1ex 0pt ;
2798 padding: .5ex 0pt .5ex 0pt ;
2799 overflow-x: auto ;
2800 }
2801
2802 .lverbatim {
2803 margin: 1ex 0pt 1ex 0pt ;
2804 padding: .5ex 0pt .5ex 0pt ;
2805 overflow-x: auto ;
2806 }
2807
2808 .fancyvrb {
2809 font-size:.85em ;
2810 margin: 3ex 0pt 3ex 0pt
2811 }
2812
2813 .fancyvrblabel {
```

```
2814 font-size: .85em ;
2815 text-align: center ;
2816 font-weight: bold ;
2817 margin-top: 1ex ;
2818 margin-bottom: 1ex ;
2819 }
2820
2821
2822 .verse {
2823 font-family: "Linux Libertine Mono O", "Lucida Console",
2824 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2825 "Liberation Mono", "FreeMono", "Andale Mono",
2826 "Nimbus Mono L", "Courier New", monospace;
2827 margin-left: 1em ;
2828 }
2829
2830
2831 div.singlespace { line-height: 1.2 ; }
2832 div.onehalfspace { line-height: 1.5 ; }
2833 div.doublespace { line-height: 2 ; }
2834
2835
2836 /* Word processor format output: */
2837 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
2838 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
2839 div.wpminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ; }
2840
2841
2842
2843
2844 /* Minipage environments, vertically aligned to top, center, bottom: */
2845 .minipage, .fminipage, .fcolorminipage {
2846 /* display: inline-block ; */
2847 /* Mini pages which follow each other will be tiled. */
2848 text-align:left;
2849 margin: .25em .25em .25em .25em;
2850 padding: .25em .25em .25em .25em;
2851 display: inline-flex;
2852 flex-direction: column ;
2853 overflow: auto;
2854 }
2855
2856 .inlineminipage {
2857 display: inline-block ;
2858 text-align: left
2859 }
2860
2861 /* Paragraphs in the flexbox did not collapse their margins. */
2862 /* Have not yet researched this. */
2863 .minipage p {margin: .75ex 0em .75ex 0em ;}
2864
2865 .fboxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
2866 .fcolorbox .minipage, .fcolorboxBlock .minipage
2867 {border: none ; background: none;}
```

```
2869 .fbox, .fboxBlock { border: 1px solid black ; }
2870
2871 .fbox, .fboxBlock, .fcolorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
2872 .fminipage, .fcolorminipage
2873 {display: inline-block}
2874
2875 .shadowbox, .shabox {
2876 border: 1px solid black;
2877 box-shadow: 3px 3px 3px #808080 ;
2878 border-radius: 0px ;
2879 padding: .4ex .3em .4ex .3em ;
2880 margin: 0pt .3ex 0pt .3ex ;
2881 display: inline-block ;
2882 }
2883
2884 .doublebox {
2885 border: 3px double black;
2886 border-radius: 0px ;
2887 padding: .4ex .3em .4ex .3em ;
2888 margin: 0pt .3ex 0pt .3ex ;
2889 display: inline-block ;
2890 }
2891
2892 .ovalbox, .Ovalbox {
2893 border: 1px solid black;
2894 border-radius: 1ex ;
2895 padding: .4ex .3em .4ex .3em ;
2896 margin: 0pt .3ex 0pt .3ex ;
2897 display: inline-block ;
2898 }
2899
2900 .Ovalbox { border-width: 2px ; }
2901
2902 .framebox {
2903 border: 1px solid black;
2904 border-radius: 0px ;
2905 padding: .3ex .2em 0ex .2em ;
2906 margin: 0pt .1ex 0pt .1ex ;
2907 display: inline-block ;
2908 }
2909
2910
2911 /* mdframed, tcolorbox, shadebox packages */
2912 .mdframed, .tcolorbox, .shadebox {
2913 padding: 0ex ;
2914 margin: 2ex 0em 2ex 0em ;
2915 border: 1px solid black ;
2916 }
2917
2918 .tcolorbox {
2919 border-radius: 10pt ;
2920 margin: 2ex 1em 2ex 1em ;
2921 }
2922
2923 .mdframed p, .tcolorbox p { padding: 0ex .5em 0ex .5em ; }
```

```
2924
2925 .mdframed dl, .tcolorbox dl { padding: 1ex .5em 0ex .5em ; }
2926
2927 .mdframedtitle, .tcolorboxtitle {
2928 padding: .5ex 0pt 0pt 0pt ;
2929 border-radius: 10pt 10pt 0pt 0pt ;
2930 display: block ;
2931 margin-bottom: 1ex ;
2932 border-bottom: 1px solid silver ;
2933 }
2934
2935 .tcolorboxsubtitle .tcolorbox {
2936 margin: 2ex 0em 2ex 0em ;
2937 border-radius: 0pt ;
2938 }
2939
2940 .mdframedsubtitle {
2941 display: block ;
2942 }
2943
2944 .mdframedsubsubtitle {
2945 display: block ;
2946 }
2947
2948 .mdtheorem {
2949 padding: 0ex .5em 0ex .5em ;
2950 margin: 3ex 5% 3ex 5% ;
2951 }
2952
2953
2954 /* framed package */
2955 .framed, pre.boxedverbatim, fcolorbox {
2956 margin: 3ex 0em 3ex 0em ;
2957 border: 1px solid black;
2958 border-radius: 0px ;
2959 padding: .3ex 1em 0ex 1em ;
2960 display: block ;
2961 }
2962
2963 .shaded {
2964 margin: 3ex 0em 3ex 0em ;
2965 padding: .3ex 1em .3ex 1em ;
2966 display: block ;
2967 }
2968
2969 .snugframed {
2970 margin: 3ex 0em 3ex 0em ;
2971 border: 1px solid black;
2972 border-radius: 0px ;
2973 display: block ;
2974 }
2975
2976 .framedleftbar {
2977 margin: 3ex 0em 3ex 0em ;
2978 border-left: 3pt solid black;
```

```
2979 border-radius: 0px ;
2980 padding: .3ex .2em .3ex 1em ;
2981 display: block ;
2982 }
2983
2984 .framedtitle {
2985 margin: 0em ;
2986 padding: 0em ;
2987 font-size: 130%
2988 }
2989
2990 .framedtitle p { padding: .3em }
2991
2992
2993 /* For the niceframe package: */
2994
2995 div.niceframe, div.curlyframe, div.artdecoframe, div.generalframe {
2996 padding: 1ex ;
2997 margin: 2ex auto ;
2998 border-radius: 2ex ;
2999 }
3000
3001 div.niceframe {
3002 border: 6px groove black ;
3003 }
3004
3005 div.curlyframe {
3006 border-left: 3px dotted black ;
3007 border-right: 3px dotted black ;
3008 border-radius: 6ex ;
3009 }
3010
3011 div.artdecoframe {
3012 border-left: 10px double black ;
3013 border-right: 10px double black ;
3014 border-radius: 6ex ;
3015 }
3016
3017 div.generalframe {
3018 border: 6px groove black ;
3019 }
3020
3021
3022
3023 dl {
3024 margin: 1ex 2em 1ex 0em;
3025 line-height: 1.3;
3026 }
3027
3028 dl dt {
3029 display: block ;
3030 float:left ;
3031 font-weight: bold;
3032 padding-right: 1em ;
3033 }
```

```
3034
3035 dl dd { display: block ; }
3036
3037 dl dd:after { content: "" ; display: block ; clear: both }
3038
3039 dl dd p { margin-top: 0em; }
3040
3041 dd ul, dd ol, dd dl {
3042 clear: both ;
3043 /* padding-top: 1ex ; */
3044 }
3045
3046
3047 nav {
3048 font-family: "URW Classico", Optima, "Linux Biolinum O",
3049 "DejaVu Sans", "Bitstream Vera Sans",
3050 Geneva, Verdana, sans-serif ;
3051 margin-bottom: 4ex ;
3052 }
3053
3054 nav p {
3055 line-height: 1.2 ;
3056 margin-top:.5ex ;
3057 margin-bottom:.5ex;
3058 font-size: .9em ;
3059 }
3060
3061
3062
3063 img, img.hyperimage, img.borderimage {
3064 max-width: 600px;
3065 border: 1px solid silver;
3066 box-shadow: 3px 3px 3px #808080 ;
3067 padding: .5% ;
3068 margin: .5% ;
3069 background: none ;
3070 }
3071
3072 img.inlineimage{
3073 padding: 0px ;
3074 box-shadow: none ;
3075 border: none ;
3076 background: none ;
3077 margin: 0px ;
3078 display: inline-block ;
3079 border-radius: 0px ;
3080 }
3081
3082 img.logoimage{
3083 max-width: 300px ;
3084 box-shadow: 3px 3px 3px #808080 ;
3085 border: 1px solid black ;
3086 background:none ;
3087 padding:0 ;
3088 margin:.5ex ;
```

```
3089 border-radius: 10px ;
3090 }
3091
3092
3093 .section {
3094 /*
3095 To have each section float relative to each other:
3096 */
3097 /*
3098 display: block ;
3099 float: left ;
3100 position: relative ;
3101 background: white ;
3102 border: 1px solid silver ;
3103 padding: .5em ;
3104 */
3105 margin: 0ex .5em 0ex .5em ;
3106 padding: 0 ;
3107 }
3108
3109
3110 figure {
3111 margin: 5ex auto 5ex auto ;
3112 padding: 1ex 1em 1ex 1em ;
3113 overflow-x: auto ;
3114 }
3115
3116
3117 /* To automatically center images in figures: */
3118 /*
3119 figure img.inlineimage {
3120 margin: 0ex auto 0ex auto ;
3121 display: block ;
3122 }
3123 */
3124
3125 /* To automatically center minipages in figures: */
3126 /*
3127 figure div.minipage, figure div.minipage div.minipage {
3128 margin: 1ex auto 1ex auto ;
3129 display: block ;
3130 }
3131 */
3132
3133 figure figure { margin: 0pt }
3134
3135 figure div.minipage p { font-size: 85% ; }
3136
3137 figure.subfigure, figure.subtable {
3138 display: inline-block ; margin: 3ex 1em 3ex 1em ;
3139 }
3140
3141 div.figurecaption .minipage { margin:0 ; padding: 0 }
3142
3143 div.minipage figure { border: none ; box-shadow: none ; }
```

```
3144 div.minipage figure.table { margin: 0ex }
3145 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
3146
3147 div.floatrow { text-align: center; }
3148
3149 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
3150
3151 div.floatfoot { font-size: .85em ;
3152 border-top: 1px solid silver ; line-height: 1.2 ; }
3153
3154 div.figurecaption , .lstlistingtitle {
3155 font-size: .85em ;
3156 text-align: center ;
3157 font-weight: bold ;
3158 margin-top: 1ex ;
3159 margin-bottom: 1ex ;
3160 }
3161
3162 figure.subfigure div.figurecaption, figure.subtable div.figurecaption {
3163 border-bottom: none ; background: none ;
3164 }
3165
3166 div.nonfloatcaption {
3167 margin: 1ex auto 1ex auto ;
3168 font-size: .85em ;
3169 text-align: center ;
3170 font-weight: bold ;
3171 }
3172
3173 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
3174 figure div.floatrow div.minipage div.figurecaption {
3175 border: none ;
3176 background: none ;
3177 }
3178
3179
3180 /* For packages such as float, rotfloat, and algorithm2e: */
3181
3182 figure.boxed, figure.boxruled {
3183 border: 1px solid black ;
3184 }
3185
3186 figure.ruled {
3187 border-top: 1px solid black ;
3188 border-bottom: 1px solid black ;
3189 border-left: 0px ;
3190 border-right: 0px ;
3191 border-radius: 0px ;
3192 background: none ;
3193 box-shadow: none ;
3194 }
3195
3196 figure.ruled div.figurecaption, figure.boxruled div.figurecaption {
3197 border-top: 1px solid silver ;
3198 border-bottom: 1px solid silver ;
```

```
3199 }
3200
3201
3202 table {
3203 margin: 1ex auto 1ex auto ;
3204 border-collapse: separate ;
3205 border-spacing: 0px ;
3206 line-height: 1.3 ;
3207 }
3208
3209 table > tbody > tr.hline > td {border-top: 1px solid #808080 ; margin-top: 0ex ;
3210 margin-bottom: 0ex ; } /* for \hline */
3211
3212 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;
3213 margin-bottom: 0ex ; } /* for \toprule, \bottomrule */
3214
3215 td {padding: .5ex .5em .5ex .5em ;}
3216
3217 table td.tdl { text-align: left ; vertical-align: middle ; }
3218 table td.tdc { text-align: center ; vertical-align: middle ; }
3219 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }
3220 table td.tdbang { text-align: center ; vertical-align: middle ; }
3221 table td.tdr { text-align: right ; vertical-align: middle ; }
3222 table td.tdp { text-align: left ; vertical-align: bottom ; }
3223 table td.tdm { text-align: left ; vertical-align: middle ; }
3224 table td.tdb { text-align: left ; vertical-align: top ; }
3225 table td.tdP { text-align: center ; vertical-align: bottom ; }
3226 table td.tdM { text-align: center ; vertical-align: middle ; }
3227 table td.tdB { text-align: center ; vertical-align: top ; }
3228
3229 table td.tvertbarl { border-left: 1px solid black }
3230 table td.tvertbardouble { border-left: 4px double black }
3231 table td.tvertbarr { border-right: 1px solid black }
3232 table td.tvertbarrdouble { border-right: 4px double black }
3233
3234 table td.tvertbarldash { border-left: 1px dashed black }
3235 table td.tvertbarldoubledash { border-left: 2px dashed black }
3236 table td.tvertbarrdash { border-right: 1px dashed black }
3237 table td.tvertbarrdoubledash { border-right: 2px dashed black }
3238
3239
3240 /* for cmidrules: */
3241 table td.tdrule {
3242 border-top: 1px solid #A0A0A0 ;
3243 }
3244
3245 table td.tdrulel {
3246 border-top-left-radius:.5em ;
3247 border-top: 1px solid #A0A0A0 ;
3248 }
3249
3250 table td.tdruler {
3251 border-top-right-radius:.5em ;
3252 border-top: 1px solid #A0A0A0 ;
3253 }
```

```
3254
3255 table td.tdrulelr {
3256 border-top-left-radius:.5em ;
3257 border-top-right-radius:.5em ;
3258 border-top: 1px solid #A0A0A0 ;
3259 }
3260
3261
3262 /* Margins of paragraphs inside table cells: */
3263 td.tdp p , td.tdprule p , td.tdP p , td.tdPrule p { padding-top: 1ex ;
3264 padding-bottom: 1ex ; margin: 0ex ; }
3265 td.tdm p , td.tmbrule p , td.tdM p , td.tdMrule p { padding-top: 1ex ;
3266 padding-bottom: 1ex ; margin: 0ex ; }
3267 td.tdb p , td.tdbrule p , td.tdB p , td.tdBrule p { padding-top: 1ex ;
3268 padding-bottom: 1ex ; margin: 0ex ; }
3269
3270 td.tdp , td.tdprule , td.tdP , td.tdPrule
3271 { padding: 0ex .5em 0ex .5em ; }
3272 td.tdm , td.tdmrule , td.tdM , td.tdMrule
3273 { padding: 0ex .5em 0ex .5em ; }
3274 td.tdb , td.tdbrule , td.tdB , td.tdBrule
3275 { padding: 0ex .5em 0ex .5em ; }
3276
3277
3278 /* table notes: */
3279 .tnotes {
3280 margin: 0ex 5% 1ex 5% ;
3281 padding: 0.5ex 1em 0.5ex 1em;
3282 font-size:.80em;
3283 text-align: left ;
3284 }
3285
3286 .minipage .tnotes {
3287 margin: 0pt ;
3288 padding: 0pt ;
3289 }
3290
3291 .tnotes dl dt p {margin-bottom:0px;}
3292
3293 .tnoteitemheader {margin-right: 1em;}
3294
3295
3296 /* for colortbl and cell color */
3297 div.cellcolor {
3298 width: 100% ;
3299 padding: .5ex .5em .5ex .5em ;
3300 margin: -.5ex -.5em -.5ex -.5em ;
3301 }
3302
3303
3304 /* for lyluatex */
3305 span.lyluatex {
3306 display: inline-block ;
3307 }
3308
```

```
3309 div.lyluatex p span.lateximagesource img {
3310 display: block ;
3311 margin-top: 3ex ;
3312 margin-bottom: 3ex ;
3313 }
3314
3315
3316 /* for bigdelim */
3317 .ldelim, .rdelim { font-size: 200% }
3318
3319
3320 /* center, flushleft, flushright environments */
3321 div.center{text-align:center;}
3322 div.center table {margin-left:auto; margin-right:auto;}
3323 div.flushleft{text-align:left;}
3324 div.flushleft table {margin-left:0em ; margin-right:auto;}
3325 div.flushright{text-align:right;}
3326 div.flushright table {margin-left:auto ; margin-right: 0em ;}
3327
3328
3329 /* Fancybox */
3330 div.Btrivlist table tr td {
3331 padding: .2ex 0em ;
3332 }
3333
3334
3335 /* program listing callouts: */
3336 span.callout {
3337 font-family: "DejaVu Sans", "Bitstream Vera Sans",
3338 Geneva, Verdana, sans-serif ;
3339 border-radius: .5em;
3340 background-color:black;
3341 color:white;
3342 padding:0px .25em 0px .25em;
3343 margin: 0 ;
3344 font-weight: bold;
3345 font-size:.72em ;
3346 }
3347
3348 div.programlisting pre.verbatim span.callout{
3349 font-size: .85em ;
3350 }
3351
3352 span.verbatim {
3353 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3354 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3355 "Courier New", monospace;
3356 }
3357
3358
3359
3360 div.titlehead
3361 {
3362 text-align: left ;
3363 font-style: normal ;
```

```
3364 font-weight: normal ;
3365 font-style: normal ;
3366 font-size: .8em ;
3367 margin: 1ex 0em 1ex 0em ;
3368 }
3369
3370 div.subject
3371 {
3372 text-align: center ;
3373 font-style: normal ;
3374 font-weight: bold ;
3375 font-style: normal ;
3376 font-size: .8em ;
3377 margin: 1ex 0em 1ex 0em ;
3378 }
3379
3380 div.published
3381 {
3382 text-align: center ;
3383 font-variant: normal ;
3384 font-style: italic ;
3385 font-size: 1em ;
3386 margin: 1ex 0em 1ex 0em ;
3387 }
3388
3389 div.subtitle
3390 {
3391 text-align: center ;
3392 font-variant: normal ;
3393 font-style: italic ;
3394 font-size: 1.25em ;
3395 margin: 1ex 0em 1ex 0em ;
3396 }
3397
3398 div.subtitle p { margin: 1ex ; }
3399
3400 div.author
3401 {
3402 font-variant: normal ;
3403 font-style: normal ;
3404 font-size: 1em ;
3405 margin: 1ex 0em 1ex 0em ;
3406 }
3407
3408 div.oneauthor {
3409 display: inline-block ;
3410 margin: 0ex 1em 0ex 1em ;
3411 }
3412
3413 /*
3414 div.author table {
3415 margin: 1ex auto 0ex auto ;
3416 background: none ;
3417 }
3418
```

```
3419 div.author table tbody tr td { padding: .25ex ; }
3420 */
3421
3422 span.affiliation {font-size: .85em ; font-variant: small-caps; }
3423
3424 div.titledate {
3425 text-align: center ;
3426 font-size: .85em ;
3427 font-style: italic;
3428 margin: 1ex 0em 1ex 0em ;
3429 }
3430
3431
3432 nav.topnavigation{
3433 text-align: left ;
3434 padding: 0.5ex 1em 0.5ex 1em ;
3435 /* margin: 2ex 0em 3ex 0em ; */
3436 margin: 0 ;
3437 border-bottom: 1px solid silver ;
3438 border-top: 1px solid silver ;
3439 clear:both ;
3440 }
3441
3442 nav.botnavigation{
3443 text-align: left ;
3444 padding: 0.5ex 1em 0.5ex 1em ;
3445 /* margin: 3ex 0em 2ex 0em ; */
3446 margin: 0 ;
3447 border-top: 1px solid silver ;
3448 border-bottom: 1px solid silver ;
3449 clear:both ;
3450 }
3451
3452
3453 header {
3454 line-height: 1.2 ;
3455 font-size: 1em ;
3456 border-bottom: 1px solid silver ;
3457 margin: 0px ;
3458 padding: 2ex 1em 2ex 1em ;
3459 text-align:left ;
3460 }
3461
3462
3463 footer {
3464 font-size: .85em ;
3465 line-height: 1.2 ;
3466 margin-top: 1ex ;
3467 border-top: 1px solid silver ;
3468 padding: 2ex 1em 2ex 1em ;
3469 clear:both ;
3470 text-align:left ;
3471 }
3472
3473
```

```
3474 /* for \LinkHome, \LinkPrevious, and \LinkNext: */
3475 a.linkhome { font-weight:bold ; font-size: 1em ;}
3476
3477
3478 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
3479
3480 img.lateximage{
3481 padding: 0pt ;
3482 margin: 0pt ;
3483 box-shadow: none ;
3484 border: none ;
3485 background: none ;
3486 max-width: 100% ;
3487 border-radius: 0ex ;
3488 border: none ;
3489 }
3490
3491
3492 div.sidetoccontainer {
3493 font-family: "DejaVu Serif", "Bitstream Vera Serif",
3494 "Lucida Bright", Georgia, serif;
3495 float: left ;
3496 width: 19%; /* room for border-right next to 80% main */
3497 margin: 0pt 0em 3ex 0pt ;
3498 border-right: 1px solid silver;
3499 border-bottom: 1px solid silver;
3500 background: #FAF7F4 ;
3501 font-size:.9em ;
3502 border-radius: 0px 0px 20px 0px ;
3503 }
3504
3505 div.sidetoccontents {
3506 overflow-y: auto ;
3507 width: 100% ;
3508 text-align: left ;
3509 }
3510
3511
3512 nav.sidetoc p {line-height:1.2 ; margin: 1ex .5em 1ex .5em ;
3513 text-indent: 0 ; }
3514
3515 nav.sidetoc p a {color:black ; font-size: .7em ;}
3516
3517 div.sidetoctitle {font-size: 1.2em; font-weight:bold; text-align:center;
3518 border-bottom: 1px solid silver ; }
3519
3520 nav.sidetoc a:hover {text-decoration: underline ; }
3521
3522
3523
3524 section.textbody { margin: 0ex 1em 0ex 1em ;}
3525
3526
3527 div.multicolsheading { -webkit-column-span: all;
3528 -moz-column-span: all; column-span: all; }
```

```
3529 div.multicols { -webkit-columns: 3 380px ;
3530 -moz-columns: 3 380px ; columns: 3 380px ; }
3531 div.multicols p {margin-top: 0ex}
3532
3533
3534 /* Used for xfrac and nicefrac: */
3535 span.numerator {
3536 font-size: 60% ;
3537 vertical-align: .4em ;
3538 }
3539
3540 span.denominator {
3541 font-size: 60%
3542 }
3543
3544
3545 /* Used for algorithm2e: */
3546 div.alg2evline{
3547 margin-left: 1em ;
3548 padding-left: 1em ;
3549 border-left: 1px solid black ;
3550 border-radius: 0px 0px 0px 1ex ;
3551 }
3552
3553 div.alg2evsline{
3554 margin-left: 1em ;
3555 padding-left: 1em ;
3556 border-left: 1px solid black ;
3557 }
3558
3559 div.alg2enoline{
3560 margin-left: 1em ;
3561 padding-left: 1em ;
3562 }
3563
3564 span.alg2elinenumber{
3565 margin-right: .5em ;
3566 font-size: 50% ;
3567 color: red ;
3568 }
3569
3570
3571 /* Used for algorithmicx: */
3572 span.floatright { float: right ; }
3573
3574
3575 /* keyfloat and tocdata: */
3576 .floatnotes {
3577 margin: 0ex 5% 0ex 5% ;
3578 padding: 0ex 1em 0ex 1em ;
3579 font-size:.80em ;
3580 text-align: left ;
3581 }
3582
3583 .authorartist{
```

```
3584 display:block ;
3585 font-size:.70em ;
3586 font-style: italic;
3587 }
3588
3589 nav .authorartist{ display:inline; }
3590
3591
3592
3593 /* Native LaTeX theorems: */
3594
3595 .theoremcontents {
3596 font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3597 }
3598
3599 .theoremlabel {
3600 font-style: normal; font-weight: bold ; margin-right: .5em ;
3601 }
3602
3603
3604
3605 /* theorem, amsthm, and ntheorem packages */
3606
3607 span.theoremheader,
3608 span.theoremheaderplain,
3609 span.theoremheaderdefinition,
3610 span.theoremheaderbreak,
3611 span.theoremheadermarginbreak,
3612 span.theoremheaderchangebreak,
3613 span.theoremheaderchange,
3614 span.theoremheadermargin
3615 {
3616 font-style:normal ; font-weight: bold ; margin-right: 1em ;
3617 }
3618
3619 span.amsthmnameplain,
3620 span.amsthmnamedefinition,
3621 span.amsthmnumberplain,
3622 span.amsthmnumberdefinition
3623 {
3624 font-style:normal ; font-weight: bold ;
3625 }
3626
3627
3628 span.amsthmnameremark,
3629 span.amsthmnumberremark
3630 {font-style:italic ; font-weight: normal ; }
3631
3632
3633 span.amsthmnoteplain,
3634 span.amsthmnotedefinition
3635 {font-style:normal ;}
3636
3637
3638 span.theoremheaderremark,
```

```
3639 span.theoremheaderproof,
3640 span.amsthmproofname
3641 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
3642
3643 span.theoremheadersc
3644 {
3645 font-style:normal ;
3646 font-variant: small-caps ;
3647 font-weight: normal ;
3648 margin-right: 1em ;
3649 }
3650
3651 .theoremendmark {float:right}
3652
3653 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynonumberplain,
3654 div.theorembodybreak, div.theorembodynonumberbreak,
3655 div.theorembodymarginbreak,
3656 div.theorembodychangebreak,
3657 div.theorembodychange,
3658 div.theorembodymargin
3659 {
3660 font-style:italic;
3661 margin-top: 3ex ; margin-bottom: 3ex ;
3662 }
3663
3664 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
3665 div.theorembodyplainupright, nonumberplainuprightsc,
3666 div.amsthmbodydefinition, div.amsthmbodyremark,
3667 div.amsthmproof
3668 {
3669 font-style: normal ;
3670 margin-top: 3ex ; margin-bottom: 3ex ;
3671 }
3672
3673 span.amsthmnoteremark {}
3674
3675
3676 /* thmbox */
3677
3678 .thmbox {
3679 font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3680 border: 1px solid gray ;
3681 padding: 1ex ;
3682 }
3683
3684 .thmboxtitle {
3685 font-style: normal; font-weight: bold ; margin-right: .5em ;
3686 border-bottom: 1px solid gray ;
3687 }
3688
3689 span.thmboxproofname, span.thmboxexamplenam {
3690 font-weight: bold ;
3691 }
3692
3693 div.thmboxproof, div.thmboxexample {
```

```
3694 font-size: 0.85em ;
3695 margin: 2ex ;
3696 }
3697
3698 div.thmboxleftbar {
3699 border-left: 2px solid black ;
3700 padding-left: 1em ;
3701 }
3702
3703
3704
3705 /* For the backnaur package: */
3706 div.backnaur {
3707 display: block ;
3708 margin: 2ex 2em 2ex 2em ;
3709 }
3710
3711 div.backnaur p {
3712 margin: .25ex 0ex .25ex 0ex ;
3713 }
3714
3715 div.backnaurprod {
3716 display: inline-block ;
3717 min-width: 8em ;
3718 text-align:right ;
3719 }
3720
3721 div.backnaurdesc {
3722 display: inline-block ;
3723 }
3724
3725
3726 /* For the notes package: */
3727 div.notesimportantnote, div.noteswarningnote, div.notesinformationnote {
3728 clear: both ;
3729 margin: 2ex 2em 2ex 2em ;
3730 border: 1px solid silver ;
3731 }
3732
3733 div.notesicon {
3734 float:left ;
3735 display: inline-block ;
3736 background: gold ;
3737 padding: 0ex 1em 0ex 1em ;
3738 margin-right: 1em ;
3739 font-weight: bold ;
3740 }
3741
3742 div.notescontents { font-style: italic }
3743
3744
3745 /* nolbreaks package: */
3746 span.nolbreaks { white-space: nowrap ; }
3747
3748
```

```
3749 /*
3750 For CSS LaTeX and related logos:
3751 Based on spacing demonstrated by the metafont package.
3752
3753 The subscripts are shrunk instead of lowered below the baseline,
3754 to avoid browser rendering errors with the line height in lists, etc.
3755 */
3756
3757 .latexlogofont {
3758 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3759 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3760 font-variant: normal ;
3761 }
3762
3763 .latexlogo {
3764 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3765 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3766 }
3767
3768 .latexlogosup {
3769 text-transform: uppercase;
3770 letter-spacing: .03em ;
3771 font-size: 0.7em;
3772 vertical-align: 0.25em;
3773 margin-left: -0.4em;
3774 margin-right: -0.15em;
3775 }
3776
3777 .latexlogosub {
3778 text-transform: uppercase;
3779 /* vertical-align: -0.27ex; */
3780 margin-left: -0.08em;
3781 margin-right: -0.07em;
3782 /* font-size: 1em; */
3783 font-size: .7em ;
3784 }
3785
3786 .latexlogotwoe {
3787 text-transform: none ;
3788 font-variant-numeric: oldstyle-nums ;
3789 }
3790
3791 .latexlogotwoesub {
3792 font-style:italic ;
3793 /* vertical-align: -0.27ex; */
3794 margin-left: -0.11em;
3795 margin-right: -0.1em;
3796 /* font-size: 1em; */
3797 font-size: .7em ;
3798 }
3799
3800 .xelatexlogo {
3801 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3802 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3803 letter-spacing: .03em ;
```

```
3804 }
3805
3806 .xelatexlogosub {
3807 /* vertical-align: -0.27ex; */
3808 margin-left: -0.0667em;
3809 margin-right: -.05em;
3810 /* font-size: 1em; */
3811 font-size: .7em ;
3812 letter-spacing: .03em ;
3813 }
3814
3815 .amslogo {
3816 font-family: "TeXGyreChorus", "URW Chancery L",
3817 "Apple Chancery", "ITC Zapf Chancery", "Monotype Corsiva",
3818 "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
3819 "Hoefler Text", Times, "Times New Roman", serif ;
3820 font-style: italic ;
3821 }
3822
3823 .lyxlogo {
3824 font-family: "URW Classico", Optima, "Linux Biolinum 0",
3825 "DejaVu Sans", "Bitstream Vera Sans", Geneva,
3826 Verdana, sans-serif ;
3827 }
3828
3829
3830 /* Only display top and bottom navigation if a small screen: */
3831 /* Hide the sidetoc if a small screen: */
3832 nav.topnavigation { display:none; }
3833 nav.botnavigation { display:none; }
3834
3835 /* Only display the sidetoc's webpage title if a small screen */
3836 span.sidetocthetitle { display: none }
3837
3838 @media screen and (max-width: 50em) {
3839 div.sidetoccontainer {
3840 float: none ;
3841 width: 100% ;
3842 padding: 0 ;
3843 border-radius: 0 ;
3844 border-bottom: 1px solid black ;
3845 border-top: 1px solid black ;
3846 box-shadow: none ;
3847 }
3848 span.sidetocthetitle { display: inline }
3849 nav.topnavigation { display:block }
3850 nav.botnavigation { display:block }
3851 main.bodycontainer { width: 100% }
3852 .marginpar {
3853 max-width: 100%;
3854 float: none;
3855 display:block ;
3856 margin: 1ex 1em 1ex 1em ;
3857 }
3858 }
```

```

3859
3860 @media print {
3861 body {
3862 font-family: "Linux Libertine O",
3863 "DejaVu Serif", "Bitstream Vera Serif",
3864 "Liberation Serif", "Nimbus Roman No 9 L",
3865 "FreeSerif", "Hoepler Text", Times, "Times New Roman", serif;
3866 }
3867 div.sidetoccontainer { display:none; }
3868 nav.topnavigation { display: none; }
3869 nav.botnavigation { display: none; }
3870 main.bodycontainer { width: 100% }
3871 }
3872
3873 @media handheld {
3874 div.sidetoccontainer { display:none; }
3875 nav.topnavigation { display:block }
3876 nav.botnavigation { display:block }
3877 main.bodycontainer { width: 100% }
3878 }
3879
3880 @media projection {
3881 div.sidetoccontainer { display:none; }
3882 nav.topnavigation { display:block }
3883 nav.botnavigation { display:block }
3884 main.bodycontainer { width: 100% }
3885 }
3886 \end{filecontents*}
3887 % \end{Verbatim}% for syntax highlighting
3888 \end{LWRwriteconf}

```

## 40.5 lwarp\_sagebrush.css

File lwarp\_sagebrush.css An optional css which may be used for a semi-modern appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```

3889 \begin{LWRwriteconf}
3890 \begin{filecontents*}[overwrite]{lwarp_sagebrush.css}
3891 @import url("lwarp.css") ;
3892
3893
3894 A:link {color:#105030 ; text-decoration: none ; }
3895 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
3896 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
3897 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
3898
3899
3900
3901 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
3902 {
3903 font-family: "URW Classico", Optima, "Linux Biolinum O",
3904 "Linux Libertine O", "Liberation Serif",

```

```
3905 "Nimbus Roman No 9 L", "FreeSerif",
3906 "Hoefler Text", Times, "Times New Roman", serif;
3907 font-variant: small-caps ;
3908 font-weight: normal ;
3909 color: #304070 ;
3910 text-shadow: 2px 2px 3px #808080;
3911 }
3912
3913 h1 { /* title of the entire website, used on each page */
3914 font-variant: small-caps ;
3915 color: #304070 ;
3916 text-shadow: 2px 2px 3px #808080;
3917 background-color: #F7F7F0 ;
3918 background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
3919 }
3920
3921 h1 {
3922 border-bottom: 1px solid #304070;
3923 /* border-top: 2px solid #304070; */
3924 }
3925
3926 h2 {
3927 border-bottom: 1px solid #304070;
3928 /* border-top: 2px solid #304070; */
3929 background-color: #F7F7F0 ;
3930 background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
3931 }
3932
3933
3934
3935 div.abstract {
3936 background: #f5f5eb ;
3937 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3938
3939 border: 1px solid silver;
3940 border-radius: 1em ;
3941 }
3942
3943 div.abstract dl {line-height:1.5;}
3944 div.abstract dt {color:#304070;}
3945
3946 div.abstracttitle{
3947 font-family: "URW Classico", Optima, "Linux Biolinum 0",
3948 "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
3949 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3950 font-weight:bold;
3951 font-variant: small-caps ;
3952 font-size:1.5em;
3953 border-bottom: 1px solid silver ;
3954 color: #304070 ;
3955 text-align: center ;
3956 text-shadow: 1px 1px 2px #808080;
3957 }
3958
3959 span.abstractrunintitle{
```

```
3960 font-family: "URW Classico", Optima, "Linux Biolinum 0",
3961 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3962 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3963 font-weight:bold;
3964 }
3965
3966
3967 div.epigraph, div.dictum {
3968 background: #f5f5eb ;
3969 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3970
3971 border: 1px solid silver ;
3972 border-radius: 1ex ;
3973 box-shadow: 3px 3px 3px #808080 ;
3974 }
3975
3976
3977 .example {
3978 background-color: #f5f5eb ;
3979 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3980
3981 }
3982
3983 div.exampletitle{
3984 font-family: "URW Classico", Optima, "Linux Biolinum 0",
3985 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3986 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3987 font-weight:bold;
3988 font-variant: small-caps ;
3989 border-bottom: 1px solid silver ;
3990 color: #304070 ;
3991 text-align: center ;
3992 text-shadow: 1px 1px 2px #808080;
3993 }
3994
3995
3996 .sidebar {
3997 background-color: #f5f5eb ;
3998 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3999
4000 }
4001
4002 div.sidebartitle{
4003 font-family: "URW Classico", Optima, "Linux Biolinum 0",
4004 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4005 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4006 font-weight:bold;
4007 font-variant: small-caps ;
4008 border-bottom: 1px solid silver ;
4009 color: #304070 ;
4010 text-align: center ;
4011 text-shadow: 1px 1px 2px #808080;
4012 }
4013
4014
```

```
4015 .fancyvrblabel {
4016 font-family: "URW Classico", Optima, "Linux Biolinum O",
4017 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4018 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4019 font-weight:bold;
4020 font-variant: small-caps ;
4021 font-size: 1.5em ;
4022 color: #304070 ;
4023 text-align: center ;
4024 text-shadow: 1px 1px 2px #808080;
4025 }
4026
4027 div.minipage {
4028 background-color: #eeeeee7 ;
4029 border: 1px solid silver ;
4030 border-radius: 1ex ;
4031 }
4032
4033 table div.minipage { background: none ; border: none ; }
4034
4035 div.framebox div.minipage {border:none ; background:none}
4036
4037 section.textbody > div.minipage {
4038 box-shadow: 3px 3px 3px #808080 ;
4039 }
4040
4041 div.fboxBlock div.minipage { box-shadow: none ; }
4042
4043 .framed .minipage , .framedleftbar .minipage {
4044 border: none ;
4045 background: none ;
4046 padding: 0ex ;
4047 margin: 0ex ;
4048 }
4049
4050 figure.figure .minipage, div.figurecaption .minipage { border: none; }
4051
4052 div.marginblock div.minipage ,
4053 div.marginparblock div.minipage
4054 { border: none; }
4055
4056 figure , div.marginblock {
4057 background-color: #eeeeee7 ;
4058 border: 1px solid silver ;
4059 border-radius: 1ex ;
4060 box-shadow: 3px 3px 3px #808080 ;
4061 }
4062
4063 figure figure {
4064 border: 1px solid silver ;
4065 margin: 0em ;
4066 box-shadow: none ;
4067 }
4068
4069 /*
```

```
4070 div.figurecaption {
4071 border-top: 1px solid silver ;
4072 border-bottom: 1px solid silver ;
4073 background-color: #e8e8e8 ;
4074 }
4075 */
4076
4077
4078 div.table {
4079 box-shadow: 3px 3px 3px #808080 ;
4080 }
4081
4082 /*
4083 .tnotes {
4084 background: #e8e8e8;
4085 border: 1px solid silver;
4086 }
4087 */
4088
4089
4090 nav.topnavigation{
4091 background-color: #b0b8b0 ;
4092 background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;
4093 }
4094
4095 nav.botnavigation{
4096 background-color: #b0b8b0 ;
4097 background-image: linear-gradient(to top,#e0e0e0,#b0b8b0) ;
4098 }
4099
4100
4101
4102 header{
4103 background-color: #F7F7F0 ;
4104 background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);
4105 }
4106
4107 footer{
4108 background-color: #F7F7F0 ;
4109 background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);
4110 }
4111
4112
4113
4114 div.sidetoccontainer {
4115 background-color: #F7F7F0 ;
4116 background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);
4117 box-shadow: 3px 3px 3px #808080 ;
4118 }
4119
4120 div.sidetotitle {color: #304070 ; }
4121
4122 nav.sidetoc a:hover {
4123 color:#006000 ;
4124 text-decoration: none ;
```

```

4125 text-shadow:0px 0px 2px #a0a0a0;
4126 }
4127
4128
4129 @media screen and (max-width: 45em) {
4130 div.sidetoccontainer { border-radius: 0 ; }
4131 }
4132
4133
4134 \end{filecontents*}
4135 % \end{Verbatim}% for syntax highlighting
4136 \end{LWRwriteconf}

```

## 40.6 lwarp\_formal.css

File lwarp\_formal.css An optional css which may be used for a more formal appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```

4137 \begin{LWRwriteconf}
4138 \begin{filecontents*}[overwrite]{lwarp_formal.css}
4139 @import url("lwarp.css") ;
4140
4141
4142
4143 A:link {color:#802020 ; text-decoration:none; }
4144 A:visited {color:#802020 ; text-shadow:none ;}
4145 A:hover {color:#400000 ; text-shadow:none ;}
4146 A:active {color:#C00000 ; text-shadow:none ;}
4147
4148
4149 body {
4150 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4151 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4152 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4153 "Times New Roman", serif;
4154 background: #fffcf5;
4155 }
4156
4157 span.textrm {
4158 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4159 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4160 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4161 "Times New Roman", serif;
4162 }
4163
4164 span.textsf {
4165 font-family: "DejaVu Sans", "Bitstream Vera Sans",
4166 Geneva, Verdana, sans-serif ;
4167 }
4168
4169
4170

```

```
4171 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4172 {
4173 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4174 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4175 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4176 "Times New Roman", serif;
4177 color: #800000 ;
4178 text-shadow: none ;
4179 }
4180
4181 h1, h2 {
4182 background-color: #ffffcf5 ;
4183 background-image: none ;
4184 border-bottom: 1px solid #808080;
4185 /* border-top: 2px solid #808080; */
4186 }
4187
4188 div.abstracttitle {
4189 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4190 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4191 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4192 "Times New Roman", serif;
4193 color: black ;
4194 text-shadow: none ;
4195 }
4196
4197 span.abstractrunintitle {
4198 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4199 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4200 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4201 "Times New Roman", serif;
4202 color: black ;
4203 text-shadow: none ;
4204 }
4205
4206 div.abstract { font-size: 100% }
4207
4208 .sidebar {
4209 background: #ffffcf5;
4210 background-image: none ;
4211 margin: 2em 5% 2em 5%;
4212 padding: 0.5em 1em;
4213 border: none ;
4214 border-top : 1px solid silver;
4215 border-bottom : 1px solid silver;
4216 font-size: 90% ;
4217 }
4218
4219 div.sidebartitle{
4220 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4221 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4222 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4223 "Times New Roman", serif;
4224 color: #800000 ;
4225 text-shadow: none ;
```

```
4226 border: none ;
4227 }
4228
4229 .example {
4230 background: #ffffcf5;
4231 background-image: none ;
4232 margin: 2em 5% 2em 5%;
4233 padding: 0.5em 1em;
4234 border: none ;
4235 border-top : 1px solid silver;
4236 border-bottom : 1px solid silver;
4237 }
4238
4239 div.exampletitle{
4240 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4241 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4242 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4243 "Times New Roman", serif;
4244 color: #800000 ;
4245 text-shadow: none ;
4246 border: none ;
4247 }
4248
4249 div.fancyvrblabel{
4250 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4251 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4252 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4253 "Times New Roman", serif;
4254 color: #800000 ;
4255 text-shadow: none ;
4256 border: none ;
4257 }
4258
4259
4260
4261 figure {
4262 margin: 5ex 5% 5ex 5% ;
4263 padding: 1ex 1em 1ex 1em ;
4264 background-color: #ffffcf5 ;
4265 overflow-x: auto ;
4266 border: none ;
4267 /* border-top: 1px solid silver; */
4268 /* border-bottom: 1px solid silver; */
4269 }
4270
4271
4272 div.figurecaption , .lstlisting {
4273 border: none ;
4274 /* border-top: 1px solid silver ; */
4275 /* border-bottom: 1px solid silver ; */
4276 background-color: #ffffcf5 ;
4277 }
4278
4279 .tnotes {
4280 background: #ffffcf5 ;
```

```
4281 border-top: 1px solid silver ;
4282 border-bottom: 1px solid silver ;
4283 }
4284
4285 .theorem {
4286 background: none ;
4287 }
4288
4289 .minipage {
4290 background-color: #ffffcf5 ;
4291 border: none ;
4292 }
4293
4294 div.floatrow figure { border: none ; }
4295
4296 figure figure { border: none ; }
4297
4298
4299 nav.toc, nav.lof, nav.lot, nav.loi {
4300 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4301 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4302 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4303 "Times New Roman", serif;
4304 }
4305
4306 div.sidetoccontainer {
4307 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4308 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4309 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4310 "Times New Roman", serif;
4311 background-image: linear-gradient(to bottom, #ffffcf5, #C0C0C0);
4312 }
4313
4314 div.sidetoctitle{
4315 color: #800000 ;
4316 }
4317
4318 header{
4319 background-color: #e0e0e0 ;
4320 background-image: linear-gradient(to top, #ffffcf5, #b0b0b0);
4321 text-align:center ;
4322 }
4323
4324 footer{
4325 background-color: #e0e0e0 ;
4326 background-image: linear-gradient(to bottom, #ffffcf5, #b0b0b0);
4327 padding: 2ex 1em 2ex 1em ;
4328 text-align:left ;
4329 }
4330
4331 nav.botnavigation {
4332 background: #dedcd5 ;
4333 border-top: 1px solid black ;
4334 }
4335 \end{filecontents*}
```

```
4336 % \end{Verbatim} % for syntax highlighting
4337 \end{LWRwriteconf}
```

## 40.7 sample\_project.css

File sample\_project.css The project-specific css file. Use with \CSSFilename.

If used, this must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```
4338 \begin{LWRwriteconf}
4339 \begin{filecontents*}[overwrite]{sample_project.css}
4340 /* (--- Start of project.css ---) */
4341 /* (--- A sample project-specific CSS file for lwarp ---) */
4342
4343 /* Uncomment one of the following: */
4344 @import url("lwarp.css") ;
4345 /* @import url("lwarp_formal.css") ; */
4346 /* @import url("lwarp_sagebrush.css") ; */
4347
4348 /* Project-specific CSS setting follow here. */
4349 /* . . . */
4350
4351 /* (--- End of project.css ---) */
4352 \end{filecontents*}
4353 % \end{Verbatim} % for syntax highlighting
4354 \end{LWRwriteconf}
```

## 40.8 lwarp.ist

File lwarp.ist Used to modify the index for lwarp.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The page compositor line is for memoir's \specialindex.

**Config file:**

```
4355 \begin{LWRwriteconf}
4356 \begin{filecontents*}[overwrite]{lwarp.ist}
4357 preamble
4358 "\\begin{theindex}"
4359 \\providecommand*\\lettergroupDefault[1]{}
4360 \\providecommand*\\lettergroup[1]{%
4361 \\par\\textbf{\#1}\\par
4362 \\nopagebreak
4363 }
4364 "
4365 headings_flag 1
4366 heading_prefix "
4367 \\lettergroup{
4368 heading_suffix \""
4369 delim_0 ", \\hyperindexref{"
4370 delim_1 ", \\hyperindexref{"
```

---

```

4371 delim_2 ", \\hyperindexref{"
4372 delim_n "}, \\hyperindexref{"
4373 delim_r "} -- \\hyperindexref{"
4374 delim_t "}"
4375 page_compositor "."
4376 \end{filecontents*}
4377 % \end{Verbatim}% for syntax highlighting
4378 \end{LWRwriteconf}
```

## 40.9 lwarp.xdy

File **lwarp.xdy** Used to modify the index for **lwarp**.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

See:

[https://tex.stackexchange.com/questions/80300/  
how-can-i-convince-hyperref-and-xindy-to-play-together-nicely](https://tex.stackexchange.com/questions/80300/how-can-i-convince-hyperref-and-xindy-to-play-together-nicely)

**Config file:**

```

4379 \begin{LWRwriteconf}
4380 \begin{filecontents*}[overwrite]{lwarp.xdy}
4381 (require "tex/inputenc/latin.xdy")
4382 (merge-rule "\\PS *" "Postscript")
4383 (require "texindy.xdy")
4384 (require "page-ranges.xdy")
4385 (require "book-order.xdy")
4386 (define-location-class "arabic-page-numbers"
4387 ("arabic-numbers") :min-range-length 1)
4388 (require "makeindex.xdy")
4389 (define-atributes (("hyperindexref")))
4390 (markup-locref :open "\\hyperindexref{" :close "}")
4391 (markup-locref :open "\\hyperindexref{" :close "}" :attr "hyperpage")
4392 (markup-locref :open "\\textbf{\\hyperindexref{" :close "}}" :attr "textbf")
4393 (markup-locref :open "\\textit{\\hyperindexref{" :close "}}" :attr "textit")
4394 (define-location-class-order ("roman-page-numbers"
4395 "arabic-page-numbers"
4396 "alpha-page-numbers"
4397 "Roman-page-numbers"
4398 "Alpha-page-numbers"
4399 "see"
4400 "seealso"))
4401 \end{filecontents*}
4402 % \end{Verbatim}% for syntax highlighting
4403 \end{LWRwriteconf}
```

## 40.10 lwarp\_one\_limage.cmd

File **lwarp\_one\_limage.cmd** Used by **lwarp** to help make **lateximages** when using **WINDOWS**.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The arguments are each of the three fields from <project>-images.txt, and also the base name of the source file.

*MiKTeX* does not allow file l warp\_one\_limage.cmd to be created directly by *l warpmk*, so l warp\_one\_limage.txt is created instead, then copied to l warp\_one\_limage.cmd by *l warpmk*. This occurs each time *l warpmk* used to create lateximages.

```
Config file: 4404 \begin{LWRwriteconf}
4405 \immediate\openout\LWR@quickfile=l warp_one_limage.txt
4406 \immediate\write\LWR@quickfile{%
4407 pdfseparate -f \LWRpercent 1 -l \LWRpercent 1 \LWRpercent 4_html.pdf %
4408 \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent\LWRpercent d.pdf%
4409 }
4410 \immediate\write\LWR@quickfile{%
4411 pdfcrop --hires \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf %
4412 \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4413 }
4414 \immediate\write\LWR@quickfile{%
4415 pdftocairo -svg -noshrink \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf %
4416 \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.svg%
4417 }
4418 \immediate\write\LWR@quickfile{%
4419 del \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4420 }
4421 \immediate\write\LWR@quickfile{%
4422 del \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf%
4423 }
4424 \immediate\write\LWR@quickfile{exit}
4425 \immediate\closeout\LWR@quickfile
4426 \end{LWRwriteconf}
```

## 40.11 l warp\_mathjax.txt

(Emulates or patches code by DAVIDE P. CERVONE.)

File l warp\_mathjax.txt The default MATHJAX script used by l warp when using MATHJAX. A recent version of MATHJAX is used, as served by the recommended repository. Adjustments are made to allow LATEX to control the equation tags and provide for starred macros.

\MathJaxFilename determines which script file is copied into the HTML pages, and defaults to l warp\_mathjax.txt. The script files must be present when compiling the project, but do not need to be present when distributing the resulting HTML files.

custom script To generate a custom script, such as to use a local repository, copy l warp\_mathjax.txt to a new file, make changes while keeping l warp's adjustments for equation numbering and starred macros, and use \MathJaxFilename to select the new filename.

```
Config file: 4427 \begin{LWRwriteconf}
4428 \begin{filecontents*}[overwrite]{l warp_mathjax.txt}
4429 <script>
4430 // L warp MathJax emulation code
4431 //
4432 // Based on code by Davide P. Cervone.
4433 // Equation numbering: https://github.com/mathjax/MathJax/issues/2427
```

```
4434 // Starred and ifnextchar macros: https://github.com/mathjax/MathJax/issues/2428
4435 // \left, \right delimiters: https://github.com/mathjax/MathJax/issues/2535
4436 //
4437 // Modified by Brian Dunn to adjust equation numbering and add subequations.
4438 //
4439 // LaTeX can use \seteqnumber{subequations?}{section}{number} before each equation.
4440 // subequations? is 0 usually, 1 if inside subequations.
4441 // section is a string printed as-is, or empty.
4442 // number is auto-incremented by MathJax between equations.
4443 //
4444 MathJax = {
4445 subequations: "0",
4446 section: "",
4447 loader: {
4448 load: ['[tex]/tagformat', '[tex]/textmacros'],
4449 },
4450 startup: {
4451 ready() {
4452 // These would be replaced by import commands if you wanted to make
4453 // a proper extension.
4454 const Configuration = MathJax._.input.tex.Configuration.Configuration;
4455 const CommandMap = MathJax._.input.tex.SymbolMap.CommandMap;
4456 const Macro = MathJax._.input.tex.Symbol.Macro;
4457 const TexError = MathJax._.input.tex.TexError.default;
4458 const ParseUtil = MathJax._.input.tex.ParseUtil.default;
4459 const expandable = MathJax._.util.Options.expandable;
4460
4461 // Insert the replacement string into the TeX string, and check
4462 // that there haven't been too many maxro substitutions (prevents
4463 // infinite loops).
4464 const useArgument = (parser, text) => {
4465 parser.string = ParseUtil.addArgs(parser, text, parser.string.slice(parser.i));
4466 parser.i = 0;
4467 if (++parser.macroCount > parser.configuration.options.maxMacros) {
4468 throw new TexError('MaxMacroSub1',
4469 'MathJax maximum macro substitution count exceeded; ' +
4470 'is there a recursive macro call?');
4471 }
4472 }
4473
4474 // Create the command map for:
4475 // \ifstar, \ifnextchar, \ifblank, \ifstreq, \seteqnumber
4476 new CommandMap('Lwarp-macros', {
4477 ifstar: 'IfstarFunction',
4478 ifnextchar: 'IfnextcharFunction',
4479 ifblank: 'IfblankFunction',
4480 ifstreq: 'IfstreqFunction',
4481 seteqnumber: 'SeteqnumberFunction'
4482 }, {
4483 // This function implements an ifstar macro.
4484 IfstarFunction(parser, name) {
4485 const resultstar = parser.GetArgument(name);
4486 const resultnostar = parser.GetArgument(name);
4487 const star = parser.GetStar(); // true if there is a *
4488 useArgument(parser, star ? resultstar : resultnostar);
```

```
4489 },
4490
4491 // This function implements an ifnextchar macro.
4492 IfnextcharFunction(parser, name) {
4493 let whichchar = parser.GetArgument(name);
4494 if (whichchar.match(/^(:?0x[0-9A-F]+|[0-9]+)$/i)) {
4495 // $ syntax highlighting
4496 whichchar = String.fromCodePoint(parseInt(whichchar));
4497 }
4498 const resultnextchar = parser.GetArgument(name);
4499 const resultnotnextchar = parser.GetArgument(name);
4500 const gotchar = (parser.GetNext() === whichchar);
4501 useArgument(parser, gotchar ? resultnextchar : resultnotnextchar);
4502 },
4503
4504 // This function implements an ifblank macro.
4505 IfblankFunction(parser, name) {
4506 const blankarg = parser.GetArgument(name);
4507 const resultblank = parser.GetArgument(name);
4508 const resultnotblank = parser.GetArgument(name);
4509 const isblank = (blankarg.trim() == "");
4510 useArgument(parser, isblank ? resultblank : resultnotblank);
4511 },
4512
4513 // This function implements an ifstrequal macro.
4514 IfstrequalFunction(parser, name) {
4515 const strequalfirst = parser.GetArgument(name);
4516 const strequalsecond = parser.GetArgument(name);
4517 const resultequal = parser.GetArgument(name);
4518 const resultnotequal = parser.GetArgument(name);
4519 const isequal = (strequalfirst == strequalsecond);
4520 useArgument(parser, isequal ? resultequal : resultnotequal);
4521 },
4522
4523 // This function modifies the equation numbers.
4524 SeteqnumberFunction(parser, name) {
4525 // Get the macro parameters
4526 const star = parser.GetStar(); // true if there is a *
4527 const optBrackets = parser.GetBrackets(name); // contents of optional brackets
4528 const newsubequations = parser.GetArgument(name); // the subequations argument
4529 const neweqsection = parser.GetArgument(name); // the eq section argument
4530 const neweqnumber = parser.GetArgument(name); // the eq number argument
4531 MathJax.config.subequations=newsubequations ; // a string with boolean meaning
4532 MathJax.config.section=neweqsection ; // a string with numeric meaning
4533 parser.tags.counter = parser.tags.allCounter = neweqnumber ;
4534 }
4535
4536);
4537
4538 // Create the Lwarp-macros package
4539 Configuration.create('Lwarp-macros', {
4540 handler: {macro: ['Lwarp-macros']}
4541 });
4542
4543 MathJax.startup.defaultReady();
```

```
4544 // For forward references:
4545 MathJax.startup.input[0].preFilters.add(({math}) => {
4546 if (math.inputData.recompile){
4547 MathJax.config.subequations = math.inputData.recompile.subequations;
4548 MathJax.config.section = math.inputData.recompile.section;
4549 }
4550 });
4551 MathJax.startup.input[0].postFilters.add(({math}) => {
4552 if (math.inputData.recompile){
4553 math.inputData.recompile.subequations = MathJax.config.subequations;
4554 math.inputData.recompile.section = MathJax.config.section;
4555 }
4556 });
4557);
4558 // For \left, \right with unicode-math:
4559 const {DelimiterMap} = MathJax._.input.tex.SymbolMap;
4560 const {Symbol} = MathJax._.input.tex.Symbol;
4561 const {MapHandler} = MathJax._.input.tex.MapHandler;
4562 const delimiter = MapHandler.getMap('delimiter');
4563 delimiter.add('\\lBrack', new Symbol('\\lBrack', '\u27E6'));
4564 delimiter.add('\\rBrack', new Symbol('\\rBrack', '\u27E7'));
4565 delimiter.add('\\lAngle', new Symbol('\\lAngle', '\u27EA'));
4566 delimiter.add('\\rAngle', new Symbol('\\rAngle', '\u27EB'));
4567 delimiter.add('\\lbrbrak', new Symbol('\\lbrbrak', '\u2772'));
4568 delimiter.add('\\rbrbrak', new Symbol('\\rbrbrak', '\u2773'));
4569 delimiter.add('\\lbag', new Symbol('\\lbag', '\u27C5'));
4570 delimiter.add('\\rbag', new Symbol('\\rbag', '\u27C6'));
4571 delimiter.add('\\llparenthesis', new Symbol('\\llparenthesis', '\u2987'));
4572 delimiter.add('\\rrparenthesis', new Symbol('\\rrparenthesis', '\u2988'));
4573 delimiter.add('\\llangle', new Symbol('\\llangle', '\u2989'));
4574 delimiter.add('\\rrangle', new Symbol('\\rrangle', '\u298A'));
4575 delimiter.add('\\Lbrbrak', new Symbol('\\Lbrbrak', '\u27EC'));
4576 delimiter.add('\\Rbrbrak', new Symbol('\\Rbrbrak', '\u27ED'));
4577 delimiter.add('\\lBrace', new Symbol('\\lBrace', '\u2983'));
4578 delimiter.add('\\rBrace', new Symbol('\\rBrace', '\u2984'));
4579 delimiter.add('\\lParen', new Symbol('\\lParen', '\u2985'));
4580 delimiter.add('\\rParen', new Symbol('\\rParen', '\u2986'));
4581 delimiter.add('\\lbrackubar', new Symbol('\\lbrackubar', '\u298B'));
4582 delimiter.add('\\rbrackubar', new Symbol('\\rbrackubar', '\u298C'));
4583 delimiter.add('\\lbrackultick', new Symbol('\\lbrackultick', '\u298D'));
4584 delimiter.add('\\rbracklrtick', new Symbol('\\rbracklrtick', '\u298E'));
4585 delimiter.add('\\lbracklltick', new Symbol('\\lbracklltick', '\u298F'));
4586 delimiter.add('\\rbrackurtick', new Symbol('\\rbrackurtick', '\u2990'));
4587 delimiter.add('\\langledot', new Symbol('\\langledot', '\u2991'));
4588 delimiter.add('\\rangledot', new Symbol('\\rangledot', '\u2992'));
4589 delimiter.add('\\lparenless', new Symbol('\\lparenless', '\u2993'));
4590 delimiter.add('\\rparengtr', new Symbol('\\rparengtr', '\u2994'));
4591 delimiter.add('\\Lparengtr', new Symbol('\\Lparengtr', '\u2995'));
4592 delimiter.add('\\Rparenless', new Symbol('\\Rparenless', '\u2996'));
4593 delimiter.add('\\lblkbrbrak', new Symbol('\\lblkbrbrak', '\u2997'));
4594 delimiter.add('\\rblkbrbrak', new Symbol('\\rblkbrbrak', '\u2998'));
4595 delimiter.add('\\lvzigzag', new Symbol('\\lvzigzag', '\u29D8'));
4596 delimiter.add('\\rvzigzag', new Symbol('\\rvzigzag', '\u29D9'));
4597 delimiter.add('\\Lvzigzag', new Symbol('\\Lvzigzag', '\u29DA'));
```

```

4599 delimiter.add('\\Rvzigzag', new Symbol('\\Rvzigzag', '\u29DB'));
4600 delimiter.add('\\lcurvyangle', new Symbol('\\lcurvyangle', '\u29FC'));
4601 delimiter.add('\\rcurvyangle', new Symbol('\\rcurvyangle', '\u29FD'));
4602 delimiter.add('\\Vvert', new Symbol('\\Vvert', '\u2980'));
4603 } // ready
4604 }, // startup
4605
4606 tex: {
4607 packages: {'[+]': ['tagformat', 'Lwarp-macros', 'textmacros']},
4608 tags: "ams",
4609 tagformat: {
4610 number: function (n) {
4611 if(MathJax.config.subequations==0)
4612 return(MathJax.config.section + n);
4613 else
4614 return(MathJax.config.section + String.fromCharCode(96+n));
4615 },
4616 },
4617 }
4618 }
4619</script>
4620
4621<script
4622 id="MathJax-script"
4623 src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-chtml.js"
4624 ></script>
4625 \end{filecontents*}
4626 % \end{Verbatim}% for syntax highlighting
4627 \end{LWRwriteconf}

```

## 40.12 **lwarpmk.lua** — **lwarpmk** option

Opt **lwarpmk** Creates a local copy of *lwarpmk*.

Prog **lwarpmk** Command-line utility to process **l warp** files and images.

**parallel processing** *lateximages* and *svg* math images are generated using multiple processes in parallel. For **UNIX** and **LINUX**, every 32 images the *wait* command is issued to wait for the previous batch of images to finish processing before starting a new batch. For **WINDOWS**, every 32 images one task is dispatched with

```
START /B /WAIT /BELOWNORMAL
```

which causes the operating system to wait until this lesser-priority tasks finishes, hopefully also waiting for the normal priority tasks which were already in progress to also complete. Afterwards, the next batch of images is started.

The following is only generated if the **lwarpmk** option was given to **l warp**.

```

4628 \begin{LWRcreateLwarpmk}
4629 \begin{filecontents*}[overwrite]{lwarpmk.lua}
4630 #!/usr/bin/env texlua
4631

```

```
4632 -- Copyright 2016-2021 Brian Dunn
4633
4634
4635 printversion = "v0.896"
4636 requiredconfversion = "2" -- also at *lwarpmk.conf
4637
4638 function printhelp ()
4639 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.") ;
4640 end
4641
4642
4643 function printusage ()
4644 --
4645 -- Print the usage of the lwarpmk command:
4646 --
4647 print ([[
4648
4649 lwarpmk print [-p project]: Compile the print version if necessary.
4650 lwarpmk print1 [-p project]: Forced single compile of the print version.
4651 lwarpmk printindex [-p project]: Process print indexes.
4652 lwarpmk printglossary [-p project]: Process the glossary for the print version.
4653 lwarpmk html [-p project]: Compile the HTML version if necessary.
4654 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
4655 lwarpmk htmlindex [-p project]: Process HTML indexes.
4656 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.
4657 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
4658 lwarpmk limages [-p project]: Process the "lateximages" created by lwarp.sty.
4659 lwarpmk pdftohtml [-p project]:
4660 For use with latexmk or a Makefile:
4661 Converts project_html.pdf to project_html.html and individual HTML files.
4662 Finishes the HTML conversion even if there was a compile error.
4663 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
4664 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
4665 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
4666 *.idx, *.ind, *.bbl, *.log, *_html_inc.*., .gl*,
4667 *_html.pdf, *_html.html, *_html.sidetoc
4668 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
4669 lwarpmk cleanlimages: Removes all images from the "lateximages" directory.
4670 lwarpmk -v: Print the version number.
4671 lwarpmk -h: Print this help message.
4672 lwarpmk --help: Print this help message.
4673
4674]])
4675 -- printconf ()
4676 end
4677
4678
4679 function splitfilename (pathandfilename)
4680 --
4681 -- Separates out the path and extension from a filename.
4682 -- Returns path, filename with extension, and extension.
4683 -- Ex: thispath, thisfilename, thisextension = splitfilename ("path/to/filename.ext")
4684 --
4685 -- https://www.fhug.org.uk/wiki/wiki/doku.php?id=plugins:code_snippets:
4686 -- split_filename_in_to_path_filename_and_extension
```

```
4687 --
4688 if lfs.attributes(pathandfilename,"mode") == "directory" then
4689 local strPath = pathandfilename:gsub("[\\/]$","",) -- $ (syntax highlighting)
4690 return strPath.."\\","",""
4691 end
4692 pathandfilename = pathandfilename.."."
4693 return pathandfilename:match("^(.-)([^\\/]-%.(^\\/.%)-%.)%?$")
4694 end
4695
4696
4697 function splitfile (destfile,sourcefile)
4698 --
4699 -- Split one large sourcefile into a number of files,
4700 -- starting with destfile.
4701 -- The file is split at each occurrence of <!--|Start file|newfilename|*
4702 --
4703 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;
4704 local sfile = io.open(sourcefile)
4705 io.output(destfile)
4706 for line in sfile:lines() do
4707 i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*)|")
4708 if ((i~= nil) and (copen == "<!--") and (cstart == "Start file")) then
4709 -- split the file
4710 io.output(newfilename) ;
4711 else
4712 -- not a splitpoint
4713 io.write (line .. "\n") ;
4714 end
4715 end -- do
4716 io.close(sfile)
4717 end -- function
4718
4719
4720 function cvalueerror (line, linenum , cvalue)
4721 --
4722 -- Incorrect value, so print an error and exit.
4723 --
4724 print ("lwarpmk: ===")
4725 print ("lwarpmk: " .. linenum .. " : " .. line) ;
4726 print (
4727 "lwarpmk: incorrect variable value \" .. cvalue ..
4728 \" in lwarpmk.conf.\n"
4729) ;
4730 print ("lwarpmk: ===")
4731 -- printconf () ;
4732 os.exit(1) ;
4733 end
4734
4735
4736 function printhowtorecompile ()
4737 -- Tells the user how to recompile to regenerate the configuration files.
4738 print ("lwarpmk: The configuration files lwarpmk.conf and "..sourcename.."lwarpmkconf")
4739 print ("lwarpmk: must be updated. To do so, recompile")
4740 print ("lwarpmk: " , sourcename.."tex")
4741 if (printlatexecmd == "") then
```

```
4742 print ("lwarfpmk: using xe/lua/pdflatex, ")
4743 else
4744 print ("lwarfpmk: using the command:")
4745 print ("lwarfpmk: " , printlatexcmd)
4746 end
4747 print ("lwarfpmk: then use lwarfpmk again.")
4748 end -- printhowtorecompile
4749
4750
4751 function ignoreconf ()
4752 -- Global argument index
4753 argindex = 2
4754 end
4755
4756 function loadconf ()
4757 --
4758 -- Load settings from the project's "lwarfpmk.conf" file:
4759 --
4760 -- Default configuration filename:
4761 local conffile = "lwarfpmk.conf"
4762 local confroot = "lwarfpmk"
4763 -- Global argument index
4764 argindex = 2
4765 -- Optional configuration filename:
4766 if (arg[argindex] == "-p") then
4767 argindex = argindex + 1
4768 confroot = arg[argindex]
4769 conffile = confroot.."lwarfpmkconf"
4770 argindex = argindex + 1
4771 end
4772 -- Additional defaults:
4773 confversion = "0"
4774 opsystem = "Unix"
4775 imagesdirectory = "lateximages"
4776 imagesname = "image-"
4777 latexmk = "false"
4778 printlatexcmd = ""
4779 HTMLlatexcmd = ""
4780 printindexcmd = ""
4781 HTMLindexcmd = ""
4782 latexmkindexcmd = ""
4783 -- to be removed:
4784 -- indexprog = "makeindex"
4785 -- makeindexstyle = "lwarf.ist"
4786 -- xindylanguage = "english"
4787 -- xindycodepage = "utf8"
4788 -- xindystyle = "lwarf.xdy"
4789 -- pdftotextenc = "UTF-8"
4790 glossarycmd = "makeglossaries"
4791 -- Verify the file exists:
4792 if (lfs.attributes(conffile,"mode")==nil) then
4793 -- file not exists
4794 print ("lwarfpmk: ===")
4795 print ("lwarfpmk: File \\" .. conffile .. "\\ does not exist.")
4796 print ("lwarfpmk: Move to the project's source directory,")
```

```
4797 print ("lwarpmk: recompile using pdflatex, xelatex, or lualatex,")
4798 print ("lwarpmk: then try using lwarpmk again.")
4799 if (arg[argindex] ~= nil) then
4800 print (
4801 "lwarpmk: (\\" .. confroot ..
4802 "\"" does not appear to be a project name.)"
4803)
4804 end
4805 print ("lwarpmk: ===")
4806 printhelp () ;
4807 os.exit(1) -- exit the entire lwarpmk script
4808 else -- file exists
4809 -- Read the file:
4810 print ("lwarpmk: Reading " .. conffile ..".")
4811 local cfile = io.open(conffile)
4812 -- Scan each line, parsing each line as: name = [[string]]
4813 local linenum = 0
4814 for line in cfile:lines() do -- scan lines
4815 linenum = linenum + 1
4816 i,j,cvarname,cvalue = string.find (line,"([%w-_]*%)%s*=%s*%[%([%^])%]*%]"") ;
4817 -- Error if incorrect enclosing characters:
4818 if (i == nil) then
4819 print ("lwarpmk: ===")
4820 print ("lwarpmk: " .. linenum .. " : " .. line) ;
4821 print ("lwarpmk: Incorrect entry in " .. conffile .. ".\n") ;
4822 print ("lwarpmk: ===")
4823 -- printconf () ;
4824 os.exit(1) ;
4825 end -- nil
4826 if (cvarname == "confversion") then
4827 confversion = cvalue
4828 elseif (cvarname == "opsystem") then
4829 -- Verify choice of opsystem:
4830 if ((cvalue == "Unix") or (cvalue == "Windows")) then
4831 opsystem = cvalue
4832 else
4833 cvalueerror (line, linenum , cvalue)
4834 end
4835 elseif (cvarname == "sourcename") then sourcename = cvalue
4836 elseif (cvarname == "homehtmlfilename") then homehtmlfilename = cvalue
4837 elseif (cvarname == "htmlfilename") then htmlfilename = cvalue
4838 elseif (cvarname == "imagesdirectory") then imagesdirectory = cvalue
4839 elseif (cvarname == "imagesname") then imagesname = cvalue
4840 elseif (cvarname == "latexmk") then latexmk = cvalue
4841 elseif (cvarname == "printlatexcmd") then printlatexcmd = cvalue
4842 elseif (cvarname == "HTMLlatexcmd") then HTMLlatexcmd = cvalue
4843 elseif (cvarname == "printindexcmd") then printindexcmd = cvalue
4844 elseif (cvarname == "HTMLindexcmd") then HTMLindexcmd = cvalue
4845 elseif (cvarname == "latexmkindexcmd") then latexmkindexcmd = cvalue
4846 elseif (cvarname == "glossarycmd") then glossarycmd = cvalue
4847 elseif (cvarname == "pdftotextenc") then pdftotextenc = cvalue
4848 else
4849 print ("lwarpmk: ===")
4850 print ("lwarpmk: " .. linenum .. " : " .. line) ;
4851 print (
```

```
4852 "lwarpmk: Incorrect variable name \" .. cvarname .. \" in \" ..
4853 conffile .. .\n"
4854) ;
4855 print ("lwarpmk: ===")
4856 -- printconf () ;
4857 os.exit(1) ;
4858 end -- cvarname
4859 end -- do scan lines
4860 io.close(cfile)
4861 end -- file exists
4862 -- Error if sourcename is "lwarp".
4863 -- This could happen if a local copy of lwarp has recently been recompiled.
4864 if sourcename=="lwarp" then
4865 print ("lwarpmk: ===")
4866 print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
4867 print ("lwarpmk: and \"lwarpmk.conf\" is no longer set for your own project.")
4868 print ("lwarpmk: (Perhaps you are not in your project's directory?)")
4869 print ("lwarpmk: In your project directory, recompile your project")
4870 print ("lwarpmk: using pdf/lua/xelatex <projectname>.")
4871 print ("lwarpmk: After a recompile, \"lwarpmk.conf\" will be set for your project,")
4872 print ("lwarpmk: and you may again use lwarpmk.")
4873 print ("lwarpmk: ===")
4874 os.exit(1)
4875 end -- sourcename of "lwarp"
4876 -- Select some operating-system commands:
4877 if opsystem=="Unix" then -- For Unix / Linux / Mac OS:
4878 rmname = "rm"
4879 mvname = "mv"
4880 cpname = "cp"
4881 touchnamepre = "touch"
4882 touchnamepost = ""
4883 newtouchname = "touch"
4884 dirslash = "/"
4885 opquote= "\'"
4886 cmdgroupopenname = " ("
4887 cmdgroupclosename = ") "
4888 seqname = " && "
4889 bgname = " &"
4890 elseif opsystem=="Windows" then -- For Windows
4891 rmname = "DEL"
4892 mvname = "MOVE"
4893 cpname = "COPY"
4894 touchnamepre = "COPY /b"
4895 touchnamepost = "+,,"
4896 newtouchname = "echo empty >"
4897 dirslash = "\\"
4898 opquote= "\""
4899 cmdgroupopenname = ""
4900 cmdgroupclosename = ""
4901 seqname = " & "
4902 bgname = ""
4903 else
4904 print ("lwarpmk: ===")
4905 print ("lwarpmk: Select Unix or Windows for opsystem.")
4906 print ("lwarpmk: ===")
```

```
4907 os.exit(1)
4908 end --- for Windows
4909 -- Warning if the operating system does not appear to be correct,
4910 -- in case files were transferred to another system.
4911 if ((package.config:sub(1,1)) ~= dirslash) then
4912 print ("lwarpmk: ===")
4913 print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system.")
4914 printhowtorecompile ()
4915 print ("lwarpmk: ===")
4916 os.exit(1)
4917 end
4918 -- Error if the configuration file's version is not current:
4919 if (confversion ~= requiredconfversion) then
4920 print ("lwarpmk: ===")
4921 printhowtorecompile ()
4922 print ("lwarpmk: ===")
4923 os.exit(1)
4924 end
4925 end -- loadconf
4926
4927
4928 function executecheckerror (executecommands , errormessage)
4929 --
4930 -- Execute an operating system call,
4931 -- and maybe exit with an error message.
4932 --
4933 local err
4934 err = os.execute (executecommands)
4935 if (err ~= 0) then
4936 print ("lwarpmk: ===")
4937 print ("lwarpmk: " .. errormessage)
4938 print ("lwarpmk: ===")
4939 os.exit(1)
4940 end
4941 end -- executecheckerror
4942
4943
4944 function refreshdate ()
4945 os.execute(touchnamepre .. " " .. sourcename .. ".tex" .. touchnamepost)
4946 end
4947
4948
4949
4950 function reruntoget (filesource)
4951 --
4952 -- Scan the LaTeX log file for the phrase "Rerun to get",
4953 -- indicating that the file should be compiled again.
4954 -- Return true if found.
4955 --
4956 local fsource = io.open(filesource)
4957 for line in fsource:lines() do
4958 if (string.find(line,"Rerun to get") ~= nil) then
4959 io.close(fsource)
4960 return true
4961 end -- if
```

```
4962 end -- do
4963 io.close(fsource)
4964 return false
4965 end
4966
4967
4968
4969 function onetime (latexcmd, fsuffix)
4970 --
4971 -- Compile one time, return true if should compile again.
4972 -- fsuffix is "" for print, "_html" for HTML output.
4973 --
4974 print("lwarpmk: Compiling with: " .. latexcmd)
4975 executecheckerror (
4976 latexcmd ,
4977 "Compile error."
4978)
4979 return (reruntoget(sourcename .. fsuffix .. ".log")) ;
4980 end
4981
4982
4983 function manytimes (latexcmd, fsuffix)
4984 --
4985 -- Compile up to five times.
4986 -- fsuffix is "" for print, "_html" for HTML output
4987 --
4988 if onetime(latexcmd, fsuffix) == true then
4989 if onetime(latexcmd, fsuffix) == true then
4990 if onetime(latexcmd, fsuffix) == true then
4991 if onetime(latexcmd, fsuffix) == true then
4992 if onetime(latexcmd, fsuffix) == true then
4993 end end end end end
4994 end
4995
4996
4997 function verifyfileexists (filename)
4998 --
4999 -- Exit if the given file does not exist.
5000 --
5001 if (lfs.attributes (filename , "modification") == nil) then
5002 print ("lwarpmk: ===")
5003 print ("lwarpmk: " .. filename .. " not found.") ;
5004 print ("lwarpmk: ===")
5005 os.exit (1) ;
5006 end
5007 end
5008
5009
5010
5011 function pdftohtml ()
5012 --
5013 -- Convert <project>.html.pdf into HTML files:
5014 --
5015 -- Convert to text:
5016 print ("lwarpmk: Converting " .. sourcename
```

```
5017 .."_html.pdf to " .. sourcename .. "_html.html")
5018 os.execute("pdftotext -enc " .. pdftotextenc .. " -nopgbrk -layout "
5019 .. sourcename .. "_html.pdf " .. sourcename .. "_html.html")
5020 -- Split the result into individual HTML files:
5021 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
5022 end
5023
5024
5025 function removeaux ()
5026 --
5027 -- Remove auxiliary files:
5028 -- All .aux files are removed since there may be many bbl*.aux files.
5029 -- Also removes sourcename_html.pdf, sourcename_html.html,
5030 -- and sourcename_html.sidetoc, plus comment_*.cut.
5031 --
5032 os.execute (rmname .. " *.aux " ..
5033 sourcename .. ".toc " .. sourcename .. "_html.toc " ..
5034 sourcename .. ".lof " .. sourcename .. "_html.lof " ..
5035 sourcename .. ".lot " .. sourcename .. "_html.lot " ..
5036 sourcename .. ".bbl " .. sourcename .. "_html.bbl " ..
5037 " *.idx " ..
5038 " *.ind " ..
5039 sourcename .. ".ps " .. sourcename .. "_html.ps " ..
5040 sourcename .. ".log " .. sourcename .. "_html.log " ..
5041 sourcename .. ".gl* " .. sourcename .. "_html.gl* " ..
5042 sourcename .. "_html.pdf " ..
5043 sourcename .. "_html.html " ..
5044 sourcename .. "_html.sidetoc " ..
5045 " *_html_inc.* " ..
5046 " comment_*.cut"
5047)
5048 end
5049
5050 function checkhtmlpdfexists ()
5051 --
5052 -- Error if the HTML document does not exist.
5053 -- The lateximages are drawn from the HTML PDF version of the document,
5054 -- so "lwarpmk html" must be done before "lwarpmk limages".
5055 --
5056 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
5057 if (htmlpdffile == nil) then
5058 print ("")
5059 print ("lwarpmk: ===")
5060 print ("lwarpmk: The HTML version of the document does not exist.")
5061 print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
5062 print ("lwarpmk: ===")
5063 os.exit(1)
5064 end
5065 io.close (htmlpdffile)
5066 end -- checkhtmlpdfexists
5067
5068
5069 function warnlimages ()
5070 --
5071 -- Warning of a missing <sourcename>-images.txt file:
```

```
5072 print ("lwarpmk: ===")
5073 print ("lwarpmk: \'" .. sourcename .. "-images.txt\' does not exist.")
5074 print ("lwarpmk: Your project does not use SVG math or other lateximages,")
5075 print ("lwarpmk: or the file has been deleted somehow.")
5076 print ("lwarpmk: Use \'lwarpmk html1\' to recompile your project")
5077 print ("lwarpmk: and recreate \' .. sourcename .. "-images.txt\'")
5078 print ("lwarpmk: If your project does not use SVG math or other lateximages,")
5079 print ("lwarpmk: then \' .. sourcename .. "-images.txt\' will never exist, and")
5080 print ("lwarpmk: \'lwarpmk limages\' will not be necessary.")
5081 print ("lwarpmk: ===")
5082 end -- warnlimages
5083
5084
5085 function warnlimagesrecompile ()
5086 -- Warning if must recompile before creating limages:
5087 print ("")
5088 print ("lwarpmk: ===")
5089 print ("lwarpmk: Cross-references are not yet correct.")
5090 print ("lwarpmk: The document must be recompiled before creating the lateximages.")
5091 print ("lwarpmk: Enter \'lwarpmk html1\' again, then try \'lwarpmk limages\' again.")
5092 print ("lwarpmk: ===")
5093 end --warnlimagesrecompile
5094
5095
5096 function checklimages ()
5097 --
5098 -- Check <sourcename>.txt to see if need to recompile first.
5099 -- If any entry has a page number of zero, then there were incorrect images.
5100 --
5101 print ("lwarpmk: Checking for a valid " .. sourcename .. "-images.txt file.")
5102 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5103 if (limagesfile == nil) then
5104 warnlimages ()
5105 os.exit(1)
5106 end
5107 -- Track warning to recompile if find a page 0
5108 local pagezerowarning = false
5109 -- Scan <sourcename>.txt
5110 for line in limagesfile:lines() do
5111 -- lwimgpage is the page number in the PDF which has the image
5112 -- lwimghash is true if this filename is a hash
5113 -- lwimgname is the lateximage filename root to assign for the image
5114 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5115 -- For each entry:
5116 if ((i~=nil)) then
5117 -- If the page number is 0, image references are incorrect
5118 -- and must recompile the source document:
5119 if (lwimgpage == "0") then
5120 pagezerowarning = true
5121 end
5122 end -- if i~=nil
5123 end -- do
5124 -- The last line should be |end|end|.
5125 -- If not, the compile must have aborted, and the images are incomplete.
5126 if (lwimgpage ~= "end") then
```

```
5127 warnlimagesrecompile()
5128 os.exit(1) ;
5129 end
5130 if (pagezerowarning) then
5131 warnlimagesrecompile()
5132 os.exit(1) ;
5133 end -- pagezerowarning
5134 end -- checklimages
5135
5136
5137 function createuniximage (lwimgfullname)
5138 --
5139 -- Create one lateximage for Unix / Linux / Mac OS.
5140 --
5141 executecheckerror (
5142 cmdgroupopenname ..
5143 "pdfseparate -f " .. lwimgpage .. " -l " .. lwimgpage .. " " ..
5144 sourcename .. "_html.pdf" ..
5145 imagesdirectory .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
5146 seqname ..
5147 -- Crop the image:
5148 "pdffcrop --hires " .. imagesdirectory .. dirslash .. "lateximagetemp-" ..
5149 lwimgpage .. ".pdf" ..
5150 imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5151 seqname ..
5152 -- Convert the image to svg:
5153 "pdftocairo -svg -no shrink " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5154 imagesdirectory .. dirslash .. lwimgname .. ".svg" ..
5155 seqname ..
5156 -- Remove the temporary files:
5157 rmname .. " " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" .. seqname ..
5158 rmname .. " " .. imagesdirectory .. dirslash .. "lateximagetemp-" .. lwimgpage .. ".pdf" ..
5159 cmdgroupclosename .. " >/dev/null " .. bgnome
5160 ,
5161 "File error trying to convert " .. lwimgfullname
5162)
5163 -- Every 32 images, wait for completion at below normal priority,
5164 -- allowing other image tasks to catch up.
5165 numimageprocesses = numimageprocesses + 1
5166 if (numimageprocesses > 32) then
5167 numimageprocesses = 0
5168 print ("lwarpmk: waiting")
5169 executecheckerror ("wait" , "File error trying to wait.")
5170 end
5171 end -- createuniximage
5172
5173
5174 function createwindowsimage (lwimgfullname)
5175 --
5176 -- Create one lateximage for Windows.
5177 --
5178 -- Every 32 images, wait for completion at below normal priority,
5179 -- allowing other image tasks to catch up.
5180 numimageprocesses = numimageprocesses + 1
5181 if (numimageprocesses > 32) then
```

```
5182 numimageprocesses = 0
5183 thiswaitcommand = "/WAIT /BELOWNORMAL"
5184 print ("lwarpmk: waiting")
5185 else
5186 thiswaitcommand = ""
5187 end
5188 -- Execute the image generation command
5189 executecheckerror (
5190 "start /B " .. thiswaitcommand .. " \"\" lwarp_one_limage " ..
5191 lwimgpage .. " " ..
5192 lwimghash .. " " ..
5193 lwimgname .. " " ..
5194 sourcename .. " <nul >nul"
5195 ,
5196 "File error trying to create image."
5197)
5198 end -- createwindowsimage
5199
5200
5201 function createonelateximage (line)
5202 --
5203 -- Given the next line of <sourcename>.txt, convert a single image.
5204 --
5205 -- lwimgpage is the page number in the PDF which has the image
5206 -- lwimghash is true if this filename is a hash
5207 -- lwimgname is the lateximage filename root to assign for the image
5208 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5209 -- For each entry:
5210 if ((i~=nil)) then
5211 -- Skip if the page number is 0:
5212 if (lwimgpage == "0") then
5213 pagezerowarning = true
5214 -- Skip if the page number is "end":
5215 else if (lwimgpage == "end") then
5216 else
5217 -- Skip if this image is hashed and already exists:
5218 local lwimgfullname = imagesdirectory .. dirslash .. lwimgname .. ".svg"
5219 if (
5220 (lwimghash ~= "true") or
5221 (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
5222)
5223 then -- not hashed or not exists:
5224 -- Print the name of the file being generated:
5225 print ("lwarpmk: " .. lwimgname)
5226 -- Touch/create the dest so that only once instance tries to build it:
5227 executecheckerror (
5228 newtouchname .. " " .. lwimgfullname ,
5229 "File error trying to touch " .. lwimgfullname
5230)
5231 -- Separate out the image into its own single-page pdf:
5232 if opsystem=="Unix" then
5233 createuniximage (lwimgfullname)
5234 elseif opsystem=="Windows" then
5235 createwindowsimage (lwimgfullname)
5236 end
```

```
5237 end -- not hashed or not exists
5238 end -- not page "end"
5239 end -- not page 0
5240 end -- not nil
5241 end -- createonelateximage
5242
5243
5244 function createlateximages ()
5245 --
5246 -- Create lateximages based on <sourcename>-images.txt:
5247 --
5248 -- See if the document must be recompiled first:
5249 checkimages ()
5250 -- See if the HTML version exists:
5251 checkhtlpdfexists ()
5252 -- Attempt to create the lateximages:
5253 print ("lwarpmk: Creating lateximages.")
5254 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5255 if (limagesfile == nil) then
5256 warnlimages ()
5257 os.exit(1)
5258 end
5259 -- Create the lateximages directory, ignore error if already exists
5260 err = os.execute("mkdir " .. imagesdirectory)
5261 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
5262 if opsystem=="Windows" then
5263 executecheckerror (
5264 cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
5265 "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
5266)
5267 end -- create lwarp_one_limage.cmd
5268 -- Track the number of parallel processes
5269 numimageprocesses = 0
5270 -- Track warning to recompile if find a page 0
5271 pagezerowarning = false
5272 -- Scan <sourcename>.txt
5273 for line in limagesfile:lines() do
5274 createonelateximage (line)
5275 end -- do
5276 io.close(limagesfile)
5277 print ("lwarpmk limages: ===")
5278 print ("lwarpmk limages: Wait a moment for the images to complete")
5279 print ("lwarpmk limages: before reloading the page.")
5280 print ("lwarpmk limages: ===")
5281 print ("lwarpmk limages: Done.")
5282 if (pagezerowarning == true) then
5283 print ("lwarpmk limages: WARNING: Images will be incorrect.")
5284 print ("lwarpmk limages: Enter \"lwarpmk cleanimages\", then")
5285 print ("lwarpmk limages: recompile the document one more time, then")
5286 print ("lwarpmk limages: repeat \"lwarpmk images\" again.")
5287 end -- pagezerowarning
5288 end -- function
5289
5290
5291 function convertepstopdf ()
```

```
5292 --
5293 -- Converts EPS files to PDF files.
5294 -- The filenames are arg[argindex] and up.
5295 -- arg[1] is the command "epstopdf".
5296 --
5297 ignoreconf ()
5298 for i = argindex , #arg do
5299 if (lfs.attributes(arg[i],"mode")==nil) then
5300 print ("lwarpmk: File \"\" .. arg[i] .. "\" does not exist.")
5301 else
5302 print ("lwarpmk: Converting \"\" .. arg[i] .. \"\"")
5303 thispath, thisfilename, thisextension = splitfilename(arg[i])
5304 if (thispath == nil) then
5305 os.execute ("epstopdf " .. arg[i])
5306 else
5307 os.execute (
5308 "epstopdf " ..
5309 thispath .. thisfilename .. "." .. thisextension .. " " ..
5310 thispath .. thisfilename .. ".pdf"
5311)
5312 end
5313 end -- if
5314 end -- do
5315 end --function
5316
5317
5318 function convertpdftosvg ()
5319 --
5320 -- Converts PDF files to SVG files.
5321 -- The filenames are arg[argindex] and up.
5322 -- arg[1] is the command "pdftosvg".
5323 --
5324 ignoreconf ()
5325 for i = argindex , #arg do
5326 if (lfs.attributes(arg[i],"mode")==nil) then
5327 print ("lwarpmk: File \"\" .. arg[i] .. "\" does not exist.")
5328 else
5329 print ("lwarpmk: Converting \"\" .. arg[i] .. \"\"")
5330 thispath, thisfilename, thisextension = splitfilename(arg[i])
5331 if (thispath == nil) then
5332 os.execute ("pdftocairo -svg " .. arg[i])
5333 else
5334 os.execute (
5335 "pdftocairo -svg " ..
5336 thispath .. thisfilename .. "." .. thisextension .. " " ..
5337 thispath .. thisfilename .. ".svg"
5338)
5339 end
5340 end -- if
5341 end -- do
5342 end --function
5343
5344
5345 -- Force an update and conclude processing:
5346 function updateanddone ()
```

```
5347 print ("lwarpmk: Forcing an update of " .. sourcename .. ".tex.")
5348 refreshdate ()
5349 print ("lwarpmk: " .. sourcename .. ".tex is ready to be recompiled.")
5350 print ("lwarpmk: Done.")
5351 end -- function
5352
5353
5354 -- Start of the main code: --
5355
5356
5357 -- lwarpmk --version :
5358
5359 if (arg[1] == "--version") then
5360 print ("lwarpmk: " .. printversion)
5361
5362 else -- not --version
5363
5364
5365 -- print intro:
5366
5367 print ("lwarpmk: " .. printversion .. " Automated make for the LaTeX Lwarp package.")
5368
5369
5370 -- lwarpmk print:
5371
5372 if arg[1] == "print" then
5373 loadconf ()
5374 if (latexmk == "true") then
5375 print ("lwarpmk: Compiling with: " .. printlatexcmd)
5376 executecheckerror (
5377 printlatexcmd ,
5378 "Compile error."
5379)
5380 print ("lwarpmk: Done.")
5381 else -- not latexmk
5382 verifyfileexists (sourcename .. ".tex") ;
5383 -- See if up to date:
5384 if (
5385 (lfs.attributes (sourcename .. ".pdf" , "modification") == nil) or
5386 (
5387 lfs.attributes (sourcename .. ".tex" , "modification") >
5388 lfs.attributes (sourcename .. ".pdf" , "modification")
5389)
5390) then
5391 -- Recompile if not yet up to date:
5392 manytimes(printlatexcmd, "")
5393 print ("lwarpmk: Done.") ;
5394 else
5395 print ("lwarpmk: " .. sourcename .. ".pdf is up to date.") ;
5396 end
5397 end -- not latexmk
5398
5399
5400 -- lwarpmk print1:
5401
```

```
5402 elseif arg[1] == "print1" then
5403 loadconf ()
5404 verifyfileexists (sourcename .. ".tex") ;
5405 onetime(printlatecmd, "")
5406 print ("lwarpmk: Done.") ;
5407
5408
5409 -- lwarpmk printindex:
5410 -- Compile the index then touch the source
5411 -- to trigger a recompile of the document:
5412
5413 elseif arg[1] == "printindex" then
5414 loadconf ()
5415 os.execute (printindexcmd)
5416 print ("lwarpmk: -----")
5417 updateanddone ()
5418
5419
5420 -- lwarpmk printglossary:
5421 -- Compile the glossary then touch the source
5422 -- to trigger a recompile of the document:
5423
5424 elseif arg[1] == "printglossary" then
5425 loadconf ()
5426 print ("lwarpmk: Processing the glossary.")
5427
5428 os.execute(glossarycmd .. " " .. sourcename)
5429 updateanddone ()
5430
5431
5432 -- lwarpmk html:
5433
5434 elseif arg[1] == "html" then
5435 loadconf ()
5436 if (latexmk == "true") then
5437 print ("lwarpmk: Compiling with: " .. HTMLlatecmd)
5438 executecheckerror (
5439 HTMLlatecmd ,
5440 "Compile error."
5441)
5442 pdftohtml ()
5443 print ("lwarpmk: Done.")
5444 else -- not latexmk
5445 verifyfileexists (sourcename .. ".tex") ;
5446 -- See if exists and is up to date:
5447 if (
5448 (lfs.attributes (homehtmlfilename .. ".html" , "modification") == nil) or
5449 (
5450 lfs.attributes (sourcename .. ".tex" , "modification") >
5451 lfs.attributes (homehtmlfilename .. ".html" , "modification")
5452)
5453) then
5454 -- Recompile if not yet up to date:
5455 manytimes(HTMLlatecmd, "_html")
5456 pdftohtml ()
```

```
5457 print ("lwarpmk: Done.")
5458 else
5459 print ("lwarpmk: " .. homehtmlfilename .. ".html is up to date.")
5460 end
5461 end -- not latexmk
5462
5463
5464 -- lwarpmk html1:
5465
5466 elseif arg[1] == "html1" then
5467 loadconf ()
5468 verifyfileexists (sourcename .. ".tex") ;
5469 onetime(HTMLLatexcmd, "_html")
5470 pdftohtml ()
5471 print ("lwarpmk: Done.")
5472
5473
5474 -- lwarpmk pdftohtml:
5475 elseif arg[1] == "pdftohtml" then
5476 loadconf ()
5477 pdftohtml ()
5478
5479
5480 -- lwarpmk htmlindex:
5481 -- Compile the index then touch the source
5482 -- to trigger a recompile of the document:
5483
5484 elseif arg[1] == "htmlindex" then
5485 loadconf ()
5486 os.execute (HTMLIndexcmd)
5487 print ("lwarpmk: -----")
5488 updateanddone ()
5489
5490
5491 -- lwarpmk htmlglossary:
5492 -- Compile the glossary then touch the source
5493 -- to trigger a recompile of the document.
5494 -- The <sourcename>.xdy file is created by the glossaries package.
5495
5496 elseif arg[1] == "htmlglossary" then
5497 loadconf ()
5498 print ("lwarpmk: Processing the glossary.")
5499 os.execute(glossarycmd .. " " .. sourcename .. "_html")
5500 updateanddone ()
5501
5502
5503 -- lwarpmk limages:
5504 -- Scan the <sourcename>.txt file to create lateximages.
5505
5506 elseif arg[1] == "limages" then
5507 loadconf ()
5508 print ("lwarpmk: Processing images.")
5509 createlateximages ()
5510 print ("lwarpmk: Done.")
5511
```

```
5512
5513 -- lwarpmk again:
5514 -- Touch the source to trigger a recompile.
5515
5516 elseif arg[1] == "again" then
5517 loadconf ()
5518 updateanddone ()
5519
5520
5521 -- lwarpmk clean:
5522 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.* , .gl*
5523
5524 elseif arg[1] == "clean" then
5525 loadconf ()
5526 removeaux ()
5527 print ("lwarpmk: Done.")
5528
5529
5530 -- lwarpmk cleanall
5531 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.* , .gl*
5532 -- and also project.pdf, project.dvi, *.html
5533
5534 elseif arg[1] == "cleanall" then
5535 loadconf ()
5536 removeaux ()
5537 os.execute (rmname .. " " ..
5538 sourcename .. ".pdf" .. sourcename .. "_html.pdf" ..
5539 sourcename .. ".dvi" .. sourcename .. "_html.dvi" ..
5540 "*.html"
5541)
5542 print ("lwarpmk: Done.")
5543
5544
5545 -- lwarpmk cleanimages
5546 -- Remove images from the imagesdirectory.
5547
5548 elseif arg[1] == "cleanimages" then
5549 loadconf ()
5550 os.execute (rmname .. " " .. imagesdirectory .. dirslash .. "*")
5551 print ("lwarpmk: Done.")
5552
5553 -- lwarpmk epstopdf <list of file names>
5554 -- Convert EPS files to PDF using epstopdf
5555 elseif arg[1] == "epstopdf" then
5556 convertepstopdf ()
5557 print ("lwarpmk: Done.")
5558
5559
5560 -- lwarpmk pdftosvg <list of file names>
5561 -- Convert PDF files to SVG using pdftocairo
5562 elseif arg[1] == "pdftosvg" then
5563 convertpdftosvg ()
5564 print ("lwarpmk: Done.")
5565
5566
```

```

5567 -- lwarpmk with no argument :
5568
5569 elseif (arg[1] == nil) then
5570 printhelp ()
5571
5572
5573 -- lwarpmk -v:
5574
5575 elseif (arg[1] == "-v") then
5576 -- The version number has already been printed
5577 -- by the lwarpmk intro.
5578
5579 -- lwarpmk -h or lwarpmk --help :
5580
5581 elseif (arg[1] == "-h") or (arg[1] == "--help") then
5582 printusage ()
5583
5584
5585 -- Unknown command:
5586
5587 else
5588 printhelp ()
5589 print ("\nlwarpmk: ***** Unknown command \"..arg[1]..\". *****\n")
5590 end
5591
5592 end -- not --version
5593 \end{filecontents*}
5594 % \end{Verbatim}% for syntax highlighting

5595 \end{LWRcreatelwarpmk}

```

## 41 Stacks

**for HTML output:** 5596 \begin{warpHTML}

⚠️ Stacks are used to remember how to close sections and list items. Before a new section is started, previously nested sections and items must be closed out (un-nested) in proper order. Note that starting a new section may close several levels of previously nested items at the same time. For example, starting a new \section would close any currently open subsection, subsubsection, and paragraph. General environments are not nested on the stack since they have their own close mechanism. List environments are nested, and items inside those environments are nested one level deeper still. List environments may be nested inside other list environments, and list items are nested inside list environments as well. Thus, the stack may have items which are not necessarily in order, since a description may contain an enumerate, for example. Depths to be recorded in \LWR@closedepthone, etc.

### 41.1 Assigning depths

initial depths for empty stack entries:

---

5597 \newcommand\*{\LWR@depthnone}{-5}

All sectioning depths are deeper than `\LWR@depthfinished`:

```
5598 \newcommand*{\LWR@depthfinished}{-4}
5599 \newcommand*{\LWR@depthbook}{-2}
5600 \newcommand*{\LWR@depthpart}{-1}
5601 \newcommand*{\LWR@depthchapter}{0}
5602 \newcommand*{\LWR@depthsection}{1}
5603 \newcommand*{\LWR@depthsubsection}{2}
5604 \newcommand*{\LWR@depthsubsubsection}{3}
5605 \newcommand*{\LWR@depthparagraph}{4}
5606 \newcommand*{\LWR@depthsubparagraph}{5}
```

Used by `\itemize`, `\enumerate`, `\description`:

5607 \newcommand\*{\LWR@depthlist}{6}

Used by `\item`:

```
5608 \newcommand*{\LWR@depthlistitem}{7}
5609 \let\LWR@depthdescitem\LWR@depthlistitem
```

## 41.2 Closing actions

A stack to record the action to take to close each nesting level: Add more levels of stack if necessary for a very deeply nested document, adding to `\pushclose` and `\popclose` as well.

```
5610 \newcommand*{\LWR@closeone}{}% top of the stack
5611 \newcommand*{\LWR@closetwo}{}%
5612 \newcommand*{\LWR@closethree}{}%
5613 \newcommand*{\LWR@closefour}{}%
5614 \newcommand*{\LWR@closefive}{}%
5615 \newcommand*{\LWR@closesix}{}%
5616 \newcommand*{\LWR@closeseven}{}%
5617 \newcommand*{\LWR@closeeight}{}%
5618 \newcommand*{\LWR@closenine}{}%
5619 \newcommand*{\LWR@closeten}{}%
5620 \newcommand*{\LWR@closeeleven}{}%
5621 \newcommand*{\LWR@closetwelve}{}%
5622 \newcommand*{\LWR@closethirteen}{}%
5623 \newcommand*{\LWR@closefourteen}{}%
5624 \newcommand*{\LWR@closefifteen}{}%
5625 \newcommand*{\LWR@closesixteen}{}%
5626 \newcommand*{\LWR@closeseventeen}{}%
5627 \newcommand*{\LWR@closeeighteen}{}%
5628 \newcommand*{\LWR@closenineteen}{}%
```

## 41.3 Closing depths

A stack to record the depth of each level:



Note that nested L<sup>A</sup>T<sub>E</sub>X structures may push depths which are non-sequential.

*Ex:*

---

```
\begin{itemize}
 \item{A}
 \begin{description}
 \item{B}
 \end{description}
\end{itemize}
```

---

```
5629 \newcommand*{\LWR@closedepthonen}{\LWR@depthnone}% top of the stack
5630 \newcommand*{\LWR@closedepthtwo}{\LWR@depthnone}
5631 \newcommand*{\LWR@closedepththree}{\LWR@depthnone}
5632 \newcommand*{\LWR@closedepthfour}{\LWR@depthnone}
5633 \newcommand*{\LWR@closedepthfive}{\LWR@depthnone}
5634 \newcommand*{\LWR@closedepthsix}{\LWR@depthnone}
5635 \newcommand*{\LWR@closedepthseven}{\LWR@depthnone}
5636 \newcommand*{\LWR@closedeptheight}{\LWR@depthnone}
5637 \newcommand*{\LWR@closedepthnine}{\LWR@depthnone}
5638 \newcommand*{\LWR@closedepthten}{\LWR@depthnone}
5639 \newcommand*{\LWR@closedeptheleven}{\LWR@depthnone}
5640 \newcommand*{\LWR@closedepthtwelve}{\LWR@depthnone}
5641 \newcommand*{\LWR@closedepththirteen}{\LWR@depthnone}
5642 \newcommand*{\LWR@closedepthfourteen}{\LWR@depthnone}
5643 \newcommand*{\LWR@closedepthfifteen}{\LWR@depthnone}
5644 \newcommand*{\LWR@closedepthsixteen}{\LWR@depthnone}
5645 \newcommand*{\LWR@closedepthseventeen}{\LWR@depthnone}
5646 \newcommand*{\LWR@closedeptheighteen}{\LWR@depthnone}
5647 \newcommand*{\LWR@closedeptnineteen}{\LWR@depthnone}
```

#### 41.4 Pushing and popping the stack

\LWR@pushclose {<sectiontype>}

Pushes one return action and its L<sup>A</sup>T<sub>E</sub>X depth onto the stacks.

```
5648 \NewDocumentCommand{\LWR@pushclose}{m}
5649 {%
5650 \global\let\LWR@closedineteen\LWR@closeeighteen%
5651 \global\let\LWR@closeeighteen\LWR@closeseventeen%
5652 \global\let\LWR@closeseventeen\LWR@closesixteen%
5653 \global\let\LWR@closesixteen\LWR@closefifteen%
5654 \global\let\LWR@closefifteen\LWR@closefourteen%
5655 \global\let\LWR@closefourteen\LWR@closethirteen%
5656 \global\let\LWR@closethirteen\LWR@closetwelve%
5657 \global\let\LWR@closetwelve\LWR@closeeleven%
5658 \global\let\LWR@closeeleven\LWR@closeten%
5659 \global\let\LWR@closeten\LWR@closenine%
5660 \global\let\LWR@closenine\LWR@closeeight%
5661 \global\let\LWR@closeeight\LWR@closeseven%
```

```

5662 \global\let\LWR@closeseven\LWR@closesix%
5663 \global\let\LWR@closesix\LWR@closefive%
5664 \global\let\LWR@closefive\LWR@closefour%
5665 \global\let\LWR@closefour\LWR@closethree%
5666 \global\let\LWR@closethree\LWR@closetwo%
5667 \global\let\LWR@closetwo\LWR@closeone%
5668 \global\csletcs{\LWR@closeone}{\LWR@printclose#1}%
5669 \global\let\LWR@closedepthnineteen\LWR@closedeptheighteen%
5670 \global\let\LWR@closedeptheighteen\LWR@closedepthseventeen%
5671 \global\let\LWR@closedepthseventeen\LWR@closedepthsixteen%
5672 \global\let\LWR@closedepthsixteen\LWR@closedepthfifteen%
5673 \global\let\LWR@closedepthfifteen\LWR@closedepthfourteen%
5674 \global\let\LWR@closedepthfourteen\LWR@closedepththirteen%
5675 \global\let\LWR@closedepththirteen\LWR@closedepthtwelve%
5676 \global\let\LWR@closedepthtwelve\LWR@closedeptheleven%
5677 \global\let\LWR@closedeptheleven\LWR@closedepthten%
5678 \global\let\LWR@closedepthten\LWR@closedepthnine%
5679 \global\let\LWR@closedepthnine\LWR@closedeptheight%
5680 \global\let\LWR@closedeptheight\LWR@closedepthseven%
5681 \global\let\LWR@closedepthseven\LWR@closedepthsix%
5682 \global\let\LWR@closedepthsix\LWR@closedepthfive%
5683 \global\let\LWR@closedepthfive\LWR@closedepthfour%
5684 \global\let\LWR@closedepthfour\LWR@closedepththree%
5685 \global\let\LWR@closedepththree\LWR@closedepthtwo%
5686 \global\let\LWR@closedepthtwo\LWR@closedepthonne%
5687 \global\csletcs{\LWR@closedepthonne}{\LWR@depth#1}%

```

Error if the deepest depth is no longer \LWR@depthnone, which means that it somehow has been nested too deeply, or things are not being unnested correctly.

```

5688 \ifdefstring{\LWR@closedepthnineteen}{\LWR@depthnone}%
5689 {}%
5690 {%
5691 \PackageError{lwarp}%
5692 {The document is nested too deeply for Lwarp}%
5693 {PLEASE inform the Lwarp maintainer!}%
5694 }%
5695 }

```

\LWR@popclose Pops one action and its depth off the stacks.

```

5696 \newcommand*{\LWR@popclose}%
5697 {%
5698 \global\let\LWR@closeone\LWR@closetwo%
5699 \global\let\LWR@closetwo\LWR@closethree%
5700 \global\let\LWR@closethree\LWR@closefour%
5701 \global\let\LWR@closefour\LWR@closefive%
5702 \global\let\LWR@closefive\LWR@closesix%
5703 \global\let\LWR@closesix\LWR@closeseven%
5704 \global\let\LWR@closeseven\LWR@closeeight%
5705 \global\let\LWR@closeeight\LWR@closenine%
5706 \global\let\LWR@closenine\LWR@closeten%
5707 \global\let\LWR@closeten\LWR@closeeleven%
5708 \global\let\LWR@closeeleven\LWR@closetwelve%
5709 \global\let\LWR@closetwelve\LWR@closethirteen%

```

```

5710 \global\let\LWR@closethirteen\LWR@closefourteen%
5711 \global\let\LWR@closefourteen\LWR@closefifteen%
5712 \global\let\LWR@closefifteen\LWR@closesixteen%
5713 \global\let\LWR@closesixteen\LWR@closeseventeen%
5714 \global\let\LWR@closeseventeen\LWR@closeeighteen%
5715 \global\let\LWR@closeeighteen\LWR@closenineteen%
5716 \global\let\LWR@closedepthone\LWR@closedepthtwo%
5717 \global\let\LWR@closedepthtwo\LWR@closedepththree%
5718 \global\let\LWR@closedepththree\LWR@closedepthfour%
5719 \global\let\LWR@closedepthfour\LWR@closedepthfive%
5720 \global\let\LWR@closedepthfive\LWR@closedepthsix%
5721 \global\let\LWR@closedepthsix\LWR@closedepthseven%
5722 \global\let\LWR@closedepthseven\LWR@closedeptheight%
5723 \global\let\LWR@closedeptheight\LWR@closedepthnine%
5724 \global\let\LWR@closedepthnine\LWR@closedepthonen%
5725 \global\let\LWR@closedepthonen\LWR@closedeptheleven%
5726 \global\let\LWR@closedeptheleven\LWR@closedepthtwelve%
5727 \global\let\LWR@closedepthtwelve\LWR@closedepththirteen%
5728 \global\let\LWR@closedepththirteen\LWR@closedepthfourteen%
5729 \global\let\LWR@closedepthfourteen\LWR@closedepthfifteen%
5730 \global\let\LWR@closedepthfifteen\LWR@closedepthsixteen%
5731 \global\let\LWR@closedepthsixteen\LWR@closedepthseventeen%
5732 \global\let\LWR@closedepthseventeen\LWR@closedeptheighteen%
5733 \global\let\LWR@closedeptheighteen\LWR@closedepthnineteen%
5734 }

5735 \end{warpHTML}

```

## 42 Data arrays

These macros are similar to the `arrayjobx` package, except that `\LWR@setexparray`'s argument is expanded only once when assigned.

`name` has no backslash, `index` can be a number or a text name, and an empty `value` must be `\relax` instead of empty.

To assign an empty value:

```
\LWR@setexparray{name}{index}{}{}
```

**for HTML output:** 5736 `\begin{warpHTML}`

```
\LWR@setexparray {<name>} {<index>} {<contents>}
```

```

5737 \NewDocumentCommand{\LWR@setexparray}{m m m}{%
5738 \let\LWR@temp@par\par%
5739 \let\par\relax%
5740 \edef\LWR@thisexparrayname{\#1\#2}%
5741 \ifstrempty{\#3}%
5742 {\csdef{\LWR@thisexparrayname}{}%}
5743 {\csedef{\LWR@thisexparrayname}{\#3}}%
5744 \let\par\LWR@temp@par%
5745 }

```

---

```
\LWR@getexarray {⟨name⟩} {⟨index⟩}

5746 \newcommand*{\LWR@getexarray}[2]{%
5747 \nameuse{#1#2}%
5748 }

5749 \end{warpHTML}
```

## 43 Localizing catcodes

**for HTML & PRINT:** 5750 \begin{warpall}

⚠ **Misplaced alignment tab character &** Place `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros or environments which include the tabular & character in their definitions.

The catcode of & must be changed before the definitions begin, and must be restored afterwards. Doing so avoids the error

Misplaced alignment tab character &.

`\StartDefiningTabulars` Place before defining something with & in it.

```
5751 \newcommand{\StartDefiningTabulars}{%
5752 \LWR@traceinfo{StartDefiningTabulars}%
5753 \warpHTMLonly{\catcode`\&=\active}%
5754 }
```

`\StopDefiningTabulars` Place after defining something with & in it.

```
5755 \newcommand{\StopDefiningTabulars}{%
5756 \LWR@traceinfo{StopDefiningTabulars}%
5757 \warpHTMLonly{\catcode`\&=4}%
5758 }
```

**Bool LWR@mathmacro** True if currently defining math macros. Used to disable SVG math hashing and MATHJAX math contents while defining a macro using inline math. Begin a macro, it is not guaranteed that the contents are static, and so the image must be unique. The contents also almost certainly will not be parsed correctly by MATHJAX.

```
5759 \newbool{LWR@mathmacro}
5760 \boolfalse{LWR@mathmacro}
```

`\StartDefiningMath` Place before defining something with \$ in it.

```
5761 \newcommand{\StartDefiningMath}{%
5762 \LWR@traceinfo{StartDefiningMath}%
5763 \warpHTMLonly{\catcode`\$=\active}%
5764 }
```

\StopDefiningMath Place after defining something with \$ in it.

```

5765 \newcommand{\StopDefiningMath}{%
5766 \LWR@traceinfo{StopDefiningMath}%
5767 \warpHTMLonly{\catcode`\$=3}% math shift
5768 }

5769 \end{warpall}

```

## 44 Localizing dynamic math

Inline SVG math usually uses a hash of its contents to generate `lateximages` which are reusable for multiple instances with the same contents. If the contents may change for each use, such as depending on the current value of a counter, then `\inlinemathother` must be used before the inline math expression, and `\inlinemathnormal` must be used after.

For MATHJAX, the inline math expression is usually printed for MATHJAX to interpret. When marked as dynamic math, the following inline math expression will be displayed as an unhashed inline SVG image instead.

For existing code and packages, it may be possible to patch macros after they have been defined, using the `xpatch` package, which is pre-loaded by `l warp`:

---

```

\xpatchcmd{\macro}
{$math expression$}
{\inlinemathother$math expression$\inlinemathnormal}
{}%
{\typeout{Error patching macro.}}

```

---

**for HTML & PRINT:** 5770 \begin{warpall}

Bool LWR@dynamicmath True to mark inline math which is dynamic in nature, thus should not be hashed for reuse.

Default: false

```

5771 \newbool{LWR@dynamicmath}
5772 \boolfalse{LWR@dynamicmath}

```

\inlinemathother Place before using \$ ... \$ or \(...\ ) if the contents of the math are not static, depending on counters or dynamic macros.

```

5773 \newcommand{\inlinemathother}{%
5774 \LWR@traceinfo{inlinemathother}%
5775 \booltrue{LWR@dynamicmath}%
5776 }

```

\inlinemathnormal Place after using \$ ... \$ or \(...\ ) with dynamic contents.

```

5777 \newcommand{\inlinemathnormal}{%

```

```
5778 \LWR@traceinfo{inlinemathnormal}%
5779 \boolfalse{\LWR@dynamicmath}%
5780 }%
5781 \end{warpall}
```

## 45 HTML entities

for HTML output: 5782 \begin{warpHTML}

HTML Unicode entities:

```
5783 \let\LWR@origampersand\&
\HTMLentity {\langle entitytag\rangle}%
5784 \newcommand*{\HTMLentity}[1]{%
5785 % \LWR@traceinfo{\HTMLentity \detokenize{\#1}}%
5786 \begingroup%
5787 \LWR@hook@processingtags%
5788 \LWR@origampersand#1;%
5789 \endgroup%
5790 % \LWR@traceinfo{\HTMLentity done}%
5791 }
```

\HTMLunicode {\langle hex\\_unicode\rangle}

```
5792 \newcommand*{\HTMLunicode}[1]{\HTMLentity{\LWR@origpound{}x#1}}%
\&
5793 \renewrobustcmd*{\&}{\HTMLentity{amp}}
```

\textless

```
5794 \let\LWR@origtextless\textless%
5795 \renewrobustcmd*{\textless}{\HTMLentity{lt}}
```

\textgreater

```
5796 \let\LWR@origtextgreater\textgreater%
5797 \renewrobustcmd*{\textgreater}{\HTMLentity{gt}}%
5798 \end{warpHTML}
```

## 46 HTML filename generation

The filename of the homepage is set to `\HomeHTMLFilename.html`. The filenames of additional sections start with `\HTMLFilename`, to which is appended a section number or a simplified section name, depending on `FileSectionNames`.

**for HTML & PRINT:** 5799 `\begin{warpall}`

`\BaseJobname` The `\jobname` of the printed version, even if currently compiling the `HTML` version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.

5800 `\providecommand*\{\BaseJobname\}{\jobname}`

`\HTMLFilename` The prefix for all generated `HTML` files other than the home page, defaulting to empty. See section [7.6.1](#).

5801 `\providecommand*\{\HTMLFilename\}{}`

`\HomeHTMLFilename` The filename of the home page, defaulting to the `\BaseJobname`. See section [7.6.1](#).

5802 `\providecommand*\{\HomeHTMLFilename\}{\BaseJobname}`

`\SetHTMLFileName` `\{\langle number \rangle\}`

Sets the file number for the next file to be generated. 0 is the home page. Use just before the next sectioning command, and set it to one less than the desired number of the next section. May be used to generate numbered groups of nodes such as 100+ for one chapter, 200+ for another chapter, etc.

```
5803 \newcommand*\{\SetHTMLFileName\}[1]{%
 5804 \setcounter{LWR@htmlfilename}{#1}%
 5805 }
```

`Bool FileSectionNames` Selects how to create `HTML` file names.

Defaults to use section names in the filenames.

```
5806 \newbool{FileSectionNames}
 5807 \booltrue{FileSectionNames}
```

5808 `\end{warpall}`

**for HTML output:** 5809 `\begin{warpHTML}`

Updated each time a new `HTML` file is begun. Used to provide `HTML` previous/next web page links.

```
5810 \newcounter{LWR@HTMLpagenum}
 5811 \setcounter{LWR@HTMLpagenum}{0}
```

Ctr LWR@htmlseqfilename A sequential count of the number of each HTML file as it is being created. Number 0 is the home page. Unlike \LWR@htmlfilename, this one is known to increment by one for each file. This is used to generate previous /next links for each web page, via labels called \BaseJobname-autofile-\*, and the last page is also labelled \BaseJobname-autofile-last.

```
5812 \newcounter{LWR@htmlseqfilename}
5813 \setcounter{LWR@htmlseqfilename}{0}
```

Bool LWR@setseqfilelabel At each new HTML file, this is false until a sectional unit is used, at which point this is set true and a label is placed. In this way, the previous/next labels will point to a named section.

```
5814 \newbool{LWR@setseqfilelabel}
5815 \setbool{LWR@setseqfilelabel}{false}
```

Ctr LWR@htmlfilename Records the number of each HTML file as it is being created. Number 0 is the home page. This might not be sequential, as the user may use \SetHTMLFileName to create groups of numbered nodes.

```
5816 \newcounter{LWR@htmlfilename}
5817 \setcounter{LWR@htmlfilename}{0}
```

\LWR@htmlsectionfilename {⟨htmlfilename or name⟩}

Prints the filename for a given section: \HTMLFileName{}filename/name.html

```
5818 \newcommand*{\LWR@htmlsectionfilename}[1]{%
5819 \LWR@traceinfo{\LWR@htmlsectionfilename A !\detokenize{\#1}!}%
5820 \begingroup%
```

Disable CJK xpinyin while generating file names.

```
5821 \LWR@disablepinyin%
```

Section 0 or empty is given the home filename. The filename must be detokenized for underscores.

```
5822 % \LWR@traceinfo{about to assign temp}%
5823 \LWR@sanitize{\#1}%
5824 \LWR@traceinfo{about to compare with ??}%
5825 \ifdefstring{\LWR@sanitized}{??}%
5826 {\LWR@traceinfo{found ??}%
5827 {\LWR@traceinfo{not found ??}}%
5828 \LWR@traceinfo{about to compare with zero or empty}%
5829 \ifboolexpr{%
5830 test {\ifdefstring{\LWR@sanitized}{0}} or
5831 test {\ifdefstring{\LWR@sanitized}{}} or
5832 test {\ifdefstring{\LWR@sanitized}{??}}%
5833 }%
5834 {%
5835 \LWR@traceinfo{\LWR@htmlsectionfilename B \HomeHTMLFilename.html}%
5836 \HomeHTMLFilename.html%
5837 }%
```

For a L<sup>A</sup>T<sub>E</sub>X section named “Index” or “index” without a prefix, create a filename with a trailing `-0` to avoid colliding with the HTML filename `index.html`:

```
5838 {%
5839 \LWR@traceinfo{\LWR@htmlsectionfilename C \LWR@sanitized}%
5840 \ifboolexpr{%
5841 test{\ifdefvoid{\HTMLFilename}} and
5842 (%
5843 test{\ifdefstring{\LWR@sanitized}{Index}} or
5844 test{\ifdefstring{\LWR@sanitized}{index}}%
5845)%
5846 }%
5847 {%
5848 \LWR@traceinfo{Adding a zero to the index filename.}%
5849 \LWR@sanitized-0.html%
5850 }%
```

Otherwise, create a filename with the chosen prefix:

```
5851 {%
5852 \HTMLFilename\LWR@isolate{\LWR@sanitized}.html%
5853 }%
5854 }%
5855 \LWR@traceinfo{\LWR@htmlsectionfilename Z}%
5856 \endgroup%
5857 }
```

`\LWR@htmlrefsectionfilename {<label>}`

Prints the filename for the given label

```
5858 \newcommand*{\LWR@htmlrefsectionfilename}[1]{%
5859 \LWR@traceinfo{\LWR@htmlrefsectionfilename: !\detokenize{#1}!}%
```

`\LWR@nullfonts` to allow math in a section name.

```
5860 \begingroup%
5861 \LWR@nullfonts%
5862 \LWR@htmlsectionfilename{\LWR@htmlfileref{#1}}%
5863 \endgroup%
5864 \LWR@traceinfo{\LWR@htmlrefsectionfilename: done}%
5865 }%
```

5866 \end{warpHTML}

## 47 Homepage link

for HTML & PRINT: 5867 `\begin{warpall}`

`\linkhomename` Holds the default name for the home link.

```
5868 \newcommand{\linkhomename}{Home}
```

```
5869 \end{warpall}
```

**for HTML output:** 5870 \begin{warpHTML}

\LinkHome May be used wherever you wish to place a link back to the homepage. The filename must be detokenized for underscores.

```
5871 \newcommand*\{\LinkHome}{%
5872 \LWR@subhyperrefclass{\HomeHTMLFilename.html}{\linkhomename}{linkhome}%
5873 }
```

```
5874 \end{warpHTML}
```

**for PRINT output:** 5875 \begin{warpprint}

\LinkHome May be used wherever you wish to place a link back to the homepage. For print output, if `hyperref` is available a hyperlink to the first page is used, named by `\linkhomename`. If `hyperref` is not available, a pageref is used instead.

\BaseJobname is included in the link label in case multiple documents are cross-referenced.

```
5876 \AtBeginDocument{
5877 \@ifundefined{hyperref}{
5878 \newcommand*\{\LinkHome}{%
5879 \linkhomename\ --- page \pageref{\BaseJobname-page-LWRfirstpage}%
5880 }
5881 }{
5882 \newcommand*\{\LinkHome}{%
5883 \hyperref[\BaseJobname-page-LWRfirstpage]{\linkhomename}%
5884 }
5885 }
5886 }
5887
5888 \AfterEndPreamble{\label{\BaseJobname-page-LWRfirstpage}}
```

```
5889 \end{warpprint}
```

**for HTML output:** 5890 \begin{warpHTML}

\LWR@topnavigation Creates a link to the homepage at the top of the page for use when the window is too narrow for the sidetoc.

```
5891 \newcommand*\{\LWR@topnavigation}{%
5892 \LWR@htmlelementclassline{nav}{topnavigation}{\LinkHome}%
5893 }
```

\LWR@botnavigation Creates a link to the homepage at the bottom of the page for use when the window is too narrow for the sidetoc.

```
5894 \newcommand*\{\LWR@botnavigation}{%
5895 \LWR@htmlelementclassline{nav}{botnavigation}{\LinkHome}%
5896 }
```

---

5897 \end{warpHTML}

## 48 Previous/next navigation links

**for HTML & PRINT:** 5898 \begin{warpall}

\linkpreviousname What to call the link to the previous web page.

5899 \newcommand\*\{\linkpreviousname\}{Previous}

\linknextname What to call the link to the next web page.

5900 \newcommand\*\{\linknextname\}{Next}

5901 \end{warpall}

**for PRINT output:** 5902 \begin{warpprint}

\LinkPrevious Creates a link to the previous web page if there is one.

5903 \newcommand\*\{\LinkPrevious\}{}%

\LinkNext Creates a link to the next web page if there is one.

5904 \newcommand\*\{\LinkNext\}{}%

5905 \end{warpprint}

**for HTML output:** 5906 \begin{warpHTML}

\LinkPrevious Creates a link to the previous web page if there is one.

The links refer to the L<sup>A</sup>T<sub>E</sub>X labels \Basejobname-autofile-\*

```
5907 \newcommand*\{\LinkPrevious\}{%
5908 \ifnumless{\value{LWR@htmlseqfilenumber}}{1}{}{%
5909 \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}-1}%
5910 \LWR@subhyperrefclass{%
5911 \LWR@htmlrefsectionfilename{%
5912 \BaseJobname-autofile-\arabic{LWR@tempcountone}%
5913 }%
5914 }{\linkpreviousname\{linkhome\}}%
5915 }%
5916 }
```

\LinkNext Creates a link to the next web page if there is one.

The links refer to the L<sup>A</sup>T<sub>E</sub>X labels \Basejobname-autofile-\* and the last is the label \Basejobname-autofile-last

```

5917 \newcommand*\LinkNext{%
5918 \ifcsdef{r@\BaseJobname-autofile-last@lwarp}{%
5919 \edef\LWR@tempone{%
5920 \LWR@htmlfileref{\BaseJobname-autofile-\arabic{\LWR@htmlseqfilenumber}}%
5921 }%
5922 \edef\LWR@temptwo{%
5923 \LWR@htmlfileref{\BaseJobname-autofile-last}%
5924 }%
5925 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{}{%
5926 \setcounter{\LWR@tempcountone}{\value{\LWR@htmlseqfilenumber}+1}%
5927 \LWR@subhyperrefclass{%
5928 \LWR@htmlrefsectionfilename{%
5929 \BaseJobname-autofile-\arabic{\LWR@tempcountone}}%
5930 }%
5931 }{\linknextname}{linkhome}%
5932 }%
5933 }{}%
5934 }%
5935 \end{warpHTML}

```

## 49 \LWRPrintStack diagnostic tool

 Diagnostics tool: Prints the L<sup>A</sup>T<sub>E</sub>X nesting depth values for the stack levels. \LWR@startpars is used before printing the stack, so that \LWRPrintStack may be called from anywhere in the normal text flow.

**for HTML output:** 5936 \begin{warpHTML}

\LWRPrintStack Prints the closedepth stack.

```

5937 \newcommand*\LWR@subprintstack{%
5938 \LWR@closedepthonetwo\ \LWR@closedepthtwo\ \LWR@closedepththree\%
5939 \LWR@closedepthfour\ \LWR@closedepthfive\ \LWR@closedepthsix\%
5940 \LWR@closedepthseven\ \LWR@closedeptheight\ \LWR@closedeptnine\%
5941 \LWR@closedepthten\ \LWR@closedeptheleven\ \LWR@closedepthtwelve\%
5942 \LWR@closedepththirteen\ \LWR@closedepthfourteen\ \LWR@closedepthfifteen\%
5943 \LWR@closedepthsixteen\ \LWR@closedepthseventeen\ \LWR@closedeptheighteen\%
5944 \LWR@closedepthnineteen\%
5945 }%
5946
5947 \newcommand*\LWRPrintStack{%
5948 \LWR@startpars
5949 \LWR@subprintstack
5950 }%
5951 \end{warpHTML}

```

**for PRINT output:** 5952 \begin{warpprint}

---

```
5953 \newcommand*{\LWRPrintStack}{}
5954 \end{warpprint}
```

## 50 Closing stack levels

**for HTML output:** 5955 \begin{warpHTML}

Close one nested level:

```
5956 \newcommand*{\LWR@closeoneprevious}{%
5957
5958 \LWR@closeone
5959
5960 \LWR@popclose
5961 }
```

\LWR@closeprevious {<sectintype>} Close everything up to the given depth:

```
5962 \newcommand*{\LWR@closeprevious}[1]{
5963 \LWR@traceinfo{
5964 LWR@closeprevious to depth \csuse{\LWR@depth#1}, %
5965 depths are \LWR@subprintstack%
5966 }%
```

Close any pending paragraph:

```
5967 \LWR@stoppars%
```

Close anything nested deeper than the desired depth. First close anything deeper, then at most one of the same level.

```
5968 \whileboolexpr{test{\ifnumcomp{\LWR@closedepthone}>}{\csuse{\LWR@depth#1}}}{%
5969 }%
5970 \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone} %
5971 \LWR@closeoneprevious%
5972 }%
5973 \ifboolexpr{test{\ifnumcomp{\LWR@closedepthone}{=}{\csuse{\LWR@depth#1}}}}{
5974 }%
5975 \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone} %
5976 \LWR@closeoneprevious%
5977 }{}%
5978 \LWR@traceinfo{LWR@closeprevious: done, depths are \LWR@subprintstack} %
5979 }
```

```
5980 \end{warpHTML}
```

## 51 PDF pages and styles

**for HTML output:** 5981 \begin{warpHTML}

\LWR@forcenewpage New PDF page a before major environment.

This is used just before major environments, such as `verse`. Reduces the chance of an environment overflowing the HTML PDF output page.

```
5982 \newcommand{\LWR@forcenewpage}{%
5983 \LWR@traceinfo{\LWR@forcenewpage}%
5984 \ifinner\else%
5985 \LWR@traceinfo{\LWR@forcenewpage A}%
5986 \LWR@stoppars%
5987 \LWR@traceinfo{\LWR@forcenewpage B}%
5988 \LWR@maybe@orignewpage%
5989 \LWR@traceinfo{\LWR@forcenewpage C}%
5990 \LWR@startpars%
5991 \fi%
5992 \LWR@traceinfo{\LWR@forcenewpage done}%
5993 }
```

`\pagestyle`, etc. are nullified for HTML output.

`\pagestyle {<style>}`

```
5994 \renewcommand*{\pagestyle}[1]{}
```

`\thispagestyle {<style>}`

```
5995 \renewcommand*{\thispagestyle}[1]{}
```

`\markboth {<left>} {<right>}`

```
5996 \renewcommand*{\markboth}[2]{}
```

`\markright {<right>}`

```
5997 \renewcommand*{\markright}[1]{}
```

`\raggedbottom`

```
5998 \renewcommand*{\raggedbottom}{}{}
```

`\flushbottom`

```
5999 \renewcommand*{\flushbottom}{}{}
```

`\sloppy`

```
6000 \renewcommand*{\sloppy}{}{}
```

`\fussy`

```
6001 \renewcommand*{\fussy}{}{}
```

```
\pagenumbering * {\commands}
6002 \RenewDocumentCommand{\pagenumbering}{s m} {}
6003 \end{warpHTML}
```

## 52 HTML tags, spans, divs, elements

**for HTML output:** 6004 \begin{warpHTML}

### 52.1 Mapping L<sup>A</sup>T<sub>E</sub>X sections to HTML sections

```
6005 \newcommand*{\LWR@tagtitle}{h1}
6006 \newcommand*{\LWR@tagtitleend}{/h1}
6007 \newcommand*{\LWR@tagbook}{div class=\textquotedbl{}book\textquotedbl{}}
6008 \newcommand*{\LWR@tagbookend}{/div}
6009 \newcommand*{\LWR@tagpart}{h2}
6010 \newcommand*{\LWR@tagpartend}{/h2}
6011 \newcommand*{\LWR@tagchapter}{h3}
6012 \newcommand*{\LWR@tagchapterend}{/h3}
6013 \newcommand*{\LWR@tagsection}{h4}
6014 \newcommand*{\LWR@tagsectionend}{/h4}
6015 \newcommand*{\LWR@tagsubsection}{h5}
6016 \newcommand*{\LWR@tagsubsectionend}{/h5}
6017 \newcommand*{\LWR@tagsubsubsection}{h6}
6018 \newcommand*{\LWR@tagsubsubsectionend}{/h6}
6019 \newcommand*{\LWR@tagparagraph}{span class=\textquotedbl{}paragraph\textquotedbl{}}
6020 \newcommand*{\LWR@tagparagraphend}{/span}
6021 \newcommand*{\LWR@tag subparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl{}}
6022 \newcommand*{\LWR@tag subparagraphend}{/span}
6023
6024 \newcommand*{\LWR@tagregularparagraph}{p}
```

### 52.2 Hook while processing tags

This is used to disable special text processing while processing HTML tags. Special processing includes that done by `babel-french`, `luavina`, `xevlna`.

\LWR@hook@processingtags Disable special text processing while generating tags. Replaces \LWR@FBcancel in most places.

```
6025 \newcommand*{\LWR@hook@processingtags} {}
```

### 52.3 Babel-French tag modifications

Adjust `babel-french` for HTML spaces. So far, this only works for `pdflatex` and `xelatex`.

(Emulates or patches code by DANIEL FLIPO.)

```
6026 \providecommand*\LWR@FBcancel{}
6027
6028 \AtBeginDocument{%
```

In some circumstances, \NoAutoSpacing may be defined when \frenchbsetup is not.

```
6029 \@ifundefined{NoAutoSpacing} %
6030 {}%
6031 {}%
6032 \LetLtxMacro{\LWR@FBcancel}{\NoAutoSpacing}%
6033 \appto{\LWR@hook@processingtags}{\LWR@FBcancel}%
6034 {}%
6035
6036 \@ifundefined{frenchbsetup} %
6037 {}%
6038 {}%
6039 \frenchbsetup{FrenchFootnotes=false}%

6040 %
6041 \renewrobustcmd*\FBcolonspace{}%
6042 \begingroup%
6043 \LWR@hook@processingtags%
6044 \LWR@origampersand{}nbsp;%
6045 \endgroup%
6046 {}%
6047 \renewrobustcmd*\FBthinspace{}%
6048 \begingroup%
6049 \LWR@hook@processingtags%
6050 \LWR@origampersand{\LWR@origpound{}x202f;}%,
6051 \endgroup%
6052 {}%
6053 \renewrobustcmd*\FBguillspace{}%
6054 \begingroup%
6055 \LWR@hook@processingtags%
6056 \LWR@origampersand{}nbsp;% ~, for \og xyz \fg{}
6057 \endgroup%
6058 {}%
6059 \DeclareDocumentCommand{\FBmedkern}{}{}%
6060 \begingroup%
6061 \LWR@hook@processingtags%
6062 \LWR@origampersand{\LWR@origpound{}x202f;}%,
6063 \endgroup%
6064 {}%
6065 \DeclareDocumentCommand{\FBthickkern}{}{}%
6066 \begingroup%
6067 \LWR@hook@processingtags%
6068 \LWR@origampersand{}nbsp;% ~
6069 \endgroup%
6070 {}%
6071 \renewrobustcmd*{\~}{\HTMLentity{nbsp}}% was overwritten by babel-french
6072 \iffBunicode%
6073 \else%
6074 \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}{}
```

```

6075 \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
6076 \fi%
6077 }%
6078 }

```

## 52.4 HTML output formatting

Helps format the output HTML code for human readability.

\LWR@indentHTML Newline and indent the output HTML code.

```

6079 \newcommand*{\LWR@indentHTML}{%
6080 \LWR@orignewline\LWR@origrule{2em}{0pt}%
6081 }

```

\LWR@indentHTMLtwo Newline and indent the output HTML code.

```

6082 \newcommand*{\LWR@indentHTMLtwo}{%
6083 \LWR@orignewline\LWR@origrule{4em}{0pt}%
6084 }

```

## 52.5 HTML tags

\LWR@htmltagc {*tag*} Break ligatures and use upright apostrophes in HTML tags.

\protect is in case the tag appears in TOC, LOF, LOT.

```

6085 \newcommand*{\LWR@htmltagc}[1]{%
6086 \LWR@traceinfo{\LWR@htmltagc !\detokenize{#1}!}%
6087 \begingroup%
6088 \LWR@hook@processingtags%
6089 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6090 \protect\LWR@origtextless%
6091 \LWR@isolate{#1}%
6092 \protect\LWR@origtextgreater%
6093 \endgroup%
6094 }

```

\LWR@spanwarnformat {*object*}

Warns if the given object is used inside a span.

```

6095 \newcommand*{\LWR@spanwarnformat}[1]{%
6096 \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
6097 \PackageWarning{lwarf}{%
6098 A #1 is being used inside a span.\MessageBreak
6099 Formatting may be lost,%
6100 }%
6101 }{%
6102 }

```

```
\LWR@spanwarninvalid {⟨object⟩}
```

Warns if the given object is used inside a span.

```
6103 \newcommand*{\LWR@spanwarninvalid}[1]{%
6104 \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
6105 \PackageWarning{lwarp}{%
6106 A #1 is being used inside a span.\MessageBreak
6107 This generates invalid HTML,%
6108 }%
6109 }{}%
6110 }
```

Env `LWR@nestspan` Disable `minipage`, `\parbox`, and `HTML <div>`s inside a `<span>`.

- ⚠ `\begin{LWR@nestspan}` must follow the opening `<span>` tag to allow a paragraph to start if the span is at the beginning of a new paragraph.
- ⚠ `\end{LWR@nestspan}` must follow the `</span>` or a `<p>` may appear inside the span.

```
6111 \newcommand*{\LWR@nestspanitem}{%
6112 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
6113 \LWR@origitem%
6114 }
6115
6116 \newenvironment*{\LWR@nestspan}
6117 {%
6118 \LWR@traceinfo{\LWR@nestspan starting}%
6119 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
6120 {%
6121 \LWR@traceinfo{\LWR@nestspan: inside a lateximage}%
6122 }%
6123 {%
6124 \LWR@traceinfo{\LWR@nestspan: NOT inside a lateximage}%
6125 \addtocounter{\LWR@spandepth}{1}%

```

Nullify several objects inside the span:

```
6126 \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}%
6127 {\LWR@spanwarnformat{minipage or \protect\parbox}}%
6128 {}%
6129 \RenewDocumentEnvironment{BlockClass}{o m}%
6130 {\LWR@spanwarnformat{multi-paragraph object}}%
6131 {}%
6132 \RenewDocumentEnvironment{LWR@BlockClassWP}{m m D(){} m}%
6133 {\LWR@spanwarnformat{multi-paragraph object}}%
6134 {}%
6135 \renewcommand{\BlockClassSingle}[2]{%
6136 {\LWR@spanwarnformat{multi-paragraph object}}%
6137 ##2%
6138 }%
6139 \renewcommand{\LWR@forcenewpage}{}%
6140 \renewcommand{\LWR@liststart}{%
6141 \let\item\LWR@nestspanitem%
6142 }%
```

```

6143 \renewcommand{\LWR@listend}{\LWR@htmltagc{br /}\LWR@htmltagc{br /}}%
6144 \renewenvironment{quote}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6145 \renewenvironment{quotation}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6146 }% not in a lateximage
6147 \LWR@traceinfo{LWR@nestspan starting: done}%
6148 }% starting env
6149 {%
6150 \LWR@traceinfo{LWR@nestspan ending}%
6151 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6152 {}%
6153 {\addtocounter{LWR@spandepth}{-1}}%
6154 \LWR@traceinfo{LWR@nestspan ending: done}%
6155 }%
6156
6157 \AfterEndEnvironment{LWR@nestspan}{\global\let\par\LWR@closeparagraph}

```

\LWR@htmlspan {*tag*} {*text*}

- ⚠ \LWR@spandepth is used to ensure that paragraph tags are not generated inside a span.  
The exact sequence of when to add and subtract the counter is important to correctly handle the paragraph tags before and after the span.

```

6158 \NewDocumentCommand{\LWR@htmlspan}{m +m}{%
6159 \LWR@ensuredoingapar%
6160 \LWR@htmltagc{#1}%
6161 \begin{LWR@nestspan}%
6162 #2%
6163 \LWR@htmltagc{/#1}%
6164 \end{LWR@nestspan}%
6165 }

```

\LWR@htmlspanclass [*style*] (*ARIA role*) {*class*} {*text*}

```

6166 \NewDocumentCommand{\LWR@htmlspanclass}{o D(){} m +m}{%
6167 \LWR@traceinfo{LWR@htmlspanclass |#1|#2|#3|}%
6168 \LWR@ensuredoingapar%
6169 \ifblank{#2}{%
6170 \LWR@subhtmlelementclass{span}[#1]{#3}}{%
6171 \LWR@subhtmlelementclass{span}[#1](#2){#3}}%
6172 \begin{LWR@nestspan}%
6173 #4%
6174 \LWR@htmltagc{/span}%
6175 \LWR@traceinfo{LWR@htmlspanclass done}%
6176 \end{LWR@nestspan}%
6177 }

```

\LWR@htmltag {*tag*}

Print an HTML tag: <*tag*>

```

6178 \newcommand*{\LWR@htmltag}[1]{%
6179 % \LWR@traceinfo{LWR@htmltagb !\detokenize{#1}!}%
6180 \LWR@htmltagc{#1}%

```

```
6181 % \LWR@traceinfo{LWR@htmltagb: done}%
6182 }
```

## 52.6 Block tags and comments

In the following, \origttfamily breaks ligatures, which may not be used for HTML codes:

```
\LWR@htmlopencomment
\LWR@htmclosecomment
6183 \newcommand*{\LWR@htmlopencomment}{%
6184 {%
6185 % \LWR@traceinfo{LWR@htmlopencomment}%
6186 \begingroup%
6187 \LWR@hook@processingtags%
6188 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6189 \LWR@print@mbox{\LWR@origtextless{}!-/-}%
6190 \endgroup%
6191 }%
6192 }
6193
6194 \newcommand*{\LWR@htmclosecomment}{%
6195 {%
6196 % \LWR@traceinfo{LWR@htmclosecomment}%
6197 \begingroup%
6198 \LWR@hook@processingtags%
6199 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6200 \LWR@print@mbox{-/-\LWR@origtextgreater}%
6201 \endgroup%
6202 }%
6203 }

\LWR@htmlcomment {\langle comment\rangle}
6204 \newcommand{\LWR@htmlcomment}[1]{%
6205 \ifmmode%
6206 \else%
6207 \LWR@htmlopencomment{}%
6208 {%
6209 \LWR@print@normalfont%
6210 \LWR@origttfamily% break ligatures
6211 #1%
6212 }%
6213 \LWR@htmclosecomment{}%
6214 \fi%
6215 }

\LWR@htmlblockcomment {\langle comment\rangle}
6216 \newcommand{\LWR@htmlblockcomment}[1]
6217 {\LWR@stoppars\LWR@htmlcomment{\#1}\LWR@startpars}
```

\LWR@htmlblocktag {*<tag>*} print a stand-alone HTML tag

```
6218 \newcommand*{\LWR@htmlblocktag}[1]{%
6219 \LWR@stoppars%
6220 \LWR@htmltag{#1}%
6221 \LWR@startpars%
6222 }
```

## 52.7 Div class and element class

\LWR@subhtmlelementclass {*<element>*} [*<style>*] (*ARIA role*) {*<class>*}

Factored and reused in several places.

The trailing spaces allow more places for a line break.

The use of \textquotedbl instead of " provides improved compatibility with xeCJK.

```
6223 \NewDocumentCommand{\LWR@subhtmlelementclass}{m O{} D(){} m}{%
6224 \LWR@traceinfo{\LWR@subhtmlelementclass !#1!#2!#3!#4!}%
6225 \ifblank{#2}{%
6226 {%
6227 \LWR@htmntag{%
6228 #1%
6229 \ifblank{#3}{%
6230 \ifblank{#4}{%
6231 }%
6232 }%
6233 {%
6234 \LWR@htmntag{%
6235 #1\LWR@indentHTML%
6236 \ifblank{#3}{%
6237 \ifblank{#4}{%
6238 style=\textquotedbl#2\textquotedbl\LWR@orignewline%
6239 }%
6240 }%
6241 \LWR@traceinfo{\LWR@subhtmlelementclass done}%
6242 }%
```

\LWR@htmlelementclass {*<element>*} [{*style*}]{*class*}

```
6243 \NewDocumentCommand{\LWR@htmlelementclass}{m o D(){} m}{%
6244 \LWR@stoppars%
6245 \LWR@forceemptyline%
6246 \ifblank{#3}%
6247 {\LWR@subhtmlelementclass{#1}[#2]{#4}}%
6248 {\LWR@subhtmlelementclass{#1}[#2](#3){#4}}%
6249 \LWR@startpars%
6250 }
```

\LWR@htmlelementclassend {*<element>*} {*<class>*}

```

6251 \newcommand*{\LWR@htmlelementclassend}[2]{%
6252 \LWR@stoppars%
6253 \LWR@htmltag{/#1}%
6254 \ifbool{HTMLDebugComments}{%
6255 \LWR@htmlcomment{End of #1 ``#2''}%
6256 }{%
6257 \LWR@startpars%
6258 }

```

\LWR@htmldivclass [⟨style⟩] (⟨ARIA role⟩) {⟨class⟩}

```

6259 \NewDocumentCommand{\LWR@htmldivclass}{o D(){} m}{%
6260 \ifblank{#2}%
6261 {\LWR@htmlelementclass{div}[#1]{#3}}%
6262 {\LWR@htmlelementclass{div}[#1](#2){#3}}%
6263 }

```

\LWR@htmldivclassend {⟨class⟩}

```

6264 \newcommand*{\LWR@htmldivclassend}[1]{%
6265 \LWR@htmlelementclassend{div}{#1}%
6266 }

```

## 52.8 Single-line elements

A single-line element, without a paragraph tag for the line of text:

\LWR@htmlelementclassline {⟨element⟩} [⟨style⟩] {⟨class⟩} {⟨text⟩}

```

6267 \NewDocumentCommand{\LWR@htmlelementclassline}{m o m +m}{%
6268 \LWR@stoppars
6269 \LWR@forceemptyline%
6270 \LWR@subhtmlelementclass{#1}[#2]{#3}%
6271 #4%
6272 \LWR@htmltag{/#1}
6273 \LWR@startpars
6274 }

```

## 52.9 HTML5 semantic elements

\LWR@htmlelement {⟨element⟩}

```

6275 \newcommand*{\LWR@htmlelement}[1]{%
6276 \LWR@htmlblocktag{#1}%
6277 }

```

\LWR@htmlelementend {⟨element⟩}

```

6278 \newcommand*{\LWR@htmlelementend}[1]{%

```

---

```

6279 \LWR@stopars
6280 \LWR@htmltag{/#1}
6281 \LWR@startpars
6282 }
6283
6284 \end{warpHTML}
```

## 52.10 High-level block and inline classes

These are high-level commands which allow the creation of arbitrary block or inline sections which may be formatted with css.

Nullified versions are provided for print mode.

For other direct-formatting commands, see section 95.

**Env** **BlockClass** [*<style>*] (*<ARIA role>*) {*<class>*}    High-level interface for <div> classes.

Ex: \begin{BlockClass}{class} text \end{BlockClass}

**for PRINT output:** 6285 \begin{warpprint}
6286 \NewDocumentEnvironment{BlockClass}{o D(){} m}{}{%
6287 \end{warpprint}}

**for HTML output:** 6288 \begin{warpHTML}
6289
6290 \NewDocumentEnvironment{\LWR@print@BlockClass}{o D(){} m}{}{%
6291 \NewDocumentEnvironment{\LWR@HTML@BlockClass}{o D(){} m}{}{%
6292 {\LWR@htmldivclass[#1](#2){#3}}%
6293 {\LWR@htmldivclassend{#3}}}
6294
6295 \LWR@formattedenv{BlockClass}
6297 \end{warpHTML}

\BlockClassSingle {*<class>*} {*<text>*}    A single-line <div>, without a paragraph tag for the line of text.

**for HTML & PRINT:** 6298 \begin{warpall}
6299 \newcommand{\BlockClassSingle}[2]{#2}
6300 \end{warpall}

**for HTML output:** 6301 \begin{warpHTML}
6302 \newcommand{\LWR@HTML@BlockClassSingle}[2]{%
6303 \LWR@htmlelementclassline{div}{#1}{#2}%
6304 }
6305
6306 \LWR@formatted{BlockClassSingle}
6307 \end{warpHTML}

\InlineClass (*WP style*) [*<style>*] {*<class>*} {*<text>*}

High-level interface for inline span classes.

(*WP style*) is css styling to add when formatting for a word processor import.

[*style*] is the css styling to add when not formatting for a word processor.

**for PRINT output:**

```
6308 \begin{warpprint}
6309 \NewDocumentCommand{\InlineClass}{D{()}{}} o m +m}{#4}%
6310 \end{warpprint}
```

**for HTML output:**

```
6311 \begin{warpHTML}
6312 \NewDocumentCommand{\LWR@print@InlineClass}{D{()}{}} o m +m}{#4}%
6313
6314 \NewDocumentCommand{\LWR@HTML@InlineClass}{D{()}{}} o m +m}{%
6315 \LWR@traceinfo{\LWR@HTML@InlineClass #3}%
6316 \ifbool{FormatWP}{%
6317 \LWR@traceinfo{\LWR@HTML@InlineClass: FormatWP}%
6318 \LWR@htmlspanclass[#1]{#3}{#4}%
6319 }{%
6320 \LWR@traceinfo{\LWR@HTML@InlineClass: not FormatWP}%
6321 \LWR@htmlspanclass[#2]{#3}{#4}%
6322 }%
6323 \LWR@traceinfo{\LWR@HTML@InlineClass: done}%
6324 }
6325
6326 \LWR@formatted{InlineClass}
6327 \end{warpHTML}
```

Env LWR@BlockClassWP {*WP style*} {*HTML style*} (*ARIA role*) {*class*} Low-level interface for <div> classes with an automatic float ID. These are often used when \ifbool{FormatWP}.

The use of \textquotedbl instead of " provides improved compatibility with xeCJK.

**for PRINT output:**

```
6328 \begin{warpprint}
6329 \NewDocumentEnvironment{\LWR@BlockClassWP}{m m D(){} m}{}{%
6330 \end{warpprint}}
```

**for HTML output:**

```
6331 \begin{warpHTML}
6332 \NewDocumentEnvironment{\LWR@print@LWR@BlockClassWP}{m m D(){} m}{}{%
6333
6334 \NewDocumentEnvironment{\LWR@HTML@LWR@BlockClassWP}{m m D(){} m}{}{%
6335 }%
6336 \LWR@stopars%
6337 \ifbool{FormatWP}{%
6338 }%
6339 \addtocounter{\LWR@thisautoidWP}{1}%

6340 \LWR@htmlltag{%
6341 div class=\textquotedbl#4\textquotedbl\ % space
6342 id=\textquotedbl%
6343 \LWR@print@mbox{autoidWP-\arabic{\LWR@thisautoidWP}}%
6344 \textquotedbl%
6345 \ifblank{#3}{}{ role=\textquotedbl#3\textquotedbl}%
6346 \ifblank{#1}{}{ style=\textquotedbl#1\textquotedbl}%
6347 }%
6348 }% FormatWP
```

```

6349 {%
 not FormatWP
6350 \LWR@htmltag{%
6351 div class=\textquotedbl#4\textquotedbl%
6352 \ifblank{#3}{}{ role=\textquotedbl#3\textquotedbl}%
6353 \ifblank{#2}{}{ style=\textquotedbl#2\textquotedbl}%
6354 }%
6355 }%
 not FormatWP
6356 \LWR@startpars%
6357 }
6358 {\LWR@htmldivclassend{#4}}
6359
6360 \LWR@formattedenv{\LWR@BlockClassWP}
6361 \end{warpHTML}

```

## 52.11 Closing HTML tags

**for HTML output:** 6362 \begin{warpHTML}

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```

6363 \newcommand*{\LWR@printclosebook}{%
6364 \ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing book}}{}}
6365 \newcommand*{\LWR@printclosepart}{%
6366 \ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing part}}{}}
6367 \newcommand*{\LWR@printclosechapter}{%
6368 \ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing chapter}}{}}
6369 \newcommand*{\LWR@printclosesection}{%
6370 \ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing section}}{}}
6371 \newcommand*{\LWR@printclosesubsection}{%
6372 \ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
6373 \newcommand*{\LWR@printclosesubsubsection}{%
6374 \ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsubsection}}{}}
6375 \newcommand*{\LWR@printcloseparagraph}{%
6376 \ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing paragraph}}{}}
6377 \newcommand*{\LWR@printclosesubparagraph}{%
6378 \ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subparagraph}}{}}

```

Lists require closing HTML tags:

```

6379 \newcommand*{\LWR@printcloselistitem}{%
6380 {\LWR@htmltag{/li}}}
6381 \newcommand*{\LWR@printclosedescitem}{%
6382 {\LWR@htmltag{/dd}}}
6383 \newcommand*{\LWR@printcloseitemize}{%
6384 {\LWR@htmltag{/ul}}}
6385 \newcommand*{\LWR@printcloseenumerate}{%
6386 {\LWR@htmltag{/ol}}}
6387 \newcommand*{\LWR@printclosedescription}{%
6388 {\LWR@htmltag{/dl}}}
6389 \end{warpHTML}

```

## 53 Paragraph handling

These commands generate the `HTML` paragraph tags when allowed and required.

Paragraph tags are or are not allowed depending on many conditions. Section 54 has high-level commands which allow paragraph-tag generation to start/stop. Even when allowed (`\LWR@doingstartpars`), tags are not generated until a `LATEX` paragraph is being used (`\LWR@doingapar`). `\LWR@lateximagedepth` is used to prevent nesting tags inside a `lateximage`. `\LWR@spandepth` is used to prevent nesting paragraph tags inside a paragraph, which became important inside `\fbox` commands and other spans.

**for HTML output:** 6390 `\begin{warpHTML}`

**Ctr `\LWR@spandepth`** Do not create paragraph tags inside of an `HTML` span.

```
6391 \newcounter{\LWR@spandepth}
6392 \setcounter{\LWR@spandepth}{0}
```

**Bool `\LWR@doingstartpars`** Tells whether paragraphs may be generated.

```
6393 \newbool{\LWR@doingstartpars}
6394 \boolfalse{\LWR@doingstartpars}
```

**Bool `\LWR@doingapar`** Tells whether have actually generated and are currently processing paragraph text.

```
6395 \newbool{\LWR@doingapar}
6396 \global\boolfalse{\LWR@doingapar}
```

**`\LWR@ensuredoingapar`** If are about to print something visible, and if allowed to start a new paragraph, ensure that are `\LWR@doingapar`, so that paragraph tags are placed:

```
6397 \newcommand*{\LWR@ensuredoingapar}{%
6398 \ifbool{\LWR@doingstartpars}{%
6399 {\global\booltrue{\LWR@doingapar}}}{%
6400 {}}{%
6401 }}
```

**`\PN@parnotes@auto`** Redefined by `parnotes` to print paragraph notes at the end of each paragraph.

```
6402 \def\PN@parnotes@auto{}%
```

**`\LWR@openparagraph`**

```
6403 \newcommand*{\LWR@openparagraph}{%
6404 {}}
```

See if paragraph handling is enabled:

```
6405 \ifbool{\LWR@doingstartpars}{%
6406 {}} % handling pars
```

See if have already started a `lateximage` or a `<span>`. If so, do not generate nested paragraph tags.

```
6407 \ifboolexpr{
6408 test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6409 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6410 }% nested par tags?
```

If so: Do nothing if already started a `lateximage` page. Cannot nest a `lateximage`. Also do nothing if already inside a `<span>`. Do not nest paragraph tags inside a `<span>`.

```
6411 {}% no nested par tags
```

Else: No `lateximage` or `<span>` has been started yet, so it's OK to generate paragraph tags.

```
6412 {}% yes nest par tags
```

If `parnotes` is used, paragraph notes are inserted before starting the next paragraph:

```
6413 \PN@parnotes@auto%
```

The opening paragraph tag:

```
6414 \LWR@htmlltagc{\LWR@tagregularparagraph}\LWR@orignewline%
```

Now have started a paragraph.

```
6415 \global\booltrue{LWR@doingapar}%
```

At the endof each paragraph, generate closing tag and do regular /par stuff. (Attempting to use the `everyhook cr` hook for `\LWR@closeparagraph` does not work well.)

```
6416 \let\par\LWR@closeparagraph%
6417 }% end of yes nest par tags
6418 }% end of handling pars
6419 {}% not handling pars
6420 }
```

`\LWR@closeparagraph@br` Add an HTML break if in a span, and not in a `lateximage`, and not in tabular metadata. Factored from `\LWR@closeparagraph`.

```
6421 \newcommand*{\LWR@closeparagraph@br}
6422 {%
6423 \ifboolexpr{
6424 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}} and
6425 test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}} and
6426 not bool {LWR@intabularmetadata}
6427 }%
6428 {\unskip\LWR@htmlltagc{br /}}%
6429 {}%
6430 }
```

---

\LWR@closeparagraph

```
6431 \newcommand*{\LWR@closeparagraph}{%
6432 {%
6433 % \LWR@traceinfo{\LWR@closeparagraph}%
}
```

See if paragraph handling is enabled:

```
6434 \ifbool{\LWR@doingapar}{%
```

If currently in paragraph mode:

```
6435 {%
 \ifboolexpr{%
 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0} or
 \ifnumcomp{\value{\LWR@spandepth}}{>}{0}
 }%
```

See if already started a `lateximage` or a `<span>`:

```
6436 \ifboolexpr{%
6437 \test{\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
6438 \test{\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}
6439 }%
```

Add a parbreak if in a span, not in a `lateximage`, and not in table metadata.

```
6440 {%
 \ifboolexpr{%
 \not{\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} and
 \not{\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}
 }%
6441 \LWR@closeparagraph@br%
6442 }%
```

If have not already started a `lateximage` or a `<span>`:

```
6443 {%
 \ifboolexpr{%
 \not{\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} and
 \not{\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}
 }%
}
```

Print a closing tag and some extra vertical space.

(The fill seems to be required to force the `caption` package to create flush left caption text in the HTML.)

```
6444 \leavevmode\originnewline%
6445 \LWR@htmltagc{/LWR@tagregularparagraph}%
6446 }
```

No longer doing a paragraph:

```
6447 \global\boolfalse{\LWR@doingapar}%
```

Disable the special `minipage` & `\hspace` interaction until a new minipage is found:

```
6448 \global\boolfalse{\LWR@minipagethispar}%
```

If `parnotes` is used, paragraph notes are inserted after ending the previous paragraph:

```
6449 \PN@parnotes@auto%
6450 }% end of yes nest par tags
6451 }% end of handling pars
```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```
6452 {%
 not handling pars
 \LWR@closeparagraph@br%
}%
6454 }% not handling pars
```

In most cases, finish with a L<sup>A</sup>T<sub>E</sub>X \par, but in the case of paragraphs between lines in a tabular fetch the next token instead:

```
6455 \ifboolexpr{%
 not bool {\LWR@doingapar} and
 test {\ifnumcomp{\value{\LWR@tabulardepth}}{>}{0}} and
 test {
 \ifnumcomp{\value{\LWR@tabulardepth}}{=}{\value{\LWR@tabularpardepth}}
 } and
 bool {\LWR@intabularmetadata} and
 not bool {\LWR@tableparcell} and
 test {\ifnumcomp{\value{\LWR@lateximagedepth}}{=}{0}}%
}%
6456 {%
 \LWR@getmynexttoken%
}%
6457 }{%
 \LWR@origpar%
}%
6458 }%
6459 }%
6460 }%
6461 }%
6462 }%
6463 }%
6464 }%
6465 {%
 \LWR@getmynexttoken%
}%
6466 }{%
 \LWR@origpar%
}%
6467 }%
6468 }%
6469 }%
6470 }%
```

```
6471 \end{warpHTML}
```

## 54 Paragraph start/stop handling

These commands allow/disallow the generation of HTML paragraph tags.

Section 53 has the commands which actually generate the tags.

The everyhook package is used to generate the opening paragraph tags. The closing tags are generated by \par.

**for HTML output:** 6472 \begin{warpHTML}

\LWR@startpars Begin handling HTML paragraphs. This allows an HTML paragraph to start, but one has not yet begun.

```
6473 \newcommand*{\LWR@startpars}{%
 \LWR@traceinfo{\LWR@startpars}}%
```

Ignore if inside a lateximage or <span>:

```
6476 \ifboolexpr{%
 test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
 test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}%
}%
6477 }%
```

```
6480 { }%
6481 {%
```

See if currently handling `HTML` paragraphs:

```
6482 \ifbool{LWR@doingstartpars}{%
```

If already in paragraph mode, do nothing.

```
6483 { }%
```

If not currently in paragraph mode:

```
6484 {%
```

At the start of each paragraph, generate an opening tag:

```
6485 \PushPreHook{par}{\LWR@openparagraph}{%
```

At the end of each paragraph, generate closing tag then do regular `/par` actions:

```
6486 \let\par\LWR@closeparagraph
6487
6488 }% an intentionally blank line
```

Are now handling paragraphs, but have not yet actually started one:

```
6489 \global\setbool{LWR@doingstartpars}{true}{%
```

No `<par>` tag yet to undo:

```
6490 \global\boolfalse{LWR@doingapar}{%
6491 }% nestspan
6492 \% \LWR@traceinfo{LWR@startpars: done}{%
6493 }
```

`\LWR@stopars` Stop handling `HTML` paragraphs. Any currently open `HTML` paragraph is closed, and no more will be opened.

```
6494 \newcommand*{\LWR@stopars}{%
6495 {}}
```

Ignore if inside a `lateximage` or `<span>`:

```
6496 \ifboolexpr{
6497 test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}}{%
6498 test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}{%
6499 }%
6500 { }%
6501 {}}
```

See if currently handling `HTML` paragraphs:

```
6502 \ifbool{LWR@doingapar}{%
```

if currently in an `HTML` paragraph:

```
6503 {%
```

Print a closing tag:

```
6504 \leavevmode\LWR@orignewline%
6505 \LWR@htmlltagc{/ \LWR@tagregularparagraph}%
6506 \LWR@orignewline%
```

No longer have an open `HTML` paragraph:

```
6507 \global\boolfalse{\LWR@doingapar}%
```

Disable the special `minipage` & `\hspace` interaction until a new `minipage` is found:

```
6508 \global\boolfalse{\LWR@minipagethispar}
6509 }%
```

If was not in an `HTML` paragraph:

```
6510 {}%
```

See if currently allowing `HTML` paragraphs:

```
6511 \ifbool{\LWR@doingstartpars}{%
```

If so: clear the `par` hook to no longer catch paragraphs:

```
6512 {\ClearPreHook{par}}%
```

Else: Do nothing:

```
6513 {}%
```

No longer in paragraph mode:

```
6514 \global\setbool{\LWR@doingstartpars}{false}%
```

No `<p>` tag to undo:

```
6515 \global\boolfalse{\LWR@doingapar}%
6516 }% nestspan
6517 }
```

```
6518 \end{warpHTML}
```

## 55 Indentfirst

Pkg `indentfirst` `indentfirst` redefines `\@afterindentfalse` to be `\@afterindenttrue`. This is reversed `\AtBeginDocument` here.

**for HTML output:** 6519 `\begin{warpHTML}`

```
6520 \AtBeginDocument{
6521 \def\@afterindentfalse{\let\if@afterindent\iffalse}
6522 \@afterindentfalse
6523 }
6524 \let\LWR@afterindent@syntaxhighlight\fi% syntax highlighting

6525 \end{warpHTML}
```

## 56 Page headers and footers

for HTML & PRINT: 6526 \begin{warpall}

In the following, catcode is manually changed back and forth without groups, since new macros are being defined which must not be contained within the groups.

```
6527 \newcommand{\LWR@firstpagetop}{} % for the home page alone
6528 \newcommand{\LWR@firstpagebottom}{} % for the home page alone
6529 \newcommand{\LWR@pagetop}{} % for all other pages
6530 \newcommand{\LWR@pagebottom}{}

\HTMLFirstPageTop {\textit{text and logos}}
```

```
6531 \newcommand{\HTMLFirstPageTop}[1]{%
6532 \renewcommand{\LWR@firstpagetop}{#1}%
6533 }
```

\HTMLFirstPageBottom {\textit{text and logos}}

```
6534 \newcommand{\HTMLFirstPageBottom}[1]{%
6535 \renewcommand{\LWR@firstpagebottom}{#1}%
6536 }
```

\HTMLPageTop {\textit{text and logos}}

```
6537 \newcommand{\HTMLPageTop}[1]{%
6538 \renewcommand{\LWR@pagetop}{#1}%
6539 }
```

\HTMLPageBottom {\textit{text and logos}}

```
6540 \newcommand{\HTMLPageBottom}[1]{%
6541 \renewcommand{\LWR@pagebottom}{#1}%
6542 }
```

```
6543 \end{warpall}
```

## 57 CSS

**for HTML output:** 6544 \begin{warpHTML}

\LWR@currentcss The css filename to use. This may be changed mid-document using \CSSFilename, allowing different css files to be used for different sections of the document.

6545 \newcommand\*\{\LWR@currentcss\}{lwarp.css}

\CSSFilename {\langle new-css-filename.css\rangle} Assigns the css file to be used by the following HTML pages.

```
6546 \newcommand*\{\CSSFilename\}[1]{%
6547 \renewcommand*\{\LWR@currentcss\}{#1}%
6548 \@onelvel@sanitize\LWR@currentcss%
6549 }
6550
6551 \end{warpHTML}
```

**for PRINT output:** 6552 \begin{warpprint}
6553 \newcommand\*\{\CSSFilename\}[1]{}
6554 \end{warpprint}

## 58 MATHJAX script

**for HTML output:** 6555 \begin{warpHTML}

Default: lwarp\_mathjax.txt

\LWR@mathjaxfilename The MATHJAX script filename to use. This file is copied into the head of each HTML page. This may be changed mid-document using \MathJaxFilename, allowing the use of a custom MATHJAX script, such as for a local repository, or different MATHJAX script files to be used for different sections of the document.

6556 \newcommand\*\{\LWR@mathjaxfilename\}{lwarp\_mathjax.txt}

\MathJaxFilename {\langle filename\rangle} Assigns the MATHJAX script file to be used by the following HTML pages.

```
6557 \newcommand*\{\MathJaxFilename\}[1]{%
6558 \renewcommand*\{\LWR@mathjaxfilename\}{#1}%
6559 \@onelvel@sanitize\LWR@mathjaxfilename%
6560 }
6561
6562 \end{warpHTML}
```

**for PRINT output:** 6563 \begin{warpprint}
6564 \newcommand\*\{\MathJaxFilename\}[1]{}
6565 \end{warpprint}

## 59 Title, HTML meta author, HTML meta description

**for HTML output:** 6566 \begin{warpHTML}

```
\title {\langle title\rangle} Modified to remember \thetitle, which is used to set the HTML page titles.

6567 \let\LWR@origtitle\title
6568
6569 \renewcommand*\title[1]{%
6570 \LWR@origtitle{\#1}%
6571 \begingroup%
6572 \renewcommand{\thanks}[1]{\%}
6573 \protected@xdef\thetitle{\#1}%
6574 \endgroup%
6575 }

6576 \end{warpHTML}
```

**for HTML & PRINT:** 6577 \begin{warpall}

\HTMLTitle {\langle Titlename\rangle} The Title to place into an HTML meta tag. The default is to use the document \title's setting.

```
6578 \providecommand{\thetitle}{\BaseJobname}
6579
6580 \newcommand{\theHTMLTitle}{\thetitle}
6581
6582 \newcommand{\HTMLTitle}[1]{\renewcommand{\theHTMLTitle}{#1}}
```

\HTMLAuthor {\langle authorname\rangle} The author to place into an HTML meta tag. If none given, the default is \theauthor, which is empty unless the titling package is used.

```
6583 \providecommand{\theauthor}{}
6584
6585 \newcommand{\theHTMLAuthor}{\theauthor}
6586
6587 \newcommand{\HTMLAuthor}[1]{\renewcommand{\theHTMLAuthor}{#1}}
```

This is placed inside an HTML meta tag at the start of each file. This may be changed mid-document using \HTMLDescription, allowing different HTML descriptions to be used for different sections of the document.

**⚠ HTML author** Do not use double quotes, and do not exceed 150 characters.

\HTMLDescription {\langle New HTML meta description.\rangle} Assigns the HTML file's description meta tag.

```
6588 \newcommand{\LWR@currentHTMLDescription}{}%
6589
6590 \newcommand{\HTMLDescription}[1]{%
6591 \renewcommand{\LWR@currentHTMLDescription}{#1}}
```

---

```
6592 }
6593
6594 \end{warpall}
```

## 60 Footnotes

`lwarp` uses native L<sup>A</sup>T<sub>E</sub>X footnote code, although with its own `\box` to avoid the L<sup>A</sup>T<sub>E</sub>X output routine. The usual functions mostly work as-is.

**footnote numbering** To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by `HTML` page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

**MATHJAX** Also for MATHJAX, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading `lwarp`:

```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for `sidenotes`. For `endnotes`:

```
\def\endnotename{something}% \def allows name to start with "end"
```

For the `pagenote` package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

**footmisc** The `footmisc` stable option is emulated by `lwarp`.

**⚠ sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and `HTML`, use the `footmisc` package with the `stable` option, provide a short TOC entry, and `\protect` the `\footnote`:

```
\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

**memoir with footmisc** If using `memoir` class, with which `lwarp` preloads `footmisc`, the `stable` option must be declared before `lwarp` is loaded:

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
...
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\secnumdepth` instead.

Several kinds of footnotes are used: in a regular page, in a minipage, or as thanks in the titlepage. Each of these is handled differently.

## 60.1 Regular page footnotes

In `HTML` documents, footnotes are placed at the bottom of the web page or the section, depending on `FootnoteDepth`, using the `LATEX` box `\LWR@footnotebox`. Using this instead of the original `\footins` box avoids having footnotes be printed by the output routine, since footnotes should be printed per `HTML` page instead of per `PDF` page.

See section 60.4 for the implementation.

## 60.2 Minipage footnotes

See section 60.5 for how minipage footnotes are gathered. See section 94.4 for how minipage footnotes are placed into the document.

## 60.3 Titlepage thanks

See section 69.7 for titlepage footnotes.

## 60.4 Regular page footnote implementation

**for HTML & PRINT:** 6595 `\begin{warpall}`

**Ctr** `FootnoteDepth` Determines how deeply to place footnotes in the `HTML` files, similar to `tocdepth`. The **Default:** 3 default of 3 places footnotes before each `\subsubsection` or higher. See table 11 for a table of `LATEX` section headings.

```
6596 \newcounter{FootnoteDepth}
6597 \setcounter{FootnoteDepth}{3}
```

**Ctr** `footnoteReset` If non-zero, the footnote counter is reset to this value each time the footnotes are printed, as controlled by `FootnoteDepth`. For the `manyfoot` and `bigfoot` packages, additional counters such as `footnote<suffix>Reset` will be defined as well. These counters may be set non-zero by the user, and are also set if the `perpage`'s `\MakePerPage` or `\MakeSortedPerPage` macros are used for the `footnote` or `footnote<suffix>` counters.

(The name is not capitalized because it is made from the counter's name with "Reset" appended.)

```
6598 \newcounter{footnoteReset}
6599 \setcounter{footnoteReset}{0}
```

---

6600 \end{warpall}

**for HTML output:** 6601 \begin{warpHTML}

\LWR@footnotebox Patch L<sup>A</sup>T<sub>E</sub>X footnotes to use a new \box instead of an insert for **lwarp** footnotes. This avoids having the original \footins appear at the bottom of a `lateximage`, which is on its own new page.

6602 \newbox\LWR@footnotebox

Much of the following has unneeded print-mode formatting removed.

\@makefntext {⟨text⟩}

6603 \long\def\@makefntext#1{\textsuperscript{\@thefnmark}~#1}

\@makefnmark

6604 \def\@makefnmark{%
 6605 \textsuperscript{\@thefnmark}%
 6606 }

Footnotes may be in regular text, in which case paragraphs are tagged, or in a table data cell or `lateximage`, in which case paragraph tags must be added manually.

In a `lateximage` during HTML output, the `lateximage` is placed inside a print-mode `minipage`, but the footnotes are broken out by:

```
\def\@mpfn{footnote}
\def\thempfn{\thefootnote}
\let\@footnotetext\LWR@footnotetext
```

\LWR@footnotetext {⟨text⟩} {⟨footnote box name⟩}

Factored to allow multiple footnote boxes for `manyfoot`.

6607 \long\def\LWR@footnotetext#1#2{%
 6608 \LWR@traceinfo{\LWR@footnotetext}{%}

Perhaps generate an autopage in the text to link a citation backreference closer to its usage.

6609 \LWR@newautopagelabel{page}%

Locally disable auto page labels inside the footnote text. Footnotes are accumulated in the current page before finally being placed in a potentially later page, so the autopages would be incorrect.

6610 \begingroup%
 6611 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%

Take the existing footnote box and add the new content:

```
6612 \global\setbox\csname #2\endcsname=\vbox{%
6613 \unvbox\csname #2\endcsname%
```

Remember the footnote number for \ref:

```
6614 \protected@edef@\currentlabel{%
6615 \csname p@footnote\endcsname\@thefnmark%
6616 }% @currentlabel
```

Open a group:

```
6617 \color@begingroup%
```

Disable CJK `xpinyin` while generating footnotes.

```
6618 \LWR@disablepinyin%
```

Use HTML superscripts in the footnote even when the main text is inside a `lateximage`, because the footnote will be in HTML:

```
6619 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
6620 \ifthenelse{%
6621 \boolean{\LWR@doingstartpars} \AND%
6622 \cnttest{\value{\LWR@lateximagedepth}}{=}{0}%
6623 }%
6624 {}%
6625 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
```

Append the footnote to the list:

```
6626 \@makefntext{#1}%
```

Closing paragraph tag:

```
6627 \ifthenelse{%
6628 \boolean{\LWR@doingstartpars} \AND%
6629 \cnttest{\value{\LWR@lateximagedepth}}{=}{0}%
6630 }%
6631 {\par}%
6632 {}%
6633 \LWR@htmltagc{/}\LWR@tagregularparagraph%
6634 \LWR@orignewline%
6635 }
```

Close the group:

```
6636 \color@endgroup%
6637 }% vbox
6638 \endgroup%
```

Paragraph handling:

```

6639 \LWR@ensuredoingapar%
6640 }%
\LWR@footnotetext {<text>}
6641 \long\def\LWR@footnotetext#1{\LWR@footnotetext{#1}{\LWR@footnotebox}}%
\@footnotetext {<text>}
6642 \LetLtxMacro\@footnotetext\LWR@footnotetext

```

## 60.5 Minipage footnote implementation

Patch L<sup>A</sup>T<sub>E</sub>X minipage footnotes to use a new `\box` instead of an insert for `lwarp` minipage footnotes. This avoids having the original `\@mpfootins` appear at the bottom of a `lateximage`, which is on its own new page.

```

6643 \newbox\LWR@mpfootnotes
\@mpfootnotetext {<text>}
6644 \long\def\@mpfootnotetext#1{%
6645 \LWR@traceinfo{@mpfootnotetext}%
6646 \global\setbox\LWR@mpfootnotes\vbox{%
6647 \unvbox\LWR@mpfootnotes%
6648 \reset@font\footnotesize%
6649 \hsize\columnwidth%
6650 \parboxrestore%
6651 \protected@edef\@currentlabel{%
6652 \csname p@mpfootnote\endcsname\@thefnmark}%
6653 \color@begingroup%

```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```

6654 \ifthenelse{%
6655 \boolean{\LWR@doingstartpars} \AND%
6656 \cnttest{\value{\LWR@lateximagedepth}}{=}{0}%
6657 }%
6658 {}%
6659 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
6660 \makefntext{%
6661 \ignorespaces#1%
6662 }%

```

Don't add the closing paragraph tag if are inside a `lateximage`:

```

6663 \ifthenelse{\cnttest{\value{\LWR@lateximagedepth}}{>}{0} }{%
6664 }%

```

```

6665 {%
6666 \leaveemode\lwr@orignewline%
6667 \lwr@htmlltagc{/ \lwr@tagregularparagraph}%
6668 \lwr@origpar%
6669 }%
6670 \color@endgroup%
6671 }% vbox

```

Paragraph handling:

```

6672 \lwr@ensuredoingapar%
6673 \lwr@traceinfo{@mpfootnotetext: done}%
6674 }

```

\thempfootnote Redefined to remove the \itshape, which caused an obscure compiling error in some situations.

```

6675 \AtBeginDocument{%
6676 \def\thempfootnote{\alph{c@mpfootnote}}
6677 }

```

## 60.6 Printing pending footnotes

\lwr@@printpendingfootnotes {*footnote counter name*}

```

6678 \newcommand*{\lwr@printpendingfootnotes}[1]{%
6679 \expandafter\ifvoid\csname \lwr@#1box\endcsname\else
6680 \lwr@forcenewpage
6681 \begin{BlockClass}{note}{footnotes}%

```

Create a new autopage in case citation back references occur inside the footnotes:

```

6682 \lwr@newautopagelabel{page}%

6683 \null
6684 \unvbox\csuse{\lwr@#1box}
6685 \setbox\csuse{\lwr@#1box}=\vbox{%
6686 \end{BlockClass}
6687 \ifltxcounter{#1Reset}{%
6688 \ifnumgreater{\value{#1Reset}}{0}{%
6689 \setcounter{#1}{\value{#1Reset}}%
6690 \addtocounter{#1}{-1}%
6691 }{}%
6692 }{}%
6693 \fi
6694 }

```

\lwr@printpendingfootnotes Enclose the footnotes in a class, print, then clear. For **manynotes**, new footnotes may be added via \appto.

```

6695 \newcommand*{\lwr@printpendingfootnotes}{%
6696 \lwr@printpendingfootnotes{footnote}%
6697 }

```

\LWR@maybeprintpendingfootnotes {*depth*} Used to print footnotes before sections only if formatting for an EPUB or word processor:

```
6698 \newcommand*{\LWR@maybeprintpendingfootnotes}[1]{%
6699 \ifboolexpr{%
6700 not test{\ifnumcomp{#1}{>}{\value{FootnoteDepth}}} or
6701 bool{FormatEPUB} or
6702 bool{FormatWP}
6703 }%
6704 {\LWR@printpendingfootnotes}%
6705 {}%
6706 }
```

\LWR@printpendingmpfootnotes Enclose the minipage footnotes in a class, print, then clear.

```
6707 \newcommand*{\LWR@printpendingmpfootnotes}{%
6708 \ifvoid\LWR@mpfootnotes\else
6709 \LWR@forcenewpage
6710 \begin{BlockClass}(note){footnotes}%
6711 \null
6712 \unvbox\LWR@mpfootnotes
6713 \setbox\LWR@mpfootnotes=\vbox{%
6714 \end{BlockClass}
6715 \fi
6716 }

6717 \end{warpHTML}
```

## 61 Marginpars

\marginpar [*left*] {*right*} \marginpar may contains paragraphs, but in order to remain inline with the surrounding text lwarp nullifies block-related macros inside the \marginpar. Paragraph breaks are converted to <br /> tags.

\marginparBlock [*left*] {*right*} To include block-related macros, use \marginparBlock, which takes the same arguments but creates a <div> instead of a <span>. A line break will occur in the text where the \marginBlock occurs.

**for HTML output:** 6718 \begin{warpHTML}

```
\marginpar [left] {right}

6719 \renewcommand{\marginpar}[2][]{%
6720 \ifbool{FormatWP}{%
6721 {}%
6722 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{}(note){marginblock}%
6723 #2
6724 \end{LWR@BlockClassWP}%
6725 }%
6726 {}%
6727 \LWR@htmlspanclass(note){marginpar}{#2}%
}
```

```

6728 }%
6729 }

\marginparBlock [⟨left⟩] {⟨right⟩}

```

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

HTML version.

```

6730 \newcommand{\marginparBlock}[2][]{%
6731 \LWR@stoppars%
6732 \ifbool{FormatWP}{%
6733 {%
6734 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{}(note){marginblock}%
6735 #2
6736 \end{LWR@BlockClassWP}%
6737 }{%
6738 \begin{BlockClass}[width:2in; float:right; margin:10pt](note){marginparblock}%
6739 #2
6740 \end{BlockClass}%
6741 }%
6742 \LWR@startpars%
6743 }

```

\reversemarginpar

```
6744 \renewcommand*{\reversemarginpar}{}%
```

\normalmarginpar

```
6745 \renewcommand*{\normalmarginpar}{}%
6746 \end{warpHTML}
```

**for PRINT output:** 6747 \begin{warpprint}

\marginparBlock [⟨left⟩] {⟨right⟩}

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

Print version.

```

6748 \LetLtxMacro{\marginparBlock}{\marginpar}
6749 \end{warpprint}

```

## 62 Tracking internal cross references

Cross references are generated using the PDF file's page number during L<sup>A</sup>T<sub>E</sub>X compilation. Internal labels are generated which include these page numbers in the label.

File `*_html.aux` A new entry in the `*_html.aux` file is used to help cross-references:

```
\newlabel{autopage-<nnn>}{{<x>}{<y>}}
```

Ctr `LWR@currentautosecpage` Records the page number when the section was created. (If a math expression is included in the section name, and SVG math is used, the corresponding `lateximage` will cause the page number to change by the time the following autosec label is created, thus the initial page number is recorded here.) `LWR@currentautosecfloatpage` is updated more often than `LWR@currentautosecpage`.

```
6750 \newcounter{LWR@currentautosecpage}
6751 \setcounter{LWR@currentautosecpage}{1}
```

Ctr `LWR@currentautosecfloatpage` The HTML output's PDF page number at the start of a new HTML file, section, or float. Updated more often than `LWR@currentautosecpage`, such as when a new float occurs. Used only for table of contents, list of figures, list of tables, but not for general cross references such as `\label`, citation backlinks, etc.

`\LWRsetnextfloat` is written with this and the `autoID` by the modified `\addcontentsline` just before each float's entry.

```
6752 \newcounter{LWR@currentautosecfloatpage}
6753 \setcounter{LWR@currentautosecfloatpage}{1}
```

Ctr `LWR@previousautopagelabel` Remembers which autopage label was most recently generated. Used to avoid duplicates.

```
6754 \newcounter{LWR@previousautopagelabel}
6755 \setcounter{LWR@previousautopagelabel}{-1}
```

`\LWR@newautopagelabel` `{<pagenumber counter>}`

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```
6756 \newcommand*{\LWR@newautopagelabel}[1]{%
```

No action if this autopage label has already been defined:

```
6757 \ifnumequal{\value{LWR@previousautopagelabel}}{\value{page}}%
6758 {}%
```

If the PDF page has changed, create a label using the desired counter.

If the counter is `LWR@currentautosecpage`, that was the page number when the section generation began, but the current PDF page may be different by now if the section name had an SVG image, such as SVG math. To allow the cross-reference to point just after the section heading, the label must be made after the section heading is complete, which may have generated a new PDF page. Thus, the label is made with the given counter, which may be the PDF page number where the section heading began, then if the PDF page number has changed, another label is made for the current page number.

```
6759 {%
6760 \label{\BaseJobname-autopage-\csuse{the#1}}%
```

If there are intervening pages, such as an SVG image, define another label for the new page:

```
6761 \ifnumequal{\value{#1}}{\value{page}}%
6762 {}%
6763 {\label{\BaseJobname-autopage-\csuse{thepage}}}%
```

Remember the latest autopage label:

```
6764 \setcounter{\LWR@previousautopagelabel}{\value{page}}%
6765 }%
6766 }
```

\LWR@null@newautopagelabel {*<pagenumber counter>*}

Inside a footnote, the page numbers will be incorrect, so this is nullified.

```
6767 \newcommand*{\LWR@null@newautopagelabel}[1]{}
```

## 63 Splitting HTML files

- Files are split according to `FileDepth` and `CombineHigherDepths`.
- Filenames are sanitized by `\LWR@filenamenoblanks`.
- `\LWR@newhtmlfile` finishes an HTML page, adds a comment to tell where and how to split the file, then starts a new HTML page.

**for HTML & PRINT:** 6768 `\begin{warpall}`

`Ctr FileDepth {<section depth>}` determines how deeply to break into new HTML files, similar to `tocdepth`. The default of -5 produces one large HTML file.

```
6769 \newcounter{FileDepth}
6770 \setcounter{FileDepth}{-5}
```

`Bool CombineHigherDepths` Comile higher-level sections together into one file?

```
6771 \newbool{CombineHigherDepths}
6772 \booltrue{CombineHigherDepths}
```

`\FilenameLimit` Maximum length of the generated filenames.

```
6773 \newcommand*{\FilenameLimit}{80}
6774 \end{warpall}
```

**for HTML output:** 6775 `\begin{warpHTML}`

\LWR@thisfilename The currently-active filename or number. At first, this is the homepage.

```
6776 \AtBeginDocument{
6777 \ifbool{FileSectionNames}{%
6778 {\newcommand*\{\LWR@thisfilename}{\HomeHTMLFilename}}
6779 {\newcommand*\{\LWR@thisfilename}{0}}
6780 }
```

\LWR@thisnewfilename The filename being sanitized.

```
6781 \newcommand*\{\LWR@thisnewfilename}{}%
```

\LWR@simplifyname \* {*expression*} Simplify \LWR@thisnewfilename.

If starred, detokenizes the input expression. If found, changes the expression to a single detokenized dash.

```
6782 \NewDocumentCommand{\LWR@simplifyname}{s m}{%
6783 \IfBooleanTF{#1}{%
6784 \StrSubstitute{\LWR@thisnewfilename}{%
6785 {\detokenize{#2}}}{%
6786 {\detokenize{-}}[\LWR@thisnewfilename]}%
6787 }{%
6788 \StrSubstitute{\LWR@thisnewfilename}{%
6789 {#2}}{%
6790 {\detokenize{-}}[\LWR@thisnewfilename]}%
6791 }
6792 }
```

\LWR@simplifycustom User-defined filename simplifications. Redefine with \newcommand.

```
6793 \newcommand*\{\LWR@simplifycustom}{}%
```

\FilenameSimplify \* {*phrase*} Assign a user-defined filename simplification. Appends to \LWR@simplifycustom.

```
6794 \NewDocumentCommand{\FilenameSimplify}{s m}{%
6795 \IfBooleanTF{#1}{%
6796 \appto{\LWR@simplifycustom}{%
6797 \LWR@simplifyname*{#2}}%
6798 }%
6799 }{%
6800 \appto{\LWR@simplifycustom}{%
6801 \LWR@simplifyname{#2}}%
6802 }%
6803 }%
6804 }
```

\LWR@avoiddupfilenames Instructions for how to avoid duplicate filenames. This is used in a warning in \LWR@filenamenoblanks, and in an error in \LWR@newhtmlfile.

```
6805 \newcommand*\{\LWR@avoiddupfilenames}{%
```

---

```

6806 To avoid duplicate filenames, use the optional \MessageBreak
6807 short Table of Contents entry: \MessageBreak
6808 \space\space\protect\section[Unique name, no math]{Name with math}%
6809 \MessageBreak
6810 or use \protect\texorpdfstring, from the hyperref package: \MessageBreak
6811 \space\space%
6812 \protect\section{\MessageBreak
6813 \space\space\space\protect\texorpdfstring\MessageBreak
6814 \space\space\space\space\space\space\%}
6815 {Name with math}{Unique name, no math}\MessageBreak
6816 \space\space}
6817 }

```

\LWR@filenamenoblanks {<filename>}

Convert blanks into dashes, removes short words, store result in  
\LWR@thisfilename.

Also see \LWR@nullfonts for nullified macros.

```

6818 \newcommand*{\LWR@filenamenoblanks}[1]{%
6819 \begingroup

```

Locally temporarily disable direct-formatting commands, not used in filenames:

```

6820 \LWR@nullfonts%
6821 \renewcommand*{\LWR@htmlltagc}[1]{()}%
6822 \edef\LWR@thisnewfilename{#1}%

```

Replaces common macros with hyphens. (\& is done by \LWR@nullfonts.)

```

6823 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{()}%
6824 \LWR@simplifyname{_}
6825 \LWR@simplifyname{#}
6826 \LWR@simplifyname{\textbackslash}
6827 \LWR@simplifyname{\protect}
6828 \LWR@simplifyname{\ }
6829 \LWR@simplifyname{\textless}
6830 \LWR@simplifyname{\textgreater}

```

```
6831 \edef\LWR@thisnewfilename{\detokenize\expandafter{\LWR@thisnewfilename}}%
```

Warn if there is dollar math in the section name:

```

6832 \ifbool{FileSectionNames}{%
6833 \IfSubStr{\LWR@thisnewfilename}{\LWRdollar}{%
6834 \PackageWarning{l warp}%
6835 {%
6836 This section name:\MessageBreak
6837 \space\space‘‘\detokenize\expandafter{\#1}’’\MessageBreak
6838 at the line number listed below,\MessageBreak
6839 is using \$dollar-delimited math$,

```

```

6840 which generates\MessageBreak
6841 complicated file names. It is better to use\MessageBreak
6842 \space\space%
6843 \protect\section{Name with \protect\left(parenthesis math\protect\right)\}%
6844 \MessageBreak
6845 The math then will be removed from the file name.\MessageBreak
6846 \MessageBreak
6847 \LWR@avoiddupfilenames%
6848 \MessageBreak
6849 This section is found before or%
6850 }
6851 }{}%
6852 }{}}

6853 \LWR@traceinfo{\LWR@filenamenoblanks edef: !\LWR@thisnewfilename!}%
6854 \fullexpandarg%

```

Convert spaces into hyphens:

```
6855 \LWR@simplifyname*{ }
```

Convert punctuation into hyphens:

```

6856 \LWR@simplifyname*{*}
6857 \LWR@simplifyname*{()}
6858 \LWR@simplifyname*{}}
6859 \LWR@simplifyname*{.}
6860 \LWR@simplifyname*{!}
6861 \LWR@simplifyname*{,}
6862 \LWR@simplifyname*{'}
6863 \LWR@simplifyname*{+}
6864 \LWR@simplifyname*{/}
6865 \LWR@simplifyname*{:}
6866 \LWR@simplifyname*{;}
6867 \LWR@simplifyname*{=}
6868 \LWR@simplifyname*{?}
6869 \LWR@simplifyname*{@}
6870 \LWR@simplifyname*{^}
6871 \LWR@simplifyname*{&}
6872 \LWR@simplifyname*{"}
6873 \LWR@simplifyname*{<}
6874 \LWR@simplifyname*{>}

```

```
6875 \LWR@simplifyname{\LWRbackslash}
```

Braces are removed entirely to avoid extra dashes in the result.

```

6876 \StrSubstitute{\LWR@thisnewfilename}%
6877 {\LWRleftbrace}{}[\LWR@thisnewfilename]%
6878 \StrSubstitute{\LWR@thisnewfilename}%
6879 {\LWRrightbrace}{}[\LWR@thisnewfilename]%

```

```

6880 \LWR@simplifyname{\LWRpercent}
6881 \LWR@simplifyname{\LWRdollar}

```

---

```

6882 \LWR@simplifyname*{ | }
6883 \LWR@simplifyname*{^}
6884 \LWR@simplifyname*{~}
6885 \LWR@simplifyname*{[}
6886 \LWR@simplifyname*{]}
6887 \LWR@simplifyname*{'}

```

Convert short words:

```

6888 \LWR@simplifyname*{-s-}
6889 \LWR@simplifyname*{-S-}
6890 \LWR@simplifyname*{-a-}
6891 \LWR@simplifyname*{-A-}
6892 \LWR@simplifyname*{-an-}
6893 \LWR@simplifyname*{-AN-}
6894 \LWR@simplifyname*{-to-}
6895 \LWR@simplifyname*{-TO-}
6896 \LWR@simplifyname*{-by-}
6897 \LWR@simplifyname*{-BY-}
6898 \LWR@simplifyname*{-of-}
6899 \LWR@simplifyname*{-OF-}
6900 \LWR@simplifyname*{-and-}
6901 \LWR@simplifyname*{-AND-}
6902 \LWR@simplifyname*{-for-}
6903 \LWR@simplifyname*{-FOR-}
6904 \LWR@simplifyname*{-the-}
6905 \LWR@simplifyname*{-THE-}

```

Convert custom words:

```

6906 \LWR@simplifycustom%

```

If pdf~~AT~~EX and not utf8 encoding, don't try to convert emdash, endash:

```

6907 \ifPDFTeX% pdflatex or dvi latex
6908 \ifdefstring{\inputencodingname}{utf8}{%
6909 \LWR@simplifyname*{-}
6910 % emdash
6911 \LWR@simplifyname*{-}
6912 % endash
6913 }{}}%
6914 \else% not PDFTeX
6915 \LWR@simplifyname*{-}
6916 \LWR@simplifyname*{-}
6917 \fi%

```

Convert multiple hyphens:

```

6918 \LWR@simplifyname*{----}
6919 \LWR@simplifyname*{---}
6920 \LWR@simplifyname*{--}
6921 \LWR@simplifyname*{--}

```

If starts with a dash, remove the leading dash:

---

```

6922 \IfBeginWith{\LWR@thisfilename}{\detokenize{-}}{%
6923 \StrGobbleLeft{\LWR@thisfilename}{1}[\LWR@thisfilename]%
6924 }{ }%

```

If ends with a dash, remove the trailing dash:

```

6925 \IfEndWith{\LWR@thisfilename}{\detokenize{-}}{%
6926 \StrGobbleRight{\LWR@thisfilename}{1}[\LWR@thisfilename]%
6927 }{ }%

```

Limits the length of the filename:

```

6928 \StrLeft{\LWR@thisfilename}{\FilenameLimit}[\LWR@thisfilename]%

```

Return the global result:

```

6929 \global\let\LWR@thisfilename\LWR@thisfilename%
6930 \endgroup%
6931 \LWR@traceinfo{\LWR@filenamenoblanks: result is \LWR@thisfilename}%
6932 }%

```

### 63.1 Sanitizing expressions for HTML

Math expressions are converted to `\textrm{images}`, and some math environments may contain &, <, or >, which should not be allowed inside an HTML `<alt>` tag, so must convert them to HTML entities.

```
\LWR@replacestrings {<search>} {<replace>}
```

Replaces strings inside `\tmpb`.

Modified from the original, by PETR OLSAK, from the `opmac` package.

```

6933 \bgroup
6934 \catcode`!=3 \catcode`?=3
6935
6936 \long\gdef\LWR@replacestrings@addto#1#2{%
6937 \expandafter\def\expandafter#1\expandafter{#1#2}%
6938 }
6939
6940 \gdef\LWR@replacestrings#1#2{%
6941 \long\def\LWR@replacestringsA##1{\def\tmpb{##1}\LWR@replacestringsB}%
6942 \long\def\LWR@replacestringsB##1{%
6943 \ifx##1\relax \else\LWR@replacestrings@addto\tmpb{##1}%
6944 \expandafter\LWR@replacestringsB\fi%
6945 }% improved version <May 2016> inspired
6946 \expandafter\def\LWR@replacestringsA\tmpb?##1% from pysyntax.tex by Petr Krajnik
6947 \long\def\LWR@replacestringsA##1{%
6948 \def\tmpb{##1}%
6949 }\expandafter\def\LWR@replacestringsA\tmpb{%
6950 }%
6951 \egroup

```

`Bool LWR@MathJax@silentquotes` If true, double quotes (\ " and ") are removed (used for `mathspec`). This unfortunately includes double quotes used inside `\text` with MATHJAX. If false, double quotes are escaped.

```
6952 \newbool{LWR@MathJax@silentquotes}
6953 \boolfalse{LWR@MathJax@silentquotes}
```

`\LWR@subHTMLsanitize` `\LWR@strresult` must first be set by `\LWR@HTMLsanitize`, `\LWR@HTMLsanitizeexpand`, or `\CustomizeMathJax`.

```
6954 \catcode`\#=12
6955 \catcode`\&=12
6956 \newcommand{\LWR@subHTMLsanitize}{%
```

The &, <, and > may be interpreted by the browser:

```
6957 \edef\tmpb{\detokenize\expandafter{\LWR@strresult}}%
6958 \LWR@replacestrings{&}{&}%
6959 \LWR@replacestrings{<}{<}%
6960 \LWR@replacestrings{>}{>}%
```

The quotes occasionally causes problems. For `mathspec`, also allow neutralization of \" and the " character.

```
6961 \ifbool{LWR@MathJax@silentquotes}
6962 {%
6963 \expandafter\lWR@replacestrings\expandafter{\lWRbackslash"}{}%
6964 \LWR@replacestrings{"}{}%
6965 }%
6966 {\lWR@replacestrings{"}{quot;}{}%
6967 \lWR@replacestrings{'}{apos;}{}%
6968 \lWR@replacestrings{'}{grave;}{}%
```

MATHJAX allows expressions to be defined with `\newcommand`. These expressions would appear with ## for each argument, and each must be changed to a single #. This must be done after all the above changes. Attempting another conversion after this causes an error upon further expansion.

```
6969 \lWR@replacestrings{##}{#}%
6970 \edef\lWR@strresult{\detokenize\expandafter{\tmpb}}%
6971 }
6972 \catcode`\#=6
6973 \catcode`\&=4
```

`\LWR@HTMLsanitize` {*text*}

```
6974 \newrobustcmd{\lWR@HTMLsanitize}[1]{%
```

Cancel French babel character handling, and fully expand the strings:

```
6975 \begingroup%
6976 \lWR@hook@processingtags%
```

---

```

6977 \edef\LWR@strresult{\detokenize{#1}}%
6978 \LWR@subHTMLsanitize%
6979 \LWR@strresult%
6980 \endgroup%
6981 }

```

\LWR@HTMLsanitizeexpand {*text*}

This version expands the argument before sanitizing it. This is only used for adding math to MATHJAX expressions or *lateximage alt* tags.

```

6982 \edef\LWR@beginspaceleftbrace{begin \LWRleftbrace}
6983 \edef\LWR@beginspaceleftbrace{\detokenize\expandafter{\LWR@beginspaceleftbrace}}
6984 \edef\LWR@beginleftbrace{begin\LWRleftbrace}
6985 \edef\LWR@beginleftbrace{\detokenize\expandafter{\LWR@beginleftbrace}}
6986
6987 \edef\LWR@endspacerrightbrace{end \LWRrightbrace}
6988 \edef\LWR@endspacerrightbrace{\detokenize\expandafter{\LWR@endspacerrightbrace}}
6989 \edef\LWR@endrightbrace{end\LWRrightbrace}
6990 \edef\LWR@endrightbrace{\detokenize\expandafter{\LWR@endrightbrace}}
6991
6992 \newrobustcmd{\LWR@HTMLsanitizeexpand}[1]{%

```

Cancel French **babel** character handling, and fully expand the strings:

```

6993 \begingroup%
6994 \LWR@hook@processingtags%

```

The difference between this and \LWR@HTMLsanitize (without “expand”) is the following \expandafter:

```
6995 \edef\LWR@strresult{\detokenize\expandafter{#1}}%
```

The math expression may includes spaces between tokens, but MATHJAX does not want a space between \begin or \end and the following brace. This space is removed here.

```

6996 \protect\StrSubstitute{\LWR@strresult}%
6997 {\LWR@beginspaceleftbrace}{\LWR@beginleftbrace}[\LWR@strresult]%
6998 \protect\StrSubstitute{\LWR@strresult}%
6999 {\LWR@endspacerrightbrace}{\LWR@endrightbrace}[\LWR@strresult]%

7000 \LWR@subHTMLsanitize%
7001 \LWR@strresult%
7002 \endgroup%
7003 }

```

## 63.2 Customizing MATHJAX

\LWR@customizedMathJax Additional MATHJAX definitions to be added to the start of each HTML page.

```
7004 \newcommand*{\LWR@customizedMathJax}{}%
```

Bool    Used to issue only one warning about using a \CustomizeMathJax per macro.

```
7005 \newbool{LWR@warnedcustomizemathjax}
7006 \boolfalse{LWR@warnedcustomizemathjax}
```

\LWR@subcustomizedmathjax {⟨macro definition⟩}

```
7007 \newcommand*{\LWR@subcustomizedmathjax}[1]{%
7008 \begingroup%
7009 \LWR@hook@processingtags%
7010 \edef\LWR@strresult{\detokenize{\#1}}%
7011 \LWR@subHTMLsanitize%
7012 \xdef\LWR@customizedMathJax{%
7013 \LWR@customizedMathJax%
7014 \LWR@strresult%
7015 }%
7016 \endgroup%
7017 }
7018 \@onlypreamble\LWR@subcustomizedmathjax
```

\CustomizeMathJax {⟨macro definition⟩}

A warning is issued if a very long argument is given.

```
7019 \newcommand*{\CustomizeMathJax}[1]{%
7020 \ifbool{LWR@warnedcustomizemathjax}{}{%
7021 \StrLen{\detokenize{\#1}}[\LWR@tempone]%
7022 \ifnumgreater{\LWR@tempone}{350}{%
7023 \AtEndDocument{%
7024 \PackageWarningNoLine{lwarp}{%
7025 To ensure faster MathJax compilation, place each\MessageBreak
7026 custom macro in its own \protect\CustomizeMathJax.\MessageBreak
7027 See the Lwarp documentation regarding customizing\MessageBreak
7028 MathJax%
7029 }%
7030 }%
7031 \booltrue{LWR@warnedcustomizemathjax}%
7032 }{}%
7033 }%
7034 \appto{\LWR@customizedMathJax}{\LWRbackslash{}}%
7035 \LWR@subcustomizedmathjax{\#1}%
7036 \appto{\LWR@customizedMathJax}{\LWRbackslash}\par}%
7037 }
7038 \@onlypreamble\CustomizeMathJax
```

\LWR@infoprocessingmathjax {⟨package name⟩}

```
7039 \newcommand*{\LWR@infoprocessingmathjax}[1]{%
7040 \typeout{---}
7041 \typeout{Package lwarp: Processing MathJax customizations for #1.}
7042 \typeout{\space\space This may take a moment.}
7043 \typeout{---}
7044 }
```

**defaults** Default customizations:

In the MATHJAX code, footnotes are only referenced. For equations, they are also generated in the HTML when the L<sup>A</sup>T<sub>E</sub>X math is generated inside the HTML comment. For other math environments, the \footnotemark/\footnotetext method must be used. See section 8.5.4 regarding \footnotemark.

⚠ \footnotemark

For footnotes, \footnotename is used in most cases, however for equation the footnote is picked up from L<sup>A</sup>T<sub>E</sub>Xin \LWR@doendequation.

First, \footnotename for MATHJAX is copied from L<sup>A</sup>T<sub>E</sub>X.

```
7045 \providecommand{\footnotename}{\footnote}
7046
7047 % due to warpMathJax:
7048 \end{warpHTML}
7049
7050 \begin{warpMathJax}
7051 \xdef\LWR@customizedMathJax{\LWR@customizedMathJax%
7052 \LWRbackslash(%
7053 \LWRbackslash{}newcommand%
7054 {\LWRbackslash{}footnotename}%
7055 {\footnotename}%
7056 \LWRbackslash)\par%
7057 }
7058 \end{warpMathJax}
```

\LWRfootnote is set per equation if a footnote is detected in the equation's math expression, otherwise it defaults to \footnotename.

```
7059 \begin{warpMathJax}
7060 \CustomizeMathJax{\def\LWRfootnote{1}}
7061 \CustomizeMathJax{\newcommand{\footnote}[2][\LWRfootnote]{{}^{\mathrm{\#1}}}}
7062 \CustomizeMathJax{\newcommand{\footnotemark}[1][\LWRfootnote]{{}^{\mathrm{\#1}}}}
```

\hspace is modified to accept and ignore a star:

```
7063 \CustomizeMathJax{\let\LWRorighspace\hspace}
7064 \CustomizeMathJax{\renewcommand{\hspace}{\ifstar\LWRorighspace\LWRorighspace}}
```

Various other customizations:

```
7065 \CustomizeMathJax{\newcommand{\mathnormal}[1]{{\mathrm{\#1}}}}
7066 \CustomizeMathJax{\newcommand\ensuremath[1]{\mathrm{\#1}}}
7067 \CustomizeMathJax{\% absorb two optional arguments
7068 \newcommand{\LWRframebox}[2][]{\fbox{\mathrm{\#2}}}
7069 \newcommand{\framebox}[1][]{\LWRframebox}
7070 }
7071 \CustomizeMathJax{\newcommand{\setlength}[2]{}}
7072 \CustomizeMathJax{\newcommand{\addtolength}[2]{}}
7073 \CustomizeMathJax{\newcommand{\setcounter}[2]{}}
7074 \CustomizeMathJax{\newcommand{\addtocounter}[2]{}}
7075 \CustomizeMathJax{\newcommand{\arabic}[1]{}}
7076 \CustomizeMathJax{\newcommand{\number}[1]{}}
7077 \CustomizeMathJax{\newcommand{\noalign}[1]{\text{\#1}\notag \\}}
```

---

```

7078 \CustomizeMathJax{\newcommand{\cline}[1]{}}
7079 \CustomizeMathJax{\newcommand{\directlua}[1]{\text{(directlua)}}}
7080 \CustomizeMathJax{\newcommand{\luatexdirectlua}[1]{\text{(directlua)}}}

\protect, \mathchar, and \delimiter are silently discarded; and \mathcode and
\delcode are ignored.

7081 \CustomizeMathJax{\newcommand{\protect}{}}
7082 \CustomizeMathJax{\def\LWRabsorbnumber#1 {}}
7083 \CustomizeMathJax{\def\LWRabsorbquotenumber"#1 {}}
7084 \CustomizeMathJax{\newcommand{\LWRabsorboption}[1][]{}}
7085 \CustomizeMathJax{\newcommand{\LWRabsorbtwooptions}[1][][\LWRabsorboption]}
7086 \CustomizeMathJax{\def\mathchar{\ifnextchar"\LWRabsorbquotenumber\LWRabsorbnumber}}
7087 \CustomizeMathJax{\def\mathcode#1={\mathchar}}
7088 \CustomizeMathJax{\let\delcode\mathcode}
7089 \CustomizeMathJax{\let\delimiter\mathchar}
7090 \end{warpMathJax}
7091
7092 \begin{warpHTML}% due to warpMathJax

```

\LWR@customizeMathJax Prints MATHJAX commands to the HTML output.

```

7093 \newcommand{\LWR@customizeMathJax}{%
7094 \ifbool{mathjax}{%
7095 \LWR@stoppars
7096 \LWR@htmlcomment{MathJax customizations:}
7097
7098 \begin{BlockClass}{hidden}
7099 \LWR@stoppars

```

Avoid ligatures while printing MATHJAX customizations:

```

7100 {
7101 \LWR@print@ttfamily
7102 \LWR@customizedMathJax
7103 }
7104 \LWR@startpars
7105 \end{BlockClass}
7106
7107 \LWR@startpars
7108 }{ }
7109 }

7110 \end{warpHTML}

```

**for PRINT output:** 7111 \begin{warpprint}

\CustomizeMathJax The print-mode version:

```

7112 \newcommand*{\CustomizeMathJax}[1]{}

```

```
\FilenameSimplify * {\(expression\)}
7113 \NewDocumentCommand{\FilenameSimplify}{s m}{}
7114 \end{warpprint}

for HTML output: 7115 \begin{warpHTML}
```

\LWR@createfooter If specified, create the first or later web page footer.

```
7116 \newcommand*{\LWR@createfooter}{%
7117 \ifnumless{\value{LWR@htmlseqfilenumber}}{1}{%
7118 \ifdefempty{\LWR@firstpagebottom}{%
7119 \LWR@htmlelement{footer}%
7120 \LWR@firstpagebottom%
7121 \LWR@htmlelementend{footer}%
7122 }%
7123 }%
7124 }{%
7125 \ifdefempty{\LWR@pagebottom}{%
7126 \LWR@htmlelement{footer}%
7127 \LWR@pagebottom%
7128 \LWR@htmlelementend{footer}%
7129 }%
7130 }%
7131 }%
7132 }%
7133 }%
7134 }
```

\LWR@newhtmlfile {\(section name\)}

Finishes the current HTML page with footnotes, footer, navigation, then starts a new HTML page with an HTML comment telling where to split the page and what the new filename and css are, then adds navigation, side toc, header, and starts the text body.

```
7135 \newcommand*{\LWR@newhtmlfile}[1]{%
7136 \LWR@traceinfo{\LWR@newhtmlfile}}
```

At the bottom of the ending file:

```
7137 \LWR@htmlelementclassend{section}{textbody}%
7138 \LWR@htmlelementclassend{main}{bodycontainer}%
7139 \LWR@htmlelementclassend{div}{bodyandsidetoc}%
7140
7141 \LWR@printpendingfootnotes
7142
```

No footer between files if EPUB:

```
7143 \ifbool{FormatEPUB}{}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

```
7144 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7145 {}
7146 \ifnumcomp{\value{LWR@htmlfilename}}{>}{0}{\LWR@botnavigation{}}
```

End of this HTML file:

```
7147 \LWR@stoppars
7148 \LWR@htmlltag{/body}\LWR@orignewline
7149 \LWR@htmlltag{/html}\LWR@orignewline
7150 \LWR@traceinfo{\LWR@newhtmlfile: about to \LWR@orignewline}
7151 \LWR@maybe@orignewline

7152 \addtocounter{\LWR@htmlfilename}{1}%
7153 \addtocounter{\LWR@htmlseqfilename}{1}%
```

If using a filename based on section name, create a version without blanks. The filename without blanks will be placed into \LWR@thisfilename. Duplicates will be detected using MD5 hashes.

If not using a filename, the file number will be used instead.

```
7154 \ifbool{FileSectionNames}%
7155 {%
```

Convert the section name to a filename with blanks and common words removed. The resulting filename is in \LWR@thisfilename.

```
7156 \LWR@filenamenoblanks{#1}%
```

Create a macro name from the MD5 hash of the file name, to detect duplicates:

```
7157 \edef\LWR@hashedname{\LWR@mdfive{\LWR@thisfilename}}%
```

If the macro name is not yet defined, this filename is unique.

```
7158 \ifcsundef{\LWR@filename\LWR@hashedname}{%
```

If the filename is unique, create a macro using the hashed name, to be used to test for additional duplicates in the future.

```
7159 \csdef{\LWR@filename\LWR@hashedname}{}%
7160 }{%
```

If the filename is not unique, create an error.

```
7161 \PackageError{lwarp}%
7162 {}
7163 The section name:\MessageBreak
7164 '#1',\MessageBreak
7165 at the line number listed below,\MessageBreak
```

---

```

7166 generates the filename\MessageBreak
7167 ‘‘\LWR@thisfilename’’,\MessageBreak
7168 which appears to be a duplicate. There is a\MessageBreak
7169 previous section with an identical or similar name.\MessageBreak
7170 While generating file names, Lwarf sanitizes math,\MessageBreak
7171 most symbols, and a few common short words,\MessageBreak
7172 and this may cause a conflict.\MessageBreak
7173 Enter 'H' for possible solutions%
7174 }%
7175 {%
7176 \LWR@avoiddupfilenames%
7177 }%
7178 }%
7179 }%

```

If using file numbers instead of names, the name is set to the next file number.

```
7180 {\renewcommand*{\LWR@thisfilename}{\arabic{LWR@htmlfilename}}}
```

Include an HTML comment to instruct lwarpmk where to split the files apart. Uses pipe-separated fields for `split_html.gawk`. Uses monospaced font with ligatures disabled for everything except the title.

```
7181 \LWR@traceinfo{\LWR@newhtmlfile: about to print start file}%


```

\LWR@nullfonts to allow math in a section name.

```

7182 \begingroup%
7183 \LWR@nullfonts%
7184 \LWR@htmlblockcomment{%
7185 |Start file|%
7186 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
7187 }
7188 \endgroup%

```

At the top of the starting file:

```
7189 \LWR@stopars
7190
```

Start a new file with the given section name:

```
7191 \LWR@filestart[#1]
7192
```

Track the PDF page numbers of the HTML output. This is updated more frequently than `LWR@currentautosecpage`.

```

7193 \setcounter{LWR@currentautosecfloataction}{\value{page}}%
7194 \LWR@newautopagelabel{\LWR@currentautosecfloataction}%

```

No navigation between files if formatting for an EPUB or word processor:

```
7195 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
```

```

7196 {}
7197 {\LWR@topnavigation}
7198

```

No header if between files if formatting for an EPUB or word processor:

```

7199 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7200 {}
7201 {

7202 \ifdefempty{\LWR@pagetop}{}{
7203 \LWR@htmlelement{header}
7204
7205 \LWR@pagetop
7206
7207 \LWR@htmlelementend{header}
7208 }
7209 }
7210

```

The container for the sidetoc and text body:

```
7211 \LWR@htmlelementclass{div}{bodyandsidetoc}
```

No sidetoc if formatting for an EPUB or word processor:

```

7212 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7213 {}
7214 {\LWR@sidetoc}
7215

```

Start of the <textbody>:

```

7216 \LWR@htmlelementclass{main}{bodycontainer}
7217 \LWR@htmlelementclass{section}{textbody}

```

Not yet found a new section in this file. Once one is found, a label will be placed for previous/next links.

```
7218 \boolfalse{\LWR@setseqfilelabel}
```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```

7219 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}%
7220 {}%
7221 {}%
7222 \ifcsvvoid{\thetitle}{}{%
7223 \LWR@printthetitle%
7224 }%
7225 }%

```

Keep paragraph tags disabled for now:

```

7226 \LWR@stoppars
7227

```

If using MATHJAX, print the customizations here.

```
7228 \LWR@customizeMathJax

7229 \LWR@traceinfo{\LWR@newhtmlfile: done}
7230 }

7231 \end{warpHTML}
```

## 64 Sectioning

Sectioning and cross-references have been emulated from scratch, rather than try to patch several layers of existing L<sup>A</sup>T<sub>E</sub>X code and packages. Formatting is handled by css, so the emulated code has much less work to do than the print versions.

**Unicode** Section names and the resulting filenames with accented characters are partially supported, depending on the ability of *pdflatex* to generate characters and *pdftotext* to read them. If extra symbols appear in the text, it may be that *pdflatex* is actually producing a symbol over or under a character, resulting in *pdftotext* picking up the accent symbol separately.

⚠ accents in filenames

X<sup>A</sup>L<sub>E</sub>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X directly support accented section and file names, but it may be necessary to use L<sup>A</sup>T<sub>E</sub>X accents instead of native Unicode accents. L<sup>A</sup>T<sub>E</sub>X accents will have the accents stripped when creating file names, whereas using Unicode accents will create filenames which include accents, which may cause issues with some operating systems.

**for HTML output:** 7232 \begin{warpHTML}

### 64.1 User-level starred section commands

\ForceHTMLPage For HTML output, forces the next section to be on its own HTML page, if FileDepth allows, even if starred. For use with \printindex and others which generate a starred section which should be on its own HTML page. Also see \ForceHTMLTOC.

For print output, no effect.

```
7233 \newbool{\LWR@forcinghtmlpage}
7234 \boolfalse{\LWR@forcinghtmlpage}
7235
7236 \newcommand*{\ForceHTMLPage}{%
7237 \global\booltrue{\LWR@forcinghtmlpage}%
7238 }
```

\ForceHTMLTOC For HTML output, forces the next section to have a TOC entry, even if starred. For use with \printindex and others which generate a starred section which should be in the TOC so that it may be accessed via HTML. Not necessary if used with tocbibind. Also see \ForceHTMLPage.

For print output, no effect.

---

```

7239 \newbool{LWR@forcinghtmltoc}
7240 \boolfalse{LWR@forcinghtmltoc}
7241
7242 \newcommand*{\ForceHTMLTOC}{%
7243 \global\booltrue{LWR@forcinghtmltoc}%
7244 }

7245 \end{warpHTML}

for PRINT output: 7246 \begin{warpprint}
7247 \newcommand*{\ForceHTMLPage}{}
7248 \newcommand*{\ForceHTMLTOC}{}
7249 \end{warpprint}

for HTML output: 7250 \begin{warpHTML}

```

## 64.2 Book class commands

**\mainmatter** Declare the main matter section of the document. Does not reset the page number, which must be consecutive arabic numbers for the `HTML` conversion.

```

7251 \newbool{LWR@mainmatter}
7252 \DeclareDocumentCommand{\mainmatter}{}{%
7253 \booltrue{LWR@mainmatter}%
7254 }

```

**\frontmatter** Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```

7255 \DeclareDocumentCommand{\frontmatter}{}{%
7256 \boolfalse{LWR@mainmatter}%
7257 }

```

**\backmatter** Declare the back matter section of the document. Does not reset the page number.

```

7258 \DeclareDocumentCommand{\backmatter}{}{%
7259 \boolfalse{LWR@mainmatter}%
7260 }

```

## 64.3 Sectioning support macros

**\LWR@sectionnumber** {*<section type>*}

Typeset a section number and its trailing space with css formatting:

```

7261 \newcommand*{\LWR@sectionnumber}[1]{%
7262 \InlineClass{sectionnumber}{#1}%
7263 }

```

**autosec** A tag used by the TOC and index.

---

\LWR@createautosec {*<section type>*}

Create an autosection tag.

The use of \textquotedbl instead of " provides improved compatibility with xeCJK.

```
7264 \newcommand*{\LWR@createautosec}[1]{%
7265 \LWR@htmntag{%
7266 #1 % space
7267 id=\textquotedbl\LWR@print@mbox{autosec-\arabic{page}}\textquotedbl%
7268 }%
7269 }
```

\LWR@pushoneclose {*<sectiontype>*} Stacks the new sectioning level's closing tag, to be used when this section is closed some time later.

 \LWR@stoppars must be executed first.

```
7270 \NewDocumentCommand{\LWR@pushoneclose}{m}{%
7271 \LWR@traceinfo{\LWR@pushoneclose #1}%
7272 \LWR@pushclose{#1}%
7273 }
```

\LWR@startnewdepth {*<sectiontype>*}

Closes currently stacked tags of a lesser level, then opens the new nesting level by saving this new sectioning level's closing tag for later use.

 \LWR@stoppars must be executed first.

```
7274 \NewDocumentCommand{\LWR@startnewdepth}{m}{%
```

Close any stacked sections up to this new one.

```
7275 \LWR@closeprevious{#1}%
```

Push a new section depth:

```
7276 \LWR@pushoneclose{#1}%
7277 }
```

Ctr LWR@prevFileDepth Remembers the previous LWR@FileDepth.

Initialized to a deep level so that any section will trigger a new HTML page after the home page.

```
7278 \newcounter{LWR@prevFileDepth}
7279 \setcounter{LWR@prevFileDepth}{\LWR@depthsubparagraph}
```

@seccntformat {*<sectiontype>*}

```
7280 \def@seccntformat#1{\csname the#1\endcsname\quad}
```

\simplechapterdelim Used by **tocbibind** and **anonchap**.

7281 \newcommand\*\{\simplechapterdelim\}{}%

\@chapcntformat {\langle sectiontype\rangle}

\let to \secformat by default, but may be redefined by \simplechapter and \restorechapter from **tocbibind** or **anonchap**.

7282 \let\@chapcntformat\secformat

\@partcntformat {\langle sectiontype\rangle}

\let to \secformat by default, but may be redefined by **ctex**.

7283 \let\@partcntformat\secformat

\@partnameformat Prints “Part” for part sections.

Nullified by **ctex**.

7284 \newcommand\*\{\@partnameformat\}{\LWR@isolate{\partname}\~\}%

\LWR@printchaptername Print \chaptername in most cases, but this is nullified for **ctexbook**, **komascript**, **ujt**\* classes.

7285 \newcommand\*\{\LWR@printchaptername\}{%

7286 \ifdefvoid{\chaptername}{}{\chaptername\~\}%

7287 }

\LWR@section \* [\langle TOC name\rangle] {\langle name\rangle} {\langle sectiontype\rangle}

The common actions for the high-level sectioning commands.

7288 \DeclareDocumentCommand{\LWR@section}{m m m m}{%

7289 \IfValueTF{\#2}{%

7290 \LWR@traceinfo{\LWR@section: starting #4 #2}}{}

7291 \LWR@traceinfo{\LWR@section: starting #4 #3}}{}

Warn if starting a section inside a <span>:

7292 \LWR@spanwarninvalid{\section}{}

7293 \LWR@maybeprintpendingfootnotes{\csuse{\LWR@depth\#4}}{}

7294 \LWR@stoppars{}

7295 \LWR@startnewdepth{\#4}{}

Cancel special **minipage** horizontal space interaction:

7296 \global\boolfalse{\LWR@minipagethispar}{}

Start a new HTML file unless starred, and if is a shallow sectioning depth.

Exception: Also start a new HTML file for \part\*, for appendix.

Generate a new L<sup>A</sup>T<sub>E</sub>X page so that toc and index page number points to the section:

```

7297 \LWR@traceinfo{LWR@section: testing whether to start a new HTML file}%
7298 \IfBooleanT{#1}{\LWR@traceinfo{LWR@section: starred}}%
7299 \ifbool{LWR@forcinghtmlpage}{\LWR@traceinfo{LWR@section: forcinghtmlpage}}{}%
7300 \ifthenelse{%
7301 \(%
7302 \(\NOT\equal{#1}{\BooleanTrue}\)\OR%
7303 \(\cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}\)\OR%
7304 \(\boolean{LWR@forcinghtmlpage}\)%
7305 \)%
7306 \AND%
7307 \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{FileDepth}}%
7308 \AND%
7309 \(%
7310 \NOT\boolean{CombineHigherDepths}\OR%
7311 \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{LWR@prevFileDepth}}%
7312 \)%
7313 \AND%
7314 \(% phantomsection
7315 \NOT\isempty{#3}%
7316 \OR%
7317 \(\NOT\equal{#1}{\BooleanTrue}\)%
7318 \)%
7319 }%

```

If so: start a new HTML file:

```

7320 {%
7321 new file
 \LWR@traceinfo{LWR@section: new HTML file}%

```

See if there was an optional toc name entry:

```

7322 \IfNoValueTF{#2}%

```

If no optional entry

```

7323 {\LWR@newhtmlfile{#3}}%

```

If yes an optional entry

```

7324 {\LWR@newhtmlfile{#2}}%
7325 }% new file

```

Else: No new HTML file:

```

7326 {%
 not new file

```

Generate a new L<sup>A</sup>T<sub>E</sub>X page so that toc and index page number points to the section:

```

7327 \LWR@traceinfo{\LWR@section: not a new HTML file, about to \LWR@orignewpage}%
7328 \LWR@maybe@orignewpage%
7329 }% not new file
7330

```

Remember this section's name for \nameref:

```

7331 \IfValueT{#3}{%
7332 \LWR@traceinfo{\LWR@section: about to \LWR@setlatestname}%
7333 \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
7334 }%

```

Print an opening comment with the level and the name; ex: “section” “Introduction” Footnotes may be used in section names, which would also appear in the HTML section opening comments, so the short TOC entry is used if possible, and a limited opening comment is made if the sectional unit is starred.

```

7335 \ifbool{HTMLDebugComments}{%
7336 \begingroup%
7337 \LWR@nullfonts%
7338 \IfBooleanTF{#1}{ starred
7339 {\LWR@htmlcomment{Opening #4*}}%
7340 {%
7341 \IfNoValueTF{#2}{ short TOC
7342 {\LWR@htmlcomment{Opening #4 ‘#3’}}%
7343 {\LWR@htmlcomment{Opening #4 ‘#2’}}%
7344 } \LWR@orignewline%
7345 \endgroup%
7346 }{%

```

For inline sections paragraph and subparagraph, start a new paragraph now:

```

7347 \ifthenelse{%
7348 \cnttest{@nameuse{\LWR@depth#4}}{>=}{\LWR@depthparagraph}%
7349 }%
7350 {\LWR@startpars}%
7351 {}%

```

Create the opening tag with an autosec:

```

7352 \LWR@traceinfo{\LWR@section: about to \LWR@createautosec}%
7353 \LWR@createautosec{@nameuse{\LWR@tag#4}}%
7354 \setcounter{\LWR@currentautosecpage}{\value{page}}%

```

Check if starred:

```

7355 \IfBooleanTF{#1}{%
7356 {%
7357 \LWR@traceinfo{\LWR@section: starred}%

```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```

7358 \ifbool{\LWR@forcinghtmltoc}{%

```

```

7359 {%
7360 \addcontentsline{toc}{#4}{%
7361 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7362 }%
7363 }%
7364 {}%
7365 }% starred

```

Not starred, so step counter and add to TOC:

```
7366 {% not starred
```

Only add a numbered TOC entry if section number is not too deep:

```

7367 \ifthenelse{%
7368 \cnttest{@nameuse{\LWR@depth#4}}{<=}{\value{secnumdepth}}}%
7369 }%
7370 {% if secnumdepth

```

If in the main matter, step the counter and add the TOC entry. For article class, `lwarp` assumes that all is mainmatter.

```

7371 \LWR@traceinfo{\LWR@section: about to test main matter}%
7372 \ifbool{\LWR@mainmatter}%
7373 {}%
7374 \LWR@traceinfo{\LWR@section: yes mainmatter}%
7375 \refstepcounter{#4}%

```

Add main matter numbered TOC entry with the TOC name or the regular name:

```

7376 \LWR@traceinfo{\LWR@section: about to addcontentsline}%
7377 \addcontentsline{toc}{#4}{%
7378 {}%
7379 \protect\numberline{%
7380 \@nameuse{pre#4name}%
7381 \@nameuse{the#4}%
7382 \@nameuse{post#4name}%
7383 }%
7384 {}%
7385 \ignorespaces%
7386 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
7387 }%
7388 }%
7389 \LWR@traceinfo{\LWR@section: finished addcontentsline}%
7390 }% end of if main matter

```

If not main matter, add unnumbered TOC name or regular name:

```

7391 {% not main matter
7392 \LWR@traceinfo{\LWR@section: no main matter}%
7393 \addcontentsline{toc}{#4}{%
7394 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7395 }%
7396 }% end of not main matter
7397 }% end of secnumdepth

```

Deeper than secnumentdepth, so add an unnumbered TOC entry:

```

7398 {%
7399 \addcontentsline{toc}{#4}{%
7400 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7401 }%
7402 }%

```

For part, print “Part”:

```

7403 \ifbool{LWR@mainmatter}{%
7404 {%
7405 \ifthenelse{%
7406 \cnttest{@nameuse{LWR@depth#4}}{<=}{%
7407 {\value{secnumentdepth}}\ } \AND%
7408 \cnttest{@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}\ }%
7409 }%
7410 {\@partnameformat}%
7411 }%

```

Print the section number:

```

7412 \LWR@traceinfo{LWR@section: about to print section number}%
7413 \ifthenelse{%
7414 \cnttest{@nameuse{LWR@depth#4}}{<=}{\value{secnumentdepth}}%
7415 }%
7416 {%
7417 \ifstreq{#4}{part}{%
7418 \protect\LWR@sectionnumber{\@partcntformat{#4}}\ }%
7419 {%
7420 \ifstreq{#4}{chapter}{%
7421 {%
7422 \LWR@printchaptername\ %
7423 \protect\LWR@sectionnumber{\@chapcntformat{#4}}\ }%
7424 }%
7425 \protect\LWR@sectionnumber{\@secntformat{#4}}\ }%
7426 }%
7427 }%
7428 }%
7429 \LWR@traceinfo{LWR@section: finished print section number}%
7430 }{%
7431 }% not starred

```

Print the section name:

```

7432 \LWR@traceinfo{LWR@section: about to print the section name}%
7433 \LWR@isolate{#3}%

```

Close the heading tag, such as /H2:

```

7434 \LWR@traceinfo{LWR@section: about to close the heading tag}%
7435 \LWR@htmntag{@nameuse{LWR@tag#4end}}%
7436 \LWR@orignewline%

```

Generate a  $\text{\LaTeX}$  label.

Track the  $\text{PDF}$  page numbers of the  $\text{HTML}$  output. A new autopage label may be generated for  $\text{LWR@currentautosecpage}$  for the start of the section, and also for the current page if it is different due to an  $\text{svg}$  image in the section name. Also, the final page after the section has been created is updated in  $\text{LWR@currentautosecfloatpage}$ .

```
7437 \LWR@traceinfo{\LWR@section: about to create the \LaTeX\ label}%
7438 \setcounter{\LWR@currentautosecfloatpage}{\value{page}}%
7439 \LWR@newautopagelabel{\LWR@currentautosecpage}\LWR@orignewline%
```

If this is the first section found in this file, create a label for previous/next links:

```
7440 \ifbool{\LWR@setseqfilelabel}{}{%
7441 \label{\BaseJobname-autofile-\arabic{\LWR@htmlseqfilenumber}}%
7442 \booltrue{\LWR@setseqfilelabel}%
7443 }%
```

Start paragraph handing unless is an inline paragraph or subparagraph:

```
7444 \ifthenelse{%
7445 \cnttest{\@nameuse{\LWR@depth#4}}{<}{\LWR@depthparagraph}%
7446 }%
7447 { \LWR@startpars}%
7448 {}%
```

If not starred, remember the previous depth to possibly trigger a new  $\text{HTML}$  page.

HOWEVER, allow a  $\text{\part*}$  to start a new  $\text{HTML}$  page. This is used by **appendix**.

A starred section does not trigger a new  $\text{HTML}$  page at the beginning of this macro, so it should not affect it here at the end either. This became an issue when a  $\text{\listoftables}$  was tested in the middle of the document. The  $\text{\chapter*}$  for the list was not allowing a new  $\text{HTML}$  page for the section following it while **CombineHigherDepths** was true.

```
7449 \ifthenelse{%
7450 \NOT\equal{#1}{\BooleanTrue}\OR%
7451 \cnttest{\@nameuse{\LWR@depth#4}}{=}{\LWR@depthpart}%
7452 }%
7453 { % not starred
7454 \setcounter{\LWR@prevFileDepth}{\@nameuse{\LWR@depth#4}}%
7455 }% not starred
7456 {}%
```

Reset to defaults if not a phantomsection:

```
7457 \ifstrempty{#3}%
7458 {}%
7459 {%
7460 \global\boolfalse{\LWR@forcinghtmlpage}%
7461 \global\boolfalse{\LWR@forcinghtmltoc}%
7462 }%
7463 %
7464 \LWR@traceinfo{\LWR@section: done}%
7465 }
```

## 64.4 Pre- and post- sectioning names

\prebookname Usually null, but is used by `uj*` and `ut*` Japanese classes.

\postbookname

```
7466 \providecommand*\prebookname{}
7467 \providecommand*\postbookname{}
```

\prepartname Usually null, but is used by `uj*` and `ut*` Japanese classes.

\postpartname

```
7468 \providecommand*\prepartname{}
7469 \providecommand*\postpartname{}
```

\prechaptername Usually null, but is used by `uj*` and `ut*` Japanese classes.

\postchaptername

```
7470 \providecommand*\prechaptername{}
7471 \providecommand*\postchaptername{}
```

\presectionname Always null, but provided here for algorithmic simplicity in `\LWR@section`.

\postsectionname

```
7472 \providecommand*\presectionname{}
7473 \let\postsectionname\presectionname
7474
7475 \let\presubsectionname\presectionname
7476 \let\postsubsectionname\postsectionname
7477
7478 \let\presubsubsectionname\presectionname
7479 \let\postsubsubsectionname\postsectionname
7480
7481 \let\preparagraphname\presectionname
7482 \let\postparagraphname\postsectionname
7483
7484 \let\presubparagraphname\presectionname
7485 \let\postsubparagraphname\postsectionname
```

## 64.5 \section and friends

For `memoir`, a second optional argument is allowed.

For `hypbmsec`, a second optional argument or either parenthesis argument is allowed.

Each of these additional arguments are for headers or PDF bookmarks, and are ignored for HTML output.

```
\part * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
```

```
7486 \newcommand{\part@preamble}{}% for koma-script
7487
7488 \DeclareDocumentCommand{\part}{s d() o o d() m}{%
7489 \LWR@section{#1}{#3}{#6}{part}}%
7490
```

```
7491 \part@preamble% for koma-script
7492 \renewcommand{\part@preamble}{ }%
7493 }

\chapter * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7494 \let\@printcites\relax% for quotchap package
7495
7496 \newcommand{\chapter@preamble}{ }% for koma-script
7497
7498 \@ifundefined{chapter}
7499 {}
7500 {%
7501 \DeclareDocumentCommand{\chapter}{s d() o o d() m}{%
7502 \LWR@section{#1}{#3}{#6}{chapter}%
7503
7504 \@printcites% for quotchap package
7505
7506 \chapter@preamble% for koma-script
7507 \renewcommand{\chapter@preamble}{ }%
7508 }
7509 }

\section * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7510 \DeclareDocumentCommand{\section}{s d() o o d() m}{%
7511 \LWR@section{#1}{#3}{#6}{section}%
7512 }

\subsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7513 \DeclareDocumentCommand{\subsection}{s d() o o d() m}{%
7514 \LWR@section{#1}{#3}{#6}{subsection}%
7515 }

\subsubsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7516 \DeclareDocumentCommand{\subsubsection}{s d() o o d() m}{%
7517 \LWR@section{#1}{#3}{#6}{subsubsection}%
7518 }

\paragraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7519 \DeclareDocumentCommand{\paragraph}{s d() o o d() m}{%
7520 \LWR@section{#1}{#3}{#6}{paragraph}%
7521 }

\ subparagraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7522 \DeclareDocumentCommand{\ subparagraph}{s d() o o d() m}{%
7523 \LWR@section{#1}{#3}{#6}{subparagraph}%
7524 }
```

---

```
7525 \end{warpHTML}
```

## 65 Starting a new file

**for HTML & PRINT:** 7526 \begin{warpall}

\HTMLLanguage Default language for the `html lang` tag.

```
7527 \newcommand*{\LWR@currentHTMLLanguage}{en-US}
7528
7529 \newcommand*{\HTMLLanguage}[1]{%
7530 \renewcommand*{\LWR@currentHTMLLanguage}{#1}%
7531 }
```

\theHTMLTitleSeparator May be used inside \theHTMLTitleSection to separate the website's overall `HTML title` and the particular page's section name.

```
7532 \ifPDFTeX% pdflatex or dvi latex
7533 \ifdefstring{\inputencodingname}{utf8}{%
7534 \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMdash
7535 }{%
7536 \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
7537 }%
7538 \else%
7539 \ifpTeX%
7540 \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
7541 \else%
7542 \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMdash
7543 \fi%
7544 \fi%
```

\HTMLTitleBeforeSection Sets the `HTML` page's meta `title` tag to show the website title before the section name.

```
7545 \newcommand*{\HTMLTitleBeforeSection}{%
7546 \def\theHTMLTitleSection{%
7547 \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
7548 }%
7549 }
```

\HTMLTitleAfterSection Sets the `HTML` page's meta `title` tag to show the section name before the website title.

```
7550 \newcommand*{\HTMLTitleAfterSection}{%
7551 \def\theHTMLTitleSection{%
7552 \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
7553 }%
7554 }
```

\theHTMLTitleSection Forms the `HTML` page's meta `title` tag. The default is to show the website title before the section name.

```
7555 \HTMLTitleBeforeSection
```

\theHTMLSection The section name is passed to \LWR@filestart, which then sets \theHTMLSection for use inside \theHTMLTitleSection to create an HTML meta title tag.

```
7556 \newcommand*{\theHTMLSection}{}

7557 \end{warpall}

for HTML output: 7558 \begin{warpHTML}
```

\LWR@filestart [*section name*] Creates the opening HTML tags.

```
7559 \newcommand*{\LWR@filestart}[1][]{{%
7560 \LWR@traceinfo{\LWR@filestart !#!!}}%
```

Locally temporarily disable direct-formatting commands:

```
7561 \begingroup%
7562 \LWR@nullfonts%
```

Save the section name for use while creating the HTML meta title tag:

```
7563 \edef\theHTMLSection{\#1}%
```

Remove extra material:

```
7564 \StrSubstitute{\theHTMLSection}{\protect}{\detokenize{-}}[\theHTMLSection]
7565 \StrSubstitute{\theHTMLSection}{\detokenize{---}}{\detokenize{-}}[\theHTMLSection]
7566 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]
7567 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]
7568 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]
```

If starts with a dash, remove the leading dash:

```
7569 \IfBeginWith{\theHTMLSection}{\detokenize{-}}{%
7570 \StrGobbleLeft{\theHTMLSection}{1}[\theHTMLSection]%
```

Create the page's HTML header:

```
7572 \LWR@htmltag{!DOCTYPE html}\LWR@orignewline
```

The language is user-adjustable:

NOTE: \LWR@orig@textquotedbl is used here because \textquotedbl is nullified by \LWR@nullfonts while starting the new file.

```
7573 \LWR@htmltag{
7574 html lang=\LWR@orig@textquotedbl\LWR@currentHTMLLanguage\LWR@orig@textquotedbl%
7575 } \LWR@orignewline
```

Start of the meta data:

```
7576 \LWR@htmltag{head}\LWR@orignewline
```

Charset is fixed at UTF-8:

```
7577 \LWR@htmltag{%
7578 meta charset=\LWR@orig@textquotedbl{}UTF-8\LWR@orig@textquotedbl\ /%
7579 }\LWR@orignewline
```

Author:

```
7580 \ifthenelse{\equal{\theHTMLAuthor}{}}{%
7581 {}%
7582 {%
7583 \LWR@htmltag{%
7584 meta name=\LWR@orig@textquotedbl{}author\LWR@orig@textquotedbl\ % space
7585 content=\LWR@orig@textquotedbl{}\theHTMLAuthor\LWR@orig@textquotedbl\ /%
7586 }\LWR@orignewline%
7587 }%
```

lwarp is the generator:

```
7588 \LWR@htmltag{%
7589 meta % space
7590 name=\LWR@orig@textquotedbl{}generator\LWR@orig@textquotedbl\ % space
7591 content=\LWR@orig@textquotedbl{}LaTeX Lwarp package\LWR@orig@textquotedbl\ /%
7592 }\LWR@orignewline%
```

If there is a description, add it now:

```
7593 \ifdefempty{\LWR@currentHTMLDescription}{%
7594 \LWR@htmltag{%
7595 meta name=\LWR@orig@textquotedbl{}description\LWR@orig@textquotedbl\ % space
7596 content=\LWR@orig@textquotedbl{}\LWR@currentHTMLDescription\LWR@orig@textquotedbl\ /%
7597 }\LWR@orignewline%
7598 }%
```

Mobile-friendly viewport:

```
7599 \LWR@htmltag{%
7600 meta % space
7601 name=\LWR@orig@textquotedbl{}viewport\LWR@orig@textquotedbl\ % space
7602 content=\LWR@orig@textquotedbl{}width=device-width, initial-scale=1.0\LWR@orig@textquotedbl\ /%
7603 }\LWR@orignewline
```

IE patch:

```
7604 \LWR@htmltag{!-/-[if lt IE 9]}\LWR@orignewline
7605 \LWR@htmltag{%
7606 script % space
7607 src=\LWR@orig@textquotedbl{}%
7608 http://html5shiv.googlecode.com/svn/trunk/html5.js%
7609 \LWR@orig@textquotedbl%
7610 }%
7611 \LWR@htmltag{/script}\LWR@orignewline
7612 \LWR@htmltag{![endif]-/-}\LWR@orignewline
```

The page's title, if there is one. A section name is also added if given.

```

7613 \ifthenelse{\equal{\theHTMLTitle}{}}%
7614 {}%
7615 {%
7616 \LWR@htmltag{title}%
7617 \ifempty{\theHTMLSection}%
7618 {\theHTMLTitle}%
7619 {\theHTMLTitleSection}%
7620 \LWR@htmltag{/title}\LWR@orignewline%
7621 }%

```

The page's stylesheet:

```

7622 \LWR@htmltag{%
7623 link % space
7624 rel=\LWR@orig@textquotedbl{}stylesheet\LWR@orig@textquotedbl\ % space
7625 type=\LWR@orig@textquotedbl{}text/css\LWR@orig@textquotedbl\ % space
7626 href=\LWR@orig@textquotedbl\LWR@currentcss\LWR@orig@textquotedbl\ /%
7627 }%
7628 \LWR@orignewline

```

Optional MATHJAX support. The `HTML` tags must be turned off during the verbatim input, and the paragraph handling which was turned on at the end of verbatim input must be immediately turned off again.

```

7629 \ifbool{mathjax}%
7630 {%
7631 \begingroup%
7632 \LWR@restoreoriglists%
7633 \boolfalse{\LWR@verbtags}%

7634 \IfFileExists{\LWR@mathjaxfilename}%
7635 {\verbatiminput{\LWR@mathjaxfilename}}%
7636 {%
7637 \PackageError{lwarp}%
7638 {\protect\MathJaxFilename\space specified the file\MessageBreak
7639 \space\space\LWR@mathjaxfilename\MessageBreak
7640 which does not exist}%
7641 }%
7642 }%
7643 {Specify an existing file, or remove \protect\MathJaxFilename.}%
7644 }%

7645 \booltrue{\LWR@verbtags}%
7646 \endgroup%
7647 \LWR@stopars%
7648 }% end of mathjax
7649 {}%

```

End of the header:

```
7650 \LWR@htmltag{/head}\LWR@orignewline
```

Start of the body:

```
7651 \LWR@htmltag{body}\LWR@orignewline
7652 \endgroup
7653 \LWR@traceinfo{\LWR@filestart: done}
7654 }

7655 \end{warpHTML}
```

## 66 Starting HTML output

**for HTML output:** 7656 \begin{warpHTML}

\LWR@LwarpStart Executed at the beginning of the entire document.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```
7657 \catcode`\$=\active
7658 \newcommand*{\LWR@LwarpStart}{%
7659 {%
7660 \LWR@traceinfo{\LWR@l warpStart}}
```

If formatting for a word processor, force filedepth to single-file only, force HTML debug comments off.

```
7661 \ifbool{FormatWP}{%
7662 \setcounter{FileDepth}{-5}%
7663 \boolexpr{HTMLDebugComments}{}%
7664 }{}}
```

Expand and detokenize \HomeHTMLFilename and \HTMLFilename:

```
7665 \edef\LWR@strresult{\HomeHTMLFilename}
7666 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
7667 \edef\LWR@strresult{\HTMLFilename}
7668 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}
```

Force onecolumn and empty page style:

```
7669 \LWR@origonecolumn%
7670 \LWR@origpagestyle{empty}%
```

No black box for overfull lines:

```
7671 \overfullrule=0pt
```

Reduce chance of line overflow when HTML tags are added:

```
7672 \LWR@print@footnotesize%
```

In PDF output, don't allow line breaks to interfere with HTML tags:

```
7673 \LWR@print@raggedright%
7674 \LetLtxMacro{\}{\LWR@endofline}}%
```

Spread the lines for *pdftotext* to read them well:

```
7675 \linespread{1.3}%
```

For *pdftotext* to reliably identify paragraph splits:

```
7676 \setlength{\parindent}{0pt}
7677 \setlength{\parskip}{2ex}
```

For the *lateximage* record file:

```
7678 \immediate\openout\LWR@lateximagesfile=\BaseJobname-images.txt
```

Removes space around the caption in the HTML:

```
7679 \setlength{\belowcaptionskip}{0ex}
7680 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
7681 \renewcommand{\ps@plain}{}%
```

Plug in some new actions. This is done just before the document start so that they won't be over-written by some other package.

Float captions:

```
7682 \let\LWR@origcaption\caption
```

Not yet started any paragraph handling:

```
7683 \global\boolfalse{\LWR@doingapar}
7684 \global\boolfalse{\LWR@doingstartpars}
```

Document and page settings:

```
7685 \mainmatter
7686 \LWR@origpagenumbering{arabic}
```

Start a new HTML file and a header:

```
7687 \LWR@traceinfo{\LWR@lwarpStart: Starting new file.}
7688 \LWR@filestart
7689 \LWR@traceinfo{\LWR@lwarpStart: Generating first header.}
```

```
7690 \ifdefempty{\LWR@firstpagetop}{}{%
7691 \LWR@htmlltag{header}\LWR@orignewline
7692 \LWR@startpars
7693 \LWR@firstpagetop}
```

---

```

7694 \LWR@stopars
7695 \LWR@htmlelement{/header}\LWR@orignewline
7696 }%
7697 \LWR@htmlelement{div}{bodywithoutsidetoc}
7698 \LWR@htmlelement{main}{bodycontainer}
7699 \LWR@traceinfo{\LWR@lwarfStart: Generating textbody.}
7700 \LWR@htmlelement{section}{textbody}

```

Create a label for previous/next links, and remember it has been done:

```

7701 \booltrue{\LWR@setseqfilelabel}%
7702 \label{\BaseJobname-autofile-\arabic{\LWR@htmlelementnumber}}%

```

Patch the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native L<sup>A</sup>T<sub>E</sub>X environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```
7703 \LWR@patchlists
```

Ensure that math mode is active to call lwarf's patches:

```
7704 \catcode`\$=\active
```

Required for `\nameref` to work with SVG math:

```

7705 \immediate\write\mainaux{\catcode`\string$\active}%
7706 \LetLtxMacro{\LWR@syntaxhighlightone}{$ balance for editor syntax highlighting}

```

Allow HTML paragraphs to begin:

```
7707 \LWR@startpars
```

If using MATHJAX, disable `\ensuremath` by printing a nullified definition at the start of each file, and add further customizations:

```

7708 \ifbool{mathjax}%
7709 \typeout{---}%
7710 \typeout{Package lwarf:}%
7711 \typeout{Processing MathJax customizations for the first HTML page.}%
7712 \typeout{Later HTML pages will take the same amount of time.}%
7713 \typeout{If this takes too long, see the Lwarp manual regarding customizing MathJax.}%
7714 }{}%
7715
7716 \LWR@customizeMathJax
7717
7718 \ifbool{mathjax}%
7719 \typeout{Done.}%
7720 \typeout{---}%
7721 }{}%

```

First autopage label in case a figure occurs early before the first section: A new autopage label may be generated for `\LWR@currentautosecpage` for the start of the section, and also

for the current page if it is different due to an SVG image in the section name. Also, the final page after the section has been created is updated in `LWR@currentautosecfloatpage`.

```
7722 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
7723 \LWR@newautopagelabel{LWR@currentautosecpage}%
7724 \LWR@traceinfo{LWR@lwarpStart: done}
7725 }
7726 \catcode`\$=3% math shift until lwarp starts
7727 \end{warpHTML}
```

## 67 Ending HTML output

**for HTML output:** 7728 \begin{warpHTML}

\LWR@requesttoc {<boolean>} {<suffix>} Requests that a TOC, LOF, or LORbe generated.

```
7729 \newcommand*{\LWR@requesttoc}[2]{%
7730 \ifbool{#1}{%
7731 {%
7732 \expandafter\newwrite\@nameuse{tf@#2}%
7733 \immediate\openout \atnameuse{tf@#2} \jobname.#2\relax
7734 }{}%
7735 }}
```

\LWR@LwarpEnd Final stop of all HTML output:

```
7736 \newcommand*{\LWR@LwarpEnd}{%
7737 {
7738 \LWR@stopars
7739 \LWR@closeprevious{finished}}
```

At the bottom of the ending file:

Print any pending footnotes:

```
7740 \LWR@printpendingfootnotes
```

Close the textbody:

```
7741 \label{\BaseJobname-autofile-last}
7742 \LWR@htmlelementclassend{section}{textbody}
7743 \LWR@htmlelementclassend{main}{bodycontainer}
7744 \LWR@htmlelementclassend{div}{bodyandsidetoc}
```

Create the footer if not EPUB

```
7745 \ifbool{FormatEPUB}{}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page, or if formatting for an EPUB or word processor.

Presumably has a table-of-contents.

```
7746 \ifthenelse{\boolean{FormatEPUB}}{\OR\boolean{FormatWP}}
7747 {}
7748 {
7749 \ifnumcomp{\value{LWR@htmlfilename}}{>}{0}{\LWR@botnavigation}{}
7750 }
7751 \LWR@stopars% final stop of all paragraphs
```

Finish the HTML file:

```
7752 \LWR@htmllag{/body}\LWR@orignewline
7753 \LWR@htmllag{/html}\LWR@orignewline
```

Seems to be required sometimes:

```
7754 \LWR@maybe@orignewline
7755 }
```

\enddocument If labels have not changed, mark successful completion of the `lateximages.txt` file.  
Executed as everything is being shut down.

For the newer kernel hooks, see **texdoc lthooks-doc** and **texdoc ltshipout-doc**.

```
7756 \ifdef{\AddToHook}{%
7757 \AddToHook{\enddocument/info}{%
7758 \if@filesw
7759 \ifx \multiplelabels \relax
7760 \if@tempswa
```

This is where warnings of duplicate labels would appear.

```
7761 \else
```

No duplicate labels, so safe to create images.

```
7762 \immediate\write\LWR@lateximagesfile{%
7763 |end|end|end|%
7764 }%
7765 \fi
7766 \fi\fi
7767 }
7768 }% newer kernel
7769 {% older kernel
7770 \xpatchcmd{\enddocument}
7771 {%
7772 \if@tempswa
7773 \@latex@warning{no@line{Label(s) may have changed.%
7774 Rerun to get cross-references right}%
7775 \fi
```

```

7776 }
7777 {%
7778 \if@tempswa
7779 \@latex@warning@no@line{Label(s) may have changed.
7780 Rerun to get cross-references right}%
7781 \else

```

No duplicate labels, so safe to create images.

```

7782 \immediate\write\LWR@lateximagesfile{%
7783 |end|end|end|%
7784 }%
7785 \fi
7786 }
7787 {}
7788 {
7789 \AtEndDocument{
7790 \PackageWarningNoLine{l warp}
7791 {%
7792 Could not patch \protect\enddocument.\MessageBreak
7793 If labels have changed, be sure to recompile before\MessageBreak
7794 creating lateximages with\MessageBreak
7795 \space\space l warpmk l images,\MessageBreak
7796 or the images may be corrupt%
7797 }
7798 }
7799 }
7800 }% older kernel

```

## 68 Nullifying foreground/background hooks

See **texdoc lthooks-doc** and **texdoc ltshipout-doc**.

```

7801 \ifdef{\RemoveFromHook}{%
7802 \AfterEndPreamble{
7803 \IfHookEmptyTF{shipout/background}{}{%
7804 \PackageInfo{l warp}{Removing background hook}
7805 \RemoveFromHook{shipout/background}[*]
7806 }
7807 \IfHookEmptyTF{shipout/foreground}{}{%
7808 \PackageInfo{l warp}{Removing foreground hook}
7809 \RemoveFromHook{shipout/foreground}[*]
7810 }
7811 }
7812 }{}%
7813 \end{warpHTML}

```

## 69 Title page

**package support** l warp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages **authblk**

 **load order** and `titling`. If both are used, `authblk` should be loaded before `titling`.

`\published` and `\subtitle` If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 69.8.

`affiliation` `lwarp` provides for the `\author` macro an additional `\affiliation` macro to provide an affiliation and other additional information for each author in the title page. The affiliation information is removed when using `titlingpage`'s `\theauthor` in the main text.

`reusing titlepage information` The `titling` package maintains the definitions of `\thetitle`, `\theauthor`, etc., after the title has been typeset. These commands are to be used to refer to the document's title and author, etc., in the main text. These definitions have the `\thanks` and `\affiliation` removed, and for `\author` the `\and` is replaced to generate a simple inline list of authors separated by commas. Note: `\theauthor` does not work well with `authblk` unless the traditional L<sup>A</sup>T<sub>E</sub>X syntax is used.

 `\theauthor`, `authblk` `\printtitle`, `\printauthor`, etc., are provided for use inside a custom `titlepage` or `titlingpage` environment, and these retain the `\thanks` and `\affiliation`.

`\printthanks` `\printthanks` has been added to force the printing of thanks inside a `titlingpage` environment when `\maketitle` is not used.

 `\thanks` Inside a `\titlepage` or `\titlingpage` environment, use `\thanks` instead of `\footnote` for acknowledgements, etc.

## 69.1 Setting the title, etc.

The following provide setting commands for both `HTML` and print outputs.

`\author` {*<author>*} While using `\maketitle` and print mode, the author is treated as a single-column tabular and the `\and` feature finishes the current tabular then starts a new one for the next author. Each author thus is placed into its own tabular, and an affiliation may be placed on its own line such as

```
\author{Name \\ Affiliation \and Second Name \\ Second Affiliation}
```

For `HTML`, the entire author block is placed inside a `<div>` of class `author`, and each individual author is inside a `<div>` of class `oneauthor`.

`\@title` `\@author` `\@date` `\@title`, `\@author`, and `\@date` store the values as originally assigned, including any `\thanks`, `\and`, or `\affiliation`. These are low-level macros intended to be used by other macros only inside a `titlepage` or `titlingpage`, and are used by `\maketitle`. The author is printed inside a single-column tabular, which becomes multiple single-column tabulars if multiples authors are included. For `HTML`, these tabulars become side-by-side `<div>`s of class `oneauthor`, all of which are combined into one `<div>` of class `author`.

`\printtitle` `\printauthor` `\printdate` `\printtitle`, etc. are user-level macros intended to be used in custom `titlepage` or `titlingpage` environments in cases where `\maketitle` is not desired. These commands preserve the `\thanks`, etc., and should not be used in the main text.

`\thetitle` `\theauthor` `\thedate` `\thetitle`, `\theauthor`, and `\thedate` are available if `titling` has been loaded, and are sanitized user-level versions from which have been removed the `\thanks` and `\affiliation`, and `\and` is changed for inline text usage. The author is printed inline `\HTMLPageBottom`

without `\affiliation` or `\thanks`, with `\and` placing commas between multiple authors. Thus, these commands are to be used in the main text whenever the user wishes to refer to the document's title and such. One practical use for this is to place the authors at the bottom of each HTML page, such as:

```
\HTMLPageBottom{
 \begin{center}\textcopyright~20xx \theauthor\end{center}
}
```

- ⚠ `\theauthor, authblk` `\theauthor` does not work well if `authblk` is used. If `\theauthor` is important, it is recommended to use the standard L<sup>A</sup>T<sub>E</sub>X syntax for `\author`, optionally with l warp's `\affiliation` macro as well.
- ⚠ `affiliations` After `\maketitle` has completed, `\theauthor` retains the definition of the author, but `\and` is changed to become a comma and a space, intending to print the authors names separated by spaces. This fails when affiliations are included on their own table rows.
- `\affiliation` A solution, provide here, is to define a macro `\affiliation` which, during `\maketitle`, starts a new row and adds the affiliation, but after `\maketitle` is finished `\affiliation` is re-defined to discard its argument, thus printing only the author names when `\author` is later used inline.

## 69.2 `\if@titlepage`

**for HTML & PRINT:** 7814 `\begin{warpall}`

`\if@titlepage` Some classes do not provide `\if@titlepage`. In this case, provide it and force it false.

```
7815 \ifcsvoid{@titlepagefalse} {
7816 \newif\if@titlepage
7817 \if@titlepagefalse
7818 }{}}

7819 \end{warpall}
```

## 69.3 Changes for `\affiliation`

`\affiliation {<text>}`

Adds the affiliation to the author for use in `\maketitle`.

Inside `titlepage`, this macro prints its argument. Outside, it is null.

**for HTML & PRINT:** 7820 `\begin{warpall}`  
 7821 `\provideroobustcmd{\affiliation}[1]{}{}`  
 7822 `\end{warpall}`

**for PRINT output:** 7823 `\begin{warpprint}`

```

7824 \AtBeginEnvironment{titlepage}{
7825 \renewrobustcmd{\affiliation}[1]{\textsc{\small#1}}
7826 }
7827
7828 \AtBeginDocument{
7829 \@ifpackageloaded{titling}{
7830 \AtBeginEnvironment{titlingpage}{
7831 \renewrobustcmd{\affiliation}[1]{\textsc{\small#1}}
7832 }
7833 }{}% titling loaded
7834 }% AtBeginDocument

7835 \end{warpprint}

```

**for HTML output:** 7836 \begin{warpHTML}

**Env titlepage** Sets up a <div> of class titlepage. Provided even for memoir class, since it is used by \maketitle.

```

7837 \DeclareDocumentEnvironment{titlepage}{}
7838 {
7839 \renewrobustcmd{\affiliation}[1]{\InlineClass{affiliation}{##1}}
7840 \LWR@printpendingfootnotes
7841 \LWR@forcenewpage
7842 \BlockClass{titlepage}
7843 }
7844 {
7845 \endBlockClass
7846 \LWR@printpendingfootnotes
7847 }

7848 \end{warpHTML}

```

## 69.4 Printing the thanks

\printthanks Forces the \thanks to be printed. This is necessary in a titlingpage environment when \maketitle was not used.

**for PRINT output:** 7849 \begin{warpprint}
7850 \newcommand\*{\printthanks}{\@thanks}
7851 \end{warpprint}

**for HTML output:** 7852 \begin{warpHTML}
7853 \newcommand\*{\printthanks}{\LWR@stopars\@thanks\LWR@startpars}
7854 \end{warpHTML}

## 69.5 Printing the title, etc. in HTML

The following are for printing the title, etc. in a titlepage or a titlingpage in HTML:

**for HTML output:** 7855 \begin{warpHTML}

```
\printtitle
```

```
7856 \newcommand*\printtitle{%
7857 {%
7858 \LWR@stopars%
7859 \LWR@htmllag{\LWR@tagtitle}%
7860 \@title%
7861 \LWR@htmllag{\LWR@tagtitleend}%
7862 \LWR@startpars%
7863 }
```

\LWR@printthetitle A private version which prints the title without footnotes, used to title each HTML page.

```
7864 \newcommand*\LWR@printthetitle{%
7865 {%
7866 \LWR@stopars%
7867 \LWR@htmllag{\LWR@tagtitle}%
7868 \thetitle%
7869 \LWR@htmllag{\LWR@tagtitleend}%
7870 \LWR@startpars%
7871 }
```

\printauthor HTML version.

```
7872 \newcommand*\printauthor{
```

The entire author block is contained in a <div> named author:

```
7873 \begin{BlockClass}{author}
```

\and finishes one author and starts the next:

```
7874 \renewcommand{\and}{%
7875 \end{BlockClass}%
7876 \begin{BlockClass}{oneauthor}%
7877 }
```

Individual authors are contained in a <div> named oneauthor:

```
7878 \begin{BlockClass}{oneauthor}%
7879 \@author%
7880 \end{BlockClass}%
7881 \end{BlockClass}%
7882 }
```

\printdate

```
7883 \newcommand*\printdate{%
7884 \begin{BlockClass}{titledate}%
7885 \@date%
7886 \end{BlockClass}%
7887 }
```

```
7888 \end{warpHTML}
```

## 69.6 Printing the title, etc. in print form

The following are for printing the title, etc. in a `titlepage` or a `titlingpage` in print form:

**for PRINT output:** 7889 `\begin{warpprint}`

`\printtitle`

7890 `\newcommand*{\printtitle}{{\Huge \@title}}`

`\printauthor` Print mode.

7891 `\newcommand*{\printauthor}{\large\begin{tabular}[t]{c}\@author\end{tabular}}`

`\printdate`

7893 `\newcommand*{\printdate}{\small\textrit{@date}}`

7894 `\end{warpprint}`

## 69.7 \maketitle for HTML output

An `HTML <div>` of class `titlepage` is used.

`\thanks` are a form of footnotes used in the title page. See section 60 for other kinds of footnotes.

See `\thanksmarkseries{series}`, below, to set the style of the footnote marks.

**for HTML output:** 7895 `\begin{warpHTML}`

```
7896 \@ifclassloaded{memoir}
7897 {
7898 \newcommand{\LWR@setfootnoteseries}{%
7899 \renewcommand\thefootnote{\@arabic\c@footnote}%
7900 }
7901 }% not memoir
7902 \if@titlepage
7903 \newcommand{\LWR@setfootnoteseries}{%
7904 \renewcommand\thefootnote{\@arabic\c@footnote}%
7905 }
7906 \else
7907 \newcommand{\LWR@setfootnoteseries}{%
7908 \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
7909 }
7910 \fi
7911 }% not memoir
```

\LWR@maketitlesetup Patches \thanks macros.

```
7912 \newcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
7913 \LWR@setfootnoteseries%
7914 \def\@makefnmark{%
7915 \thefootnote%
7916 }
```

\thefootnote  $\Rightarrow$  \nameuse{arabic}{footnote}, or  
\thefootnote  $\Rightarrow$  \nameuse{fnsymbol}{footnote}

Redefine the footnote text:

```
7917 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
7918 \@thefnmark~%
```

\makethanksmark  $\Rightarrow$  \thanksfootmark  $\Rightarrow$  \tmark  $\Rightarrow$   
\@thefnmark  $\Rightarrow$  \itshape a (or similar)

Print the text:

```
7919 ##1%
7920 }%
7921 }
```

\@fnsymbol {\langle counter\rangle}

Re-defined to use an HTML entity for the double vertical bar symbol. The original definition used \| which was not being seen by *pdftotext*.

```
7922 \def\LWR@HTML@fnsymbol#1{%
7923 \ifcase#1\or *\or
7924 \HTMLentity{dagger}\or
7925 \HTMLentity{Dagger}\or
7926 \HTMLentity{sect}\or
7927 \HTMLentity{para}\or
7928 \HTMLunicode{2016}\or
7929 **\or
7930 \HTMLentity{dagger}\HTMLentity{dagger} \or
7931 \HTMLentity{Dagger}\HTMLentity{Dagger} \else
7932 \@ctrerr\fi%
7933 }
7934 \LWR@formatted{@fnsymbol}
```

\maketitle HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the `titling` package is adapted, simplified, and modified for `HTML` output.

```
7935 \renewcommand*{\maketitle}{%
```

An `HTML` titlepage `<div>` is used for all classes.

```
7936 \begin{titlepage}
```

Set up special patches:

```
7937 \LWR@maketitlesetup
```

Typeset the title, etc:

```
7938 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
7939 \LWR@stoppars@\thanks\LWR@startpars
```

Close the `HTML` titlepage div and cleanup:

```
7940 \end{titlepage}
7941 \setcounter{footnote}{0}%
7942 \global\let\thanks\relax
7943 \global\let\maketitle\relax
7944 \global\let@\maketitle\relax
7945 \global\let@\thanks@\empty
7946 \global\let@\author@\empty
7947 \global\let@\date@\empty
7948 \global\let@\title@\empty
7949 \global\let\title\relax
7950 \global\let\author\relax
7951 \global\let\date\relax
7952 \global\let\and\relax
7953 }
```

`\@maketitle` `HTML` mode. Typesets the title, etc.:

```
7954 \DeclareDocumentCommand{\@maketitle}{}{%
7955 \LWR@stoppars%
7956 \LWR@htmltag{\LWR@tagtitle}%
7957 \@title%
7958 \LWR@htmltag{\LWR@tagtitleend}%
7959 \LWR@startpars%
7960 \begin{BlockClass}\author%
```

For `IEEEtran` class:

```
7961 \renewcommand*{\cr}{\%}
7962 \renewcommand*{\crcr}{\%}
7963 \renewcommand*{\noalign}{\%}
```

---

```

7964 \renewcommand{\and}{%
7965 \end{BlockClass}%
7966 \begin{BlockClass}{oneauthor}%
7967 }%
7968 \begin{BlockClass}{oneauthor}%
7969 \@author%
7970 \end{BlockClass}%
7971 \end{BlockClass}%
7972 \begin{BlockClass}{titledate}%
7973 \@date%
7974 \end{BlockClass}%
7975 }

```

\LWR@titlingmaketitle \maketitle for use inside an `HTML` `titlingpage` environment.

```
7976 \newcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
7977 \LWR@stoppars\@thanks\LWR@startpars
```

Set up special patches:

```
7978 \LWR@maketitlesetup
```

Typeset the title, etc:

```
7979 \@maketitle
```

Immediately generate any \thanks footnotes:

```
7980 \LWR@stoppars\@thanks\LWR@startpars
7981 }
```

```
7982 \end{warpHTML}
```

## 69.8 \published and \subtitle

**\subtitle and \published** To add `\subtitle` and `\published` to the `titlepage`, load the `titling` package and use `\AddSubtitlePublished` in the preamble.

The default `lwarp.css` has definitions for the `published` and `subtitle` classes.

If `titling` is loaded, `\AddSubtitlePublished` creates a number of additional macros, and also assigns some of the `titling` hooks. If `titling` is not loaded, `\AddSubtitlePublished` creates null macros.

**⚠ titling hooks** Do not use `\AddSubtitlePublished` if the user has patched the `titling` hooks for some other reason. Portions are marked `\warpprintonly` to reduce extra tags in `HTML`. Similarly, `BlockClass` has no effect in print mode. Thus, the following may be marked `warpall`.

**for HTML & PRINT:** 7983 `\begin{warpall}`

\AddSubtitlePublished Adds \published and \subtitle, and related.

```

7984 \newcommand*{\AddSubtitlePublished}{%
7985 \@ifpackageloaded{titling}{% yes titling package
7986 \newcommand{\@published}{}%
7987 \newcommand{\published}[1]{\gdef\@published{\#1}}%
7988 \renewcommand*{\maketitlehooka}{\printpublished}%
7989 \newcommand*{\printpublished}{%
7990 \warpprintonly{\begin{center}\unskip}%
7991 \begin{BlockClass}{published}%
7992 \warpprintonly{\large\itshape}%
7993 \@published%
7994 \end{BlockClass}%
7995 \warpprintonly{\end{center}}%
7996 }%
7997 \newcommand{\@subtitle}{}%
7998 \newcommand{\subtitle}[1]{\gdef\@subtitle{\#1}}%
7999 \renewcommand*{\maketitlehookb}{\printsubtitle}%
8000 \newcommand*{\printsubtitle}{%
8001 \warpprintonly{\begin{center}\unskip}%
8002 \begin{BlockClass}{subtitle}%
8003 \warpprintonly{\Large\itshape}%
8004 \@subtitle%
8005 \end{BlockClass}%
8006 \warpprintonly{\end{center}}%
8007 }%
8008 }% yes titling package
8009 {% no titling package

8010 \def\@published{}%
8011 \DeclareDocumentCommand{\published}{m}{\gdef\@published{\#1}}%
8012 \DeclareDocumentCommand{\printpublished}{}{%
8013 \def\@subtitle{}%
8014 \DeclareDocumentCommand{\subtitle}{m}{\gdef\@subtitle{\#1}}%
8015 \DeclareDocumentCommand{\printsubtitle}{}{%
8016 }% no titling package
8017 }% \AddSubtitlePublished

8018 \end{warpall}

```

## 70 Abstract

The following code replaces the L<sup>A</sup>T<sub>E</sub>X default, and will itself be replaced later if the `abstract` package is loaded.

**for HTML output:** 8019 \begin{warpHTML}

\abstractname User-redefinable title for the abstract.

Also over-written by the `babel` package.

8020 \providecommand\*{\abstractname}{Abstract}

Some classes allow an optional name, so it is allowed here.

```
Env abstract

8021 \DeclareDocumentEnvironment{abstract}{O{\abstractname}}
8022 {
8023 \LWR@forcenewpage
8024 \BlockClass{abstract}
8025 \BlockClassSingle{abstracttitle}{#1}
8026 }
8027 {
8028 \endBlockClass
8029 }

8030 \end{warpHTML}
```

## 71 Quote and verse

### 71.1 Attributions

```
\attribution {\langle name\rangle}
```

For use with quote, quotation, verse:

Ex: "A quotation." \attribution{\textsc{Author Name}\\\textsl{Book Title}}

**for HTML & PRINT:**

```
8031 \begin{warpall}
8032 \newcommand{\attribution}[1]{
8033 \begin{flushright}
8034 \unskip
8035 #1
8036 \end{flushright}%
8037 }
8038 \end{warpall}
```

**for HTML output:**

```
8039 \begin{warpHTML}
8040 \newcommand{\LWR@HTML@attribution}[1]{%
8041 \LWR@stoppars%
8042 \begin{BlockClass}{attribution}
8043 #1
8044 \end{BlockClass}
8045 \LWR@startpars%
8046 }
8047 \LWR@formatted{attribution}
8048 \end{warpHTML}
```

### 71.2 Quotes, quotations

**for HTML output:** 8049 \begin{warpHTML}

Env quote

```
8050 \newenvironment*{\LWR@HTML@quote}
8051 {
8052 \LWR@forcenewpage
8053 \LWR@htmlblocktag{blockquote}
8054 }
8055 {\LWR@htmlblocktag{/blockquote}}
8056
8057 \LWR@formattede{quote}
```

Env quotation

```
8058 \newenvironment*{\LWR@HTML@quotation}
8059 {
8060 \LWR@forcenewpage
8061 \LWR@htmlblocktag{blockquote}
8062 }
8063 {\LWR@htmlblocktag{/blockquote}}
8064
8065 \LWR@formattede{quotation}

8066 \end{warpHTML}
```

### 71.3 Verse

When using `verse` or `memoir`, always place a `\\"` after each line.

- `\attrib` The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. `lwarp` provides `\attribution`, which works for both print and `HTML` output. To combine the two so that `\attrib` is used for print and `\attribution` is used for `HTML`:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

- `\Len \vleftskip` These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLvleftskip` and `\HTMLleftmargini` are provided to control the margins in `HTML` output. These new lengths may be set by the user before any `verse` environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

- ⚠ `spacing` Horizontal spacing relies on `pdftotext`’s ability to discern the layout (`-layout` option) of the text in the `HTML`-tagged `PDF` output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to `HTML`, the stanza numbers are kept out of the left margin, which would have caused `pdftotext` to shift everything over.

- ⚠ `verse margin`

### 71.3.1 L<sup>A</sup>T<sub>E</sub>X core verse environment

**for HTML output:** 8067 \begin{warpHTML}

Env    **verse**

```

8068 \newenvironment{LWR@HTML@verse}
8069 {\let\\newline% lwarp
8070 \list{}{\itemsep \z@
8071 \itemindent -1.5em%
8072 \listparindent\itemindent
8073 \rightmargin \leftmargin
8074 \advance\leftmargin 1.5em}%
8075 \item\relax}
8076 {\endlist}
8077
8078 \LWR@formattedenv{verse}

8079 \end{warpHTML}

```

**for HTML & PRINT:** 8080 \begin{warpall}

### 71.3.2 verse and memoir

The following lengths are used by **verse** and **memoir**. They may be set in either print or **HTML** output, but are only used in **HTML**. This allows the user to set **\vleftskip** and **\leftmargini** for print output, and optionally select different values for **HTML**.

Len    \HTMLvleftskip    Sets **\vleftskip** inside a **verse** environment in **HTML**.

```

8081 \newlength{\HTMLvleftskip}
8082 \setlength{\HTMLvleftskip}{1em}

```

Len    \HTMLleftmargini    Sets **\leftmargini** inside a **verse** environment in **HTML**.

```

8083 \newlength{\HTMLleftmargini}
8084 \setlength{\HTMLleftmargini}{4.5em}

8085 \end{warpall}

```

## 72 Verbatim and tabbing

**for HTML & PRINT:** 8086 \begin{warpall}

Len    \VerbatimHTMLWidth    Width to use in **HTML** **Verbatim** environment.

This width is used when placing line numbers to the right. Ignored during print output.

```

8087 \newlength{\VerbatimHTMLWidth}
8088 \setlength{\VerbatimHTMLWidth}{4in}
8089 \end{warpall}

```

**for HTML output:** 8090 \begin{warpHTML}

Bool LWR@verbtags Used to temporarily turn off verbatim tags while doing \verb+input+ in the HTML head.

```
8091 \newbool{LWR@verbtags}
8092 \booltrue{LWR@verbtags}
```

\verb Patched to encapsulate the verbatim text inside span with a class of `texttt`.

```
8093 \LetLtxMacro\LWR@orig@verb@egroup\verb@egroup
8094
8095 \def\LWR@verb@egroup@endspan{%
8096 \LWR@orig@verb@egroup%
8097 \LWR@htmltag{/span}%
8098 \endgroup%
8099 }

8100 \xpretocmd{\verb}{%
8101 {%
8102 \begingroup%
8103 \LWR@htmltag{span class=\textquotedbl{}texttt\textquotedbl{}}
8104 \let\verb@egroup\LWR@verb@egroup@endspan%
8105 }%
8106 {}%
8107 {\LWR@patcherror{LaTeX}{verb}}}
```

\LWR@atbeginverbatim [⟨1: style⟩] {⟨2: class⟩}

Encloses a verbatim environment with the given css class.

The use of `\textquotedbl` instead of " improves compatibility with xeCJK.

```
8108 \newcommand*{\LWR@atbeginverbatim}[2][]{%
8109 {%
```

Stop generating HTML paragraph tags:

```
8110 \LWR@stopars%
```

Avoid excessive space between lines:

```
8111 \setlength{\parskip}{0ex}%
8112 \setlength{\topsep}{0pt}%
8113 \setlength{\partopsep}{0pt}%
```

Create a new `pre` of the given class. The tags may temporarily be turned off for internal use, such as loading the MATHJAX script.

```
8114 \ifbool{LWR@verbtags}{%
8115 \LWR@htmltag{pre class=\textquotedbl#2\textquotedbl}%
8116 \ifthenelse{\equal{\#1}{}}{\style=\textquotedbl#1\textquotedbl}{%
8117 }%
8118 \par%
8119 }{}}
```

Use a mono-spaced font to preserve horizontal positioning. If horizontal alignment is important for the user, use a mono-spaced font in the css for the `verse` class.

```
8120 \begingroup%
8121 \LWR@print@normalfont%
8122 \LWR@origttfamily%
8123 \LWR@print@scriptsize%
```

Since inside a `<pre>`, restore the original list processing:

```
8124 \LWR@restoreoriglists%
```

Turn off **babel-french** extra space before punctuation:

```
8125 \LWR@hook@processingtags%
```

Do not produce HTML tags for `\hspace` inside a `verse` par. Restore plain L<sup>A</sup>T<sub>E</sub>X `\hspace` functionality:

```
8126 \LWR@select@print@hspace%
8127 }
```

`\LWR@afterendverbatim` Finishes enclosing a verbatim environment.

```
8128 \newcommand*{\LWR@afterendverbatim}{{%
8129 \endgroup%
8130 \par%}}
```

At the end of the environment, close the pre:

```
8131 \ifbool{\LWR@verbtags}{%
8132 \noindent\LWR@htmltag{/pre}\par% pre
8133 }{}}
```

Resume regular paragraph handling:

```
8134 \LWR@startpars%
8135 }
```

`\verbatiminput {<filename>}`

Patch `\verbatiminput` to add HTML tags:

```
8136 \newcommand{\LWR@HTML@verbatim@input}[2]{%
8137 \ifbool{\LWR@verbtags}{\LWR@forcenewpage}{}
8138 \LWR@atbeginverbatim{Verbatim}%
8139 \LWR@print@verbatim@input{#1}{#2}%
8140 \LWR@afterendverbatim%
8141 }
8142
8143 \LWR@formatted{verbatim@input}
```

```

Env verbatim

8144 \AfterEndPreamble{
8145 \LWR@traceinfo{Patching verbatim.}
8146 \AtBeginEnvironment{verbatim}{%
8147 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
8148 {}%
8149 {}%
8150 \LWR@forcenewpage%
8151 \LWR@atbeginverbatim{verbatim}%
8152 {}%
8153 }%
8154 \AfterEndEnvironment{verbatim}{%
8155 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
8156 {}%
8157 {}%
8158 \LWR@afterendverbatim%
8159 {}%
8160 }%
8161 }

```

Env tabbing The tabbing environment works, except that `svg` math and `lateximages` do not yet work inside the environment.

△ **math in tabbing** If math is used inside `tabbing`, place `tabbing` inside a `lateximage` environment, which will render the entire environment as a single `svg` image.

```

8162 \newcommand*{\LWR@HTML@tabbing}{%
8163 \LWR@forcenewpage%
8164 \LWR@atbeginverbatim{tabbing}%
8165 \let\enskip\LWR@origenskip%
8166 \let\quad\LWR@origquad%
8167 \let\qquad\LWR@origqquad%
8168 \let~\LWR@origtilde%
8169 \let,\LWR@origcomma%
8170 \let\thinspace\LWR@origthinspace%
8171 \let\negthinspace\LWR@orignegthinspace%
8172 \LWR@print@tabbing%
8173 }%
8174
8175 \newcommand*{\LWR@HTML@endtabbing}{%
8176 \LWR@print@endtabbing%
8177 \LWR@afterendverbatim%
8178 }%
8179
8180 \LWR@formatted{tabbing}%
8181 \LWR@formatted{endtabbing}%
8182 \end{warpHTML}

```

## 73 Theorems

```
\newtheorem {⟨text⟩} [⟨counter⟩] – or – [⟨oldname⟩] {⟨text⟩}
```

A few minor changes are made to supply HTML tags.

- The entire theorem is placed into a <div> of class theoremcontents.
- The label for each theorem is placed inside a <span> of class theoremlabel.
- The contents are placed inside a <div> of class theoremcontents.

**for HTML output:** 8183 \begin{warpHTML}

\@begintheorem {\langle name\rangle} {\langle number\rangle}

8184 \renewcommand{\@begintheorem}[2]{%  
8185 \LWR@forcenewpage

8186 \LWR@printpendingfootnotes% lwarp

8187 \BlockClass{theoremcontents}  
8188 \trivlist  
8189 \item[\InlineClass{theoremlabel}{\#1\ #2\ }]\itshape  
8190 }

\@opargbegintheorem {\langle name\rangle} {\langle number\rangle} {\langle oparg\rangle}

L<sup>T</sup>E<sub>X</sub> defines this, but **amsthm** \relaxes it, so it will not be defined if **amsthm** is loaded before **lwarp**.

8191 \ifundef{\@opargbegintheorem}{}{  
8192 \renewcommand{\@opargbegintheorem}[3]{%  
8193 \LWR@forcenewpage  
8194 \BlockClass{theoremcontents}  
8195 \trivlist  
8196 \item[\InlineClass{theoremlabel}{\#1\ #2\ (#3)\ }]\itshape  
8197 }  
8198 }

\@endtheorem

8199 \renewcommand\*{\@endtheorem}{%  
8200 \endtrivlist

8201 \LWR@printpendingfootnotes% lwarp

8202 \endBlockClass% theoremcontents  
8203 }

8204 \end{warpHTML}

## 74 Lists

The environments `itemize`, `enumerate`, and `description` are patched when `lwarp` is started. These patches support the standard L<sup>A</sup>T<sub>E</sub>X environments, as well as those of `enumerate`, `enumitem`, and `paralist`, and at least the French version of `babel`. Additional patches are done on a package-specific basis.

The L<sup>A</sup>T<sub>E</sub>X source for `itemize` and `enumerate` are found in `source2e`, but the source for `description` is found in `article.cls`, etc.

- empty item** To have an empty item, use `\mbox{}` or a trailing backslash. This forces a new line in print output, matching the new line which will appear in HTML output. Ex:

---

```
begin{itemize}
item \mbox{}
 \begin{itemize}
...
 \end{itemize}
item \
 \begin{itemize}
...
 \end{itemize}
```

---

- \makelabel** While inside a list environment, `lwarp` nullifies a number of T<sub>E</sub>X horizontal skip and fill commands, allowing the user to define `\makelabel` for print mode while HTML mode ignores those commands.

-  **label font** When defining `\makelabel` in a list environment, use `\textbf` etc. instead of `\bfseries`.

### 74.1 List environment

**for HTML output:** 8205 `\begin{warpHTML}`

`\LWR@printcloselist` May be locally redefined by `enumerate` or `description`.

8206 `\newcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}`

`\LWR@printopenlist` May be locally redefined by `enumerate` or `description`.

8207 `\newcommand*{\LWR@printopenlist}{%`  
8208     `ul style=\textquotedbl\LWR@print@mbox{list-style-type:none}\textquotedbl{}}`  
8209 `}`

`\@mklab` Removes PDF spacing.

8210 `\AtBeginDocument{`  
8211 `\def\@mklab#1{%`

```
8212 % \hfil %
8213 #1}
8214 \let\makelabel@mklabel
8215 }
```

\@donoparitem Modified for HTML output by replacing TeX boxes with plain text. Also removes PDF spacing.

```
8216 \def\@donoparitem{%
8217 \@noperitemfalse
8218 % \global\setbox\@labels\hbox{\hskip -\leftmargin
8219 % \unhbox\@labels
8220 % \hskip \leftmargin}%
8221 % \if@minipage\else
8222 % \@tempskipa\lastskip
8223 % \vskip -\lastskip
8224 % \advance\@tempskipa\@outerparskip
8225 % \advance\@tempskipa -\parskip
8226 % \vskip\@tempskipa
8227 % \fi
8228 }
```

\@item Modified for HTML output by replacing TeX boxes with plain text. Also removes PDF spacing.

```
8229 \def\@LWR@HTML@item[#1]{%
8230 \LWR@traceinfo{@item}%
8231 \if@noperitem
8232 \@donoparitem
8233 \else
8234 \if@inlabel
8235 \indent
8236 \par
8237 \fi
8238 \ifhmode
8239 \unskip\unskip
8240 \par
8241 \fi
8242 \if@newlist
8243 \if@nobreak
8244 \@nbitem
8245 \else
8246 \addpenalty\@beginparpenalty
8247 \addvspace\@topsep
8248 \addvspace{-\parskip}%
8249 \fi
8250 \else
8251 \addpenalty\@itempenalty
8252 \addvspace\itemsep
8253 \fi
8254 \global\@inlabeltrue
8255 \fi
8256 \everypar{%
8257 \ifminipagefalse
```

```
8258 \global\@newlistfalse

8259 % \if@inlabel
8260 % \global\@inlabelfalse

8261 % {\setbox\z@\lastbox
8262 % \ifvoid\z@
8263 % \kern-\itemindent
8264 % \fi}%

8265 % \box\@labels
8266 % \penalty\z@
8267 % \fi

8268 % \if@nobreak
8269 % \@nobreakfalse
8270 % \clubpenalty \zM
8271 % \else
8272 % \clubpenalty \clubpenalty
8273 % \everypar{}%
8274 % \fi}%

8275 \if@noitemarg
8276 \@noitemargfalse
8277 \if@nmbrlist

8278 \refstepcounter\@listctr
8279 \fi
8280 \fi

8281 \makelabel{\#1} % extra space
8282 % \sbox\@tempboxa{\makelabel{\#1}%
8283 % \global\setbox\@labels\hbox{%
8284 % \unhbox\@labels
8285 % \hskip \itemindent
8286 % \hskip -\labelwidth
8287 % \hskip -\labelsep
8288 % \ifdim \wd\@tempboxa >\labelwidth
8289 % \box\@tempboxa

8290 % \else
8291 % \hbox to\labelwidth {\unhbox\@tempboxa}%
8292 % \fi
8293 % \hskip \labelsep}%
8294 \ignorespaces%
8295 }

\@nbitem

8296 \def\@nbitem{%
8297 % \tempskipa\@outerparskip
8298 % \advance\@tempskipa -\parskip
8299 % \addvspace\@tempskipa
8300 }
```

---

\LWR@listitem [*<label>*]

Handles \item inside a list, itemize, or enumerate.

See \LWR@openparagraph where extra \hspace is used to leave room for the label while inside a list during paragraph construction.

```
8301 \newcommand*{\LWR@listitem}{%
8302 \LWR@stoppars%
8303 \LWR@startnewdepth{listitem}%
8304 \LWR@htmlltag{li}%
8305 \LWR@startpars%
8306 \LWR@origitem%
8307 }
```

\LWR@nulllistfills Nullifies various TeX fill commands, in case they are used inside \makelabel. Problems are caused when these are nullified all the time.

```
8308 \newcommand*{\LWR@nulllistfills}{%
8309 \renewcommand*{\hss}{ }%
8310 \renewcommand*{\llap}[1]{##1}%
8311 \renewcommand*{\rlap}[1]{##1}%
8312 \renewcommand*{\hfil}{ }%
8313 \renewcommand*{\hfilneg}{ }%
8314 \renewcommand*{\hfill}{ }%
8315 }
```

Env list {*<label>*} {{*commands*}}

```
8316 \newcommand*{\LWR@liststart}{%
8317 \LWR@traceinfo{\LWR@liststart}%
8318 \LWR@stoppars%
8319 \LWR@pushoneclose{list}%
8320 \LWR@htmlltag{\LWR@printopenlist}\LWR@orignewline%
8321 \LWR@startpars%
8322 \setlength{\topsep}{0pt}%
8323 \setlength{\partopsep}{0pt}%
8324 \setlength{\itemsep}{0pt}%
8325 \setlength{\parsep}{0pt}%
8326 \setlength{\leftmargin}{0pt}%
8327 \setlength{\rightmargin}{0pt}%
8328 \setlength{\listparindent}{0pt}%
8329 \setlength{\itemindent}{0pt}%
8330 \setlength{\labelsep}{1em}%
8331 \LWR@nulllistfills%
8332 }

8333 \newcommand*{\LWR@listend}{%
8334 \LWR@traceinfo{\LWR@listend}%
8335 \LWR@stoppars%
8336 \LWR@closeprevious{list}%
8337 \LWR@startpars%
8338 }
```

## 74.2 Itemize

\LWR@itemizeitem [*<label>*]

Handles \item inside an itemize or enumerate.

See \LWR@openparagraph where extra \hspace is used to leave room for the label while inside a list during paragraph construction.

```
8339 \newcommand*{\LWR@itemizeitem}{%
8340 \LWR@stoppars%
8341 \LWR@startnewdepth{listitem}%
8342 \LWR@htmltag{li}%
8343 \LWR@startpars%
8344 \LWR@origitem%
8345 }
```

Env itemize [*<options>*]

```
8346 \newcommand*{\LWR@itemizestart}{%
8347 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}%
8348 \renewcommand*{\LWR@printopenlist}{%
8349 ul style=\textquotedbl\LWR@print@mbox{list-style-type:none}\textquotedbl{}%
8350 }%
8351 \let\item\LWR@itemizeitem%
8352 \LWR@nulllistfills%
8353 }
```

## 74.3 Enumerate

An HTML unordered list is used with customized L<sup>E</sup>T<sub>E</sub>X-generated labels.

Env enumerate [*<options>*]

```
8354 \newcommand*{\LWR@enumeratestart}{%
8355 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}%
8356 \renewcommand*{\LWR@printopenlist}{%
8357 ul style=\textquotedbl\LWR@print@mbox{list-style-type:none}\textquotedbl{}%
8358 }%
8359 \let\item\LWR@itemizeitem%
8360 \LWR@nulllistfills%
8361 }
```

## 74.4 Description

\LWR@descitem [*<label>*] Handles an \item inside a description.

```
8362 \newcommand*{\LWR@descitem}[1][]{%
8363 {%
8364 \LWR@stoppars%
```

```
8365 \LWR@setlatestname{#1}%
8366 \LWR@startnewdepth{descitem}%
```

While creating the label, encase it inside tags and disable `\hspace`, which is used by the standard classes to add space to the labels.

```
8367 \begingroup%
8368 \let\LWR@orig@desc@makelabel\makelabel
8369 \renewcommand*{\makelabel}[1]{%
8370 \LWR@htmlltag{dt}%
8371 \LWR@orig@desc@makelabel{#1}%
8372 \LWR@htmlltag{/dt}%
8373 }
8374 \LWR@select@html@nohspace%
8375 \LWR@origitem[#1]%
8376 \endgroup%
8377 \LWR@orignewline%
8378 \LWR@htmlltag{dd}%
8379 \LWR@startpars%
8380 }
```

`Env description [<options>]`

Footnotes are modified to correctly parse optional arguments.

```
8381 \newcommand*{\LWR@descriptionstart}{%
8382 \renewcommand*{\LWR@printclosedlist}{\LWR@printcloseddescription}%
8383 \renewcommand*{\LWR@printopenlist}{\LWR@printopenlist}%
8384 \let\item\LWR@descitem%
8385 \LWR@nulllistfills%
```

Footnotes are redefined to process optional arguments inside the `description` label. A `\footnote` is dropped, as it is in print mode. Using the optional arguments does not work in print mode, but for some reason they must be accepted as done here to work correctly even without the optional arguments.

```
8386 \renewcommand{\footnote}[2][]{%
8387 \ifblank{##1}%
8388 {%
8389 \stepcounter{\mpfn}%
8390 \protected@xdef{\thefnmark{\thempfn}}%
8391 \footnotemark\footnotetext
8392 }%
8393 {%
8394 \begingroup
8395 \csname c@\mpfn\endcsname ##1\relax
8396 \unrestored@protected@xdef{\thefnmark{\thempfn}}%
8397 \endgroup
8398 \footnotemark\footnotetext
8399 }%
8400 }%
8401 %
8402 \renewcommand{\footnotemark}[1][]{%
8403 \ifblank{##1}%
8404 {%
```

---

```

8405 \stepcounter{footnote}%
8406 \protected@xdef\@thefnmark{\thefootnote}%
8407 \footnotemark%
8408 }%
8409 {%
8410 \begingroup%
8411 \c@footnote ##1\relax%
8412 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
8413 \endgroup%
8414 \footnotemark%
8415 }%
8416 }%
8417 }

```

## 74.5 Patching the lists

\LWR@patchlists Patches list environments.

\LWR@patchlists remembers \item as defined by whatever packages have been loaded, then patches the itemize, enumerate, and description environments and \item. This works with the native L<sup>A</sup>T<sub>E</sub>X environments, as well as those provided by enumitem, enumerate, and paralist.

```

8418 \newcommand*{\LWR@patchlists}{%
8419 \LetLtxMacro{\item}{\LWR@listitem}%
8420 \LetLtxMacro{\item}{\LWR@HTML@item}%
8421 \renewcommand*{\@trivlist}{%
8422 \LWR@traceinfo{@trivlist start}%
8423 \LWR@liststart%
8424 \LWR@orig@trivlist%
8425 \LWR@traceinfo{@trivlist done}%
8426 }%
8427 \renewcommand*{\trivlist}{%
8428 \LWR@traceinfo{trivlist}%
8429 \LWR@origtrivlist%
8430 }%
8431 \renewcommand*{\endtrivlist}{%
8432 \LWR@traceinfo{endtrivlist start}%
8433 \LWR@origendtrivlist\LWR@listend%
8434 \LWR@traceinfo{endtrivlist done}%
8435 }%
8436 \renewcommand*{\itemize}{%
8437 \LWR@itemizestart\LWR@origitemize%
8438 }%
8439 \renewcommand*{\enumerate}{%
8440 \LWR@enumeratestart\LWR@origenumerate%
8441 }%
8442 \renewcommand*{\description}{%
8443 \LWR@descriptionstart\LWR@origdescription%
8444 }%
8445 }

```

\LWR@restoreoriglists Restores the original `trivlist` environment.

```

8446 \newcommand*{\LWR@restoreoriglists}{%
8447 \LWR@traceinfo{\LWR@restoreoriglists}%
8448 \LetLtxMacro\item{\LWR@origitem}%
8449 \LetLtxMacro\@item{\LWR@orig@item}%
8450 \let\@trivlist{\LWR@orig@trivlist}%
8451 \let\trivlist{\LWR@origtrivlist}%
8452 \let\endtrivlist{\LWR@origendtrivlist}%
8453 \LetLtxMacro\itemize{\LWR@origitemize}%
8454 \LetLtxMacro\enditemize{\LWR@endorigitemize}%
8455 \LetLtxMacro\enumerate{\LWR@origenumerate}%
8456 \LetLtxMacro\endenumerate{\LWR@endorigenumerate}%
8457 \LetLtxMacro\description{\LWR@origdescription}%
8458 \LetLtxMacro\enddescription{\LWR@endorigdescription}%
8459 \let\@mklab{\LWR@orig@mklab}%
8460 \let\makelabel{\LWR@origmakelabel}%
8461 \let\@donoparitem{\LWR@orig@donoparitem}%
8462 \let\@nbitem{\LWR@orig@nbitem}%
8463 }

8464 \end{warpHTML}

```

## 75 Tabular

This is arguably the most complicated part of the entire package. Numerous tricks are employed to handle the syntax of the L<sup>A</sup>T<sub>E</sub>X core and the various tabular-related packages.

### 75.1 Limitations

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, multirows, `siunitx` S columns, or the packages `multirow`, `longtable`, `supertabular`, or `xtab`.

#### Defining macros and environments:

⚠ Misplaced alignment tab character &

- When defining environments or macros which include `tabular` and instances of the & character, it may be necessary to make & active before the environment or macro is defined, then restore & to its default catcode after, using the following commands. These are ignored in print mode.

`\StartDefiningTabulars`

`<define macros or environments using tabular and & here>`

`\StopDefiningTabulars`

⚠ floatrow

This includes before and after defining any macro which used `\ttabbox` from `floatrow`.

⚠ tabular inside another environment

- When creating a new environment which contains a `tabular` environment, `lwarp`'s emulation of the `tabular` does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

---

```
\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
 \tabular{cc}
 left & right \\
}
{
 \TabularMacro\ResumeTabular
 left & right \\
 \endtabular
}
\StopDefiningTabulars
```

**For developers:**

- To automate the use of `\StartDefiningTabulars` and `\EndDefiningTabulars`, these macros may be embedded inside an `HTML` environment definition to automatically change the catcode of `&` before absorbing the arguments. Another environment may be embedded as well.
 

```
% Does the work after the catcode has been changed:
\newcommand*{\LWR@HTML@subsoname}[2]{%
 ...
 \otherenvironmentname [<args>] {<args>} % for example
}

% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somename}{%
 \StartDefiningTabulars
 \LWR@HTML@subsoname
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsomename}{%
 ...
 \endotherenvironmentname % for example
 \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}
```

**Cell contents:****⚠ macro in a table**

- Using a custom macro inside a tabular data cell may result in an extra `HTML` data cell tag, corrupting the `HTML` table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \\
```

**Column specifiers:****@ and !**

- Only one each of `@` and `!` is used at each column, and they are used in that order.

**\multirow**

- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`, and `!` cells on the second and later rows in the `\multirow` which do not appear in the `HTML` version.

**⚠ \newcolumntype**

- `\newcolumntype` is ignored; unknown column types are set to `l`.

**Rules:**

- Doubled \hlines, \midrules, and vertical rules are supported.
  - Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.
  - Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.
  - If you wish to use \cmidrule followed by \bottomrule, it may be necessary to use:  
 $\cmidrule{2-3} \\[-2ex]$   
 $\bottomrule$
- The optional -2ex is ignored in HTML, but improves the visual formatting in the print output.

vertical rules

width and trim

combined rules

⚠ \warpprintonly  
⚠ Misplaced \noalign

- For \toprule and \bottomrule, when combined with a warpprint or warpHTML environment, if a “Misplaced \noalign” error occurs, change

This & That \endhead  
to

\warpprintonly{This & That \endhead}  
and likewise with the other \end headings. Keep the \endfirsthead row unchanged, as it is still relevant to HTML output.

#### Other:

- tabularx ignores the width, but X columns do produce paragraph columns or multicolumns.

longtable headings

⚠ S columns

- For longtable, place headings and footings which do not apply to HTML inside \warpprintonly{}.

- For S columns (from the siunitx package), while producing print output, anything non-numeric must be placed inside {} braces, including commands such as \multirow. While producing HTML output, though, anything placed inside braces is not seen by l warp’s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
\warpHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

- In LATEX, a tabular may be placed inside a minipage, but in HTML a <table> may not be inside a <span>. If this situation is detected, a warning is printed instructing the user to isolate the <span> using \warpprintonly or the warpprint environment.

for HTML output: 8465 \begin{warpHTML}

## 75.2 Temporary package-related macros

These macros are temporary placeholders for macros defined by various packages. If the relevant package is not loaded, these placeholders are used instead.

### 75.2.1 arydshln

Emulated by the original L<sup>A</sup>T<sub>E</sub>X non-dashed versions.

```
8466 \LetLtxMacro{\hdashline}{\hline}
8467 \LetLtxMacro{\cdashline}{\cline}
8468 \LetLtxMacro{\firstdashline}{\hline}
8469 \LetLtxMacro{\lastdashline}{\hline}
```

## 75.3 Token lookahead

Used by \LWR@futurenonospacelet to look at the next token.

```
\LWR@mynexttoken
```

```
8470 \newcommand{\LWR@mynexttoken}{\relax}
```

\futurelet copies the next token then executes a function to analyze it.

\LWR@futurenonospacelet does the same, but ignores intervening white space

Based on the booktabs style:

```
\LWR@futurenonospacelet
```

```
8471 \def{\LWR@futurenonospacelet#1{\def{\LWR@cs{#1}}%
8472 \afterassignment{\LWR@fnslone\let{\nexttoken= } }
8473
8474 \def{\LWR@fnslone{\expandafter{\futurelet{\LWR@cs{\LWR@fnstwo}}%
8475
8476 \def{\LWR@fnstwo{%
8477 \expandafter{\ifx{\LWR@cs{\sptoken}\let{\next=\LWR@fnsthree}%
8478 \else\let{\next=\nexttoken}\fi\next}%
8479
8480 \def{\LWR@fnsthree{\afterassignment{\LWR@fnslone\let{\next= } }}
```

\LWR@getmynexttoken Looks ahead and copies the next token into \LWR@mynexttoken.

```
8481 \newcommand*{\LWR@getmynexttoken}%
8482 {\LWR@traceinfo{\LWR@getmynexttoken}}%
8483 % nothing must follow this next line
8484 \LWR@futurenonospacelet{\LWR@mynexttoken\LWR@tabledatacolumntag
8485 }
```

## 75.4 Tabular variables

In order to support nested tabulars, each of these is used locally. For local counters, etoolbox's \defcounter and l warp's new \defaddtocounter are used.

Bool LWR@startedrow True if should print a row tag before this column.

```
8486 \newbool{LWR@startedrow}
8487 \boolfalse{LWR@startedrow}
```

Bool LWR@tabularcelladded True if have added a data cell for this position.

```
8488 \newbool{LWR@tabularcelladded}
8489 \boolfalse{LWR@tabularcelladded}
```

Ctr LWR@hlines Number of \hlines or \midrules above the next row.

```
8490 \newcounter{LWR@hlines}
```

Ctr LWR@hdashedlines Number of arydshln dashed lines above the next row.

```
8491 \newcounter{LWR@hdashedlines}
```

Bool LWR@doingtbrule True if the next row will have a top/bottom rule above it.

```
8492 \newbool{LWR@doingtbrule}
8493 \boolfalse{LWR@doingtbrule}
```

Bool LWR@doingcmidrule True if the next row will have a cmidrule above it.

This is used by \LWR@tabularfinishrow to force a final empty row to create the border for the \cmidrule.

```
8494 \newbool{LWR@doingcmidrule}
8495 \boolfalse{LWR@doingcmidrule}
```

Bool LWR@tableparcell True if are handling a paragraph inside a table cell, so must close the paragraph tag before moving on.

```
8496 \newbool{LWR@tableparcell}
```

Bool LWR@skippingmrowcell True if are doing an empty \multirow cell, and thus there is no data tag to close.

```
8497 \newbool{LWR@skippingmrowcell}
```

Bool LWR@skippingmcolrowcell True if are doing an empty \multicolumn cell, and thus there is no data tag to close, and do not print @ and ! columns.

```
8498 \newbool{LWR@skippingmcolrowcell}
```

Bool LWR@usedmultirow Used to error if used \multirow or \multicolumn without using \mrowcell or \mcolrowcell.

```
8499 \newbool{LWR@usedmultirow}
```

Bool LWR@foundmrowcell Used to error if used \multirow or \multicolumn without using \mrowcell or \mcolrowcell.

```
8500 \newbool{LWR@foundmrowcell}
```

Bool LWR@skipatbang True if just finished a `\multicolumn` so should not create the trailing @ or ! columns table data cells.

```
8501 \newbool{LWR@skipatbang}
```

Bool LWR@emptyatbang True if finishing a row and should print empty @ or ! column table data cells.

```
8502 \newbool{LWR@emptyatbang}
```

Bool LWR@intabularmetadata True if are in a tabular but not in a data cell. Used to prevent extra HTML breaks if not inside table data.

```
8503 \newbool{LWR@intabularmetadata}
```

```
8504 \boolfalse{LWR@intabularmetadata}
```

Bool LWR@exittingtabular When `\end` is found, turns off the next opening data tag.

```
8505 \newbool{LWR@exittingtabular}
```

Bool LWR@tabularmutemods Mutes HTML output for @, !, < and >.

This is used while printing the final row to generate `\bottomrules`.

```
8506 \newbool{LWR@tabularmutemods}
```

Bool LWR@validtablecol True if found a valid table column type.

```
8507 \newbool{LWR@validtablecol}
```

Bool LWR@opttablecol True if found a table column optional argument.

```
8508 \newbool{LWR@opttablecol}
```

Used to add a style to a table data cell:

```
8509 \newbool{LWR@tdhavecellstyle}
```

Ctr LWR@tabularDepth Tracks whether & is being used inside a tabular.

```
8510 \newcounter{LWR@tabulardepth}
```

```
8511 \setcounter{LWR@tabulardepth}{0}
```

Ctr LWR@tabularpardepth Tracks whether should look ahead at the next token when encountering a `\par` while processing tabular contents.

When `LWR@tabularpardepth` is deeper than `LWR@tabulardepth` then `lwarp` has started looking at the contents of the tabular, and thus any `\pars` encountered must be followed by another token lookahead.

```
8512 \newcounter{LWR@tabularpardepth}
```

```
8513 \setcounter{LWR@tabularpardepth}{0}
```

```
8514 \newcommand*{\LWR@colsresult}{}%temp storage for column format results
8515 \newcommand*{\LWR@pposition}{}%
```

---

```
8516 \newcommand*\LWR@pleft(){}
8517 \newcommand*\LWR@pright{}{}
```

`LWR@tablecolspec` Holds the parsed column specification, of total width `LWR@tabletotalLaTeXcols`, not counting @ and ! columns.

Will contain a string such as `llrrccpc`, exactly one letter per `\TeX` table column, without @, !, >, <, or the vertical bar.

`\LWR@strresult` Holds the result of `Str` functions.

```
8518 \providecommand*\LWR@strresult{}{}
8519 \providecommand*\LWR@strresulttwo{}{}
```

`\LWR@origcolspec` Holds the original column specs given to `tabular`.

```
8520 \newcommand*\LWR@origcolspec{}{}
```

Ctr `LWR@tablecolspecwidth` Holds the number of tokens in the table columns specification.

This includes one for each @, !, <, > column, and also one for each of the parameters of p, @, !, <, > columns, and three for each D column.

(This is not the total # of `\TeX` columns in the table.)

```
8521 \newcounter{LWR@tablecolspecwidth}
```

Ctr `LWR@tablecolspecindex` While parsing the `\TeX` table column specification, starts at 1 and is incremented per token of the specification.

```
8522 \newcounter{LWR@tablecolspecindex}
```

Ctr `LWR@tableLaTeXcolindex` While producing the table, resets to 1 at the start of the table and also at each end of line, and is incremented by 1 by each ampersand.

```
8523 \newcounter{LWR@tableLaTeXcolindex}
```

Ctr `LWR@tabletotalLaTeXcols` While parsing a table column specification, begins at 0 and increments by 1 per `\TeX` table column. Eventually holds the final number of `\TeX` table columns in each row, not counting @ and ! columns. (In `HTML`, @ and ! cells become their own columns, but are not included in `LWR@tabletotalLaTeXcols`.)

```
8524 \newcounter{LWR@tabletotalLaTeXcols}
```

Ctr `LWR@tabletotalLaTeXcolsnext` Holds the next `\TeX` table column index while parsing, equal to one more than `LWR@tabletotalLaTeXcols`.

```
8525 \newcounter{LWR@tabletotalLaTeXcolsnext}
```

`LWR@colatspec` A data array of specifications for @ columns. The leftmost's index is `leftedge`, the others are counter values. See section 42.

|                        |                                                                                                                                              |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| LWR@colbangspec        | A data array of specifications for ! columns. The leftmost's index is <code>leftedge</code> , the others are counter values. See section 42. |
| LWR@colbeforespec      | A data array of specifications for > columns.                                                                                                |
| LWR@colafterspec       | A data array of specifications for < columns.                                                                                                |
| LWR@colbarspec         | A data array of specifications for vertical rules.                                                                                           |
| Ctr LWR@cellcolordepth | Counts how many cell color <code>&lt;div&gt;</code> s were added to the current tabular data cell.                                           |

8526 `\newcounter{LWR@cellcolordepth}`

#### 75.4.1 Multicolumn variables

8527 `\newcounter{LWR@tablemulticolwidth}`

Indexes into the multicolumn specification:

8528 `\newcounter{LWR@tablemulticolspos}`

Remembers multicolumn vertical rules if found in the column spec.

8529 `\newcounter{LWR@mcolvertbarsl}`  
 8530 `\newcounter{LWR@mcolvertbarsr}`  
 8531 `\newcounter{LWR@mcolvertbarsldash}`  
 8532 `\newcounter{LWR@mcolvertbarsrdash}`  
 8533 `\newbool{LWR@mcolvertbaronleft}`

#### 75.4.2 Longtable variables

|                           |                                                                                     |
|---------------------------|-------------------------------------------------------------------------------------|
| Bool LWR@starredlongtable | Per the <code>caption</code> package, step the counter if <code>longtable*</code> . |
|---------------------------|-------------------------------------------------------------------------------------|

8534 `\newbool{LWR@starredlongtable}`  
 8535 `\boolfalse{LWR@starredlongtable}`

#### 75.4.3 Midrule variables

|                        |                                                                                                     |
|------------------------|-----------------------------------------------------------------------------------------------------|
| Ctr LWR@midrulecounter | Indexes across the <code>LWR@midrules</code> and <code>LWR@trim&lt;l/r&gt;rules</code> data arrays. |
|------------------------|-----------------------------------------------------------------------------------------------------|

8536 `\newcounter{LWR@midrulecounter}`

### 75.5 Handling &, @, !, and bar

For technical discussion regarding problems redefining `\&`, See:

<http://tex.stackexchange.com/questions/11638/where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860>

`\LWR@instartatbangcols`

```

8537 \newcommand*{\LWR@insertatbangcols}{%
8538 \ifbool{LWR@skipatbang}%
8539 {}%
8540 {}%
8541 \LWR@printatbang{at}{\arabic{LWR@tableLaTeXcolindex}}%
8542 \LWR@printatbang{bang}{\arabic{LWR@tableLaTeXcolindex}}%
8543 {}%
8544 }

```

\LWR@closetabledatacell If LWR@skippingmrowcell or LWR@skippingmcolrowcell then there is no data tag to close. Otherwise, close any paragraphs, then close the data tag.

```

8545 \newcommand*{\LWR@closetabledatacell}{%
8546 \booltrue{LWR@intabularmetadata}%
8547 \ifbool{LWR@exittingtabular}%
8548 {}%
8549 \LWR@stoppars%
8550 }%
8551 {}% not exiting tabular
8552 \ifboolexpr{bool{LWR@skippingmrowcell} or bool{LWR@skippingmcolrowcell}}%
8553 {}%
8554 \LWR@stoppars%

```

If not skipping a \multicolumnrow cell, insert the @ and ! columns after this non-existent column.

```

8555 \ifbool{LWR@skippingmcolrowcell}%
8556 {}%
8557 {\LWR@insertatbangcols}%
8558 }%
8559 {}% not skippingmrowcell

```

Insert any < then any @ and ! column contents, unless muted for the \bottomrule or a \multicolumn:

```

8560 \unskip%
8561 \ifboolexpr{%
8562 bool{LWR@tabularmutemods} or
8563 bool{LWR@skipatbang} or
8564 bool{LWR@emptyatbang}%
8565 }%
8566 {}%
8567 {}%
8568 \LWR@getexparray{LWR@colafterspec}%
8569 {\arabic{LWR@tableLaTeXcolindex}}%
8570 }%

```

Close paragraphs:

```

8571 \LWR@stoppars%
8572 \boolfalse{LWR@tableparcell}%

```

Close the table data cell.

Close any color <div>s.

```
8573 \whileboolexpr{test {\ifnumcomp{\value{LWR@cellcolordepth}}{>}{0}}}{{%
8574 \LWR@htmlltag{/div}\LWR@orignewline%
8575 \defaddtocounter{LWR@cellcolordepth}{-1}%
8576 }}%
```

Skip the @ and ! cells if are closing a multicolumn cell.

```
8577 \leavevmode\unskip\LWR@htmlltag{/td}\LWR@orignewline%
8578 \global\booltrue{LWR@tabularcelladded}%
8579 \LWR@insertatbangcols%
8580 }% not skipping mrowcell
8581 }% not exiting tabular
8582 \boolfalse{LWR@skippingmrowcell}%
8583 \boolfalse{LWR@skippingmcolrowcell}%
8584 \boolfalse{LWR@skipatbang}%
```

Color control. Column is set by >{} for each cell, so it must be cleared here.

```
8585 \def\LWR@cellHTMLcolor{}%
8586 \def\LWR@columnHTMLcolor{}%
8587 \defcounter{LWR@cellcolordepth}{0}%
8588 }
```

When not used inside a `tabular`, & performs its original function as recorded here ( with catcode 4 ).

```
8589 \let\LWR@origampmacro&
8590 \end{warpHTML}
```

### 75.5.1 Handling &

**for HTML output:** 8591 `\begin{warpHTML}`

& Will behave depending on whether it is being used inside `tabular`.

& is redefined to test whether it is inside a tabular environment, in which case it performs special processing for HTML conversion. If not, it behaves normally.

```
8592 \newcommand*{\LWR@tabularampersand}{%
8593 \LWR@traceinfo{LWR@tabularampersand}%
8594 \ifnumcomp{\value{LWR@tabulardepth}}{>}{0}%
8595 {%
```

If not skipping a multirow cell, close the current data cell.

```
8596 \unskip%
8597 \LWR@closetabledatacell%
```

Move to the next column.

```
8598 \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
8599 \global\boolfalse{LWR@tabularcelladded}%
```

Look at the next token to decide multi or single column data tag.

```
8600 \LWR@getmynexttoken%
8601 }%
```

If not inside a tabular, performs the original action:

```
8602 {%
8603 \LWR@origampmacro%
8604 }
8605 }
```

& is left with its original catcode for now.

`tikz` package seems to require & be left alone until after `tikz` has been loaded. Also, `cleveref` uses the ampersand in one of its options.

& is made active inside a `tabular`.

& is left alone when in math alignments.

### 75.5.2 Filling an unfinished row

`\LWR@tabularfinishrow` Adds empty table cells if necessary to finish the row.

At the end of the table, if any bottom rules are requested then an empty row must be generated to form the borders which show the rules.

```
8606 \newcommand*\LWR@tabularfinishrow{}%
```

If not exiting the `tabular`, or doing a rule, or have already started a row, finish this row:

```
8607 \ifboolexpr{%
8608 not bool{LWR@exittingtabular} or%
8609 bool{LWR@doingtbrule} or%
8610 bool{LWR@doingcmidrule} or%
8611 test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
8612 test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
8613 bool{LWR@startedrow}%
8614 }{%
```

To temporarily turn off `LWR@exittingtabular` so that table data tags will still be generated:

If generating a final row for the `\bottomrule` borders, turn off the @, !, <, and > column output:

```

8615 \ifbool{LWR@exittingtabular}{%
8616 \booltrue{LWR@tabularmutemods}%
8617 }{%
8618 \boolfalse{LWR@tabularmutemods}%
8619 }%

```

Locally reenable the table data tags until finished with the final row:

```
8620 \boolfalse{LWR@exittingtabular}%
```

Generate table data tags and ampersands until the right edge:

```

8621 \whileboolexpr{%
8622 test {
8623 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8624 {\value{LWR@tabletotalLaTeXcols}}
8625 } or %
8626 (%
8627 \bool{LWR@intabularmetadata} and%
8628 not \bool{LWR@tabularcelladded} and%
8629 test {
8630 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}
8631 {\value{LWR@tabletotalLaTeXcols}}
8632 }%
8633)%
8634 }%
8635 {%
8636 \LWR@tabledatasinglecolumntag%

```

The following is essentially `\LWR@tabularampersand` with `\LWR@emptyatbang` added to empty the following cells:

```

8637 \LWR@closetabledatacell%
8638 \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
8639 \global\boolfalse{LWR@tabularcelladded}%
8640 \booltrue{LWR@emptyatbang}%

```

Starts the next cell:

```

8641 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8642 {\value{LWR@tabletotalLaTeXcols}}%
8643 {\LWR@getmynexttoken}%
8644 {}%
8645 }%

```

Reenable the original `\LWR@exittingtabular` to close the entire table:

```

8646 \ifbool{LWR@tabularmutemods}{%
8647 \booltrue{LWR@exittingtabular}%
8648 }{%
8649 \boolfalse{LWR@exittingtabular}%
8650 }%
8651 \boolfalse{LWR@tabularmutemods}%

8652 \boolfalse{LWR@emptyatbang}%

```

```
8653 }{}% ifboolexpr
8654 }
```

## 75.6 Handling \\

Inside tabular, \\ is redefined to \LWR@tabularendofline

Throws away options \\[dim] or \\\*

\LWR@tabularendofline

```
8655 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%
```

Finish the row:

```
8656 \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{<}
8657 {\value{\LWR@tabletotalLaTeXcols}}%
8658 {\LWR@tabularfinishrow}%
8659 {\LWR@closetabledatacell}%
8660 \LWR@htmltag{/tr}\LWR@orignewline%
```

**xcolor** row color support:

```
8661 \@rowc@lors%
```

No longer inside a data cell:

```
8662 \booltrue{\LWR@intabularmetadata}%
```

Not yet started a table row:

```
8663 \boolfalse{\LWR@startedrow}%
```

Additional setup:

```
8664 \defcounter{\LWR@hlines}{0}%
8665 \defcounter{\LWR@hdashedlines}{0}%
8666 \boolfalse{\LWR@doingbrule}%
8667 \boolfalse{\LWR@doingcmidrule}%
8668 \LWR@clearmidrules%
```

```
8669 \def\LWR@rowHTMLcolor{}
```

Start at first column:

```
8670 \defcounter{\LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
8671 \global\boolfalse{\LWR@tabularcelladded}%
```

Allow TeX to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```
8672 \LWR@stopars%
8673 \LWR@origpar%
```

Look at the next token to decide between single column data tag or a special case:

```
8674 \LWR@getmynexttoken%
8675 }
```

## 75.7 Looking ahead in the column specifications

```
\LWR@columnspeclookahead {<offset>}
```

Looks offset tokens ahead in the column specification, setting \LWR@strresulttwo.

The w column alignment will be seen as a single unit such as {c}.

```
8676 \newcommand*{\LWR@columnspeclookahead}[1]{%
8677 \setcounter{\LWR@tempcountone}{\value{\LWR@tablecolspeccindex}}%
8678 \addtocounter{\LWR@tempcountone}{#1}%
8679 \fullexpandarg%
8680 \StrChar{\LWR@origcolspec}{\arabic{\LWR@tempcountone}}[\LWR@strresulttwo]%
```

Get the contents of the first group in \LWR@strresulttwo:

```
8681 \exploregroups%
8682 \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
8683 \noexploregroups%
8684 }
```

## 75.8 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```
8685 \newcommand*{\LWR@colparameter}{}%
```

\LWR@parseatcolumn Handles @{text} columns.

```
8686 \newcommand*{\LWR@parseatcolumn}{}%
```

Move to the next token after the '@':

```
8687 \LWR@traceinfo{at column}%
8688 \defaddtocounter{\LWR@tablecolspeccindex}{1}%
```

Read the next token into \LWR@colparameter, expanding once:

```
8689 \LWR@traceinfo{about to read the next token:}%
```

```

8690 \expandarg%
8691 \StrChar{\LWR@origcolspect}%
8692 {\arabic{\LWR@tablecolspectindex}}[\LWR@colparameter]%
8693 \fullexpandarg%

```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

8694 \LWR@traceinfo{have now read the next token}%
8695 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8696 {% left edge of the table:
8697 \LWR@traceinfo{at the left edge}%
8698 \LWR@setexparray{\LWR@colatspec}%
8699 {leftedge}%
8700 {\expandafter\@firstofone\LWR@colparameter}%
8701 \LWR@traceinfo{at the left edge: % %
8702 \LWR@getexparray{\LWR@colatspec}{leftedge}}%
8703 }%
8704 {% not at the left edge:
8705 \LWR@traceinfo{not at the left edge}%
8706 \LWR@setexparray{\LWR@colatspec}%
8707 {\arabic{\LWR@tabletotalLaTeXcols}}%
8708 {\expandafter\@firstofone\LWR@colparameter}%
8709 \LWR@traceinfo{at \arabic{\LWR@tabletotalLaTeXcols}}%
8710 : % space
8711 \LWR@getexparray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcols}}%
8712 }%
8713 \let\LWR@colparameter\relax%
8714 \booltrue{\LWR@validtablecol}%
8715 }

```

\LWR@parsebangcolumn Handles !{text} columns.

```
8716 \newcommand*{\LWR@parsebangcolumn}{%
```

Move to the next token after the '!':

```

8717 \LWR@traceinfo{bang column}%
8718 \defaddtocounter{\LWR@tablecolspectindex}{1}%

```

Read the next token into \LWR@colparameter, expanding once:

```

8719 \LWR@traceinfo{about to read the next token:}%
8720 \expandarg%
8721 \StrChar{\LWR@origcolspect}%
8722 {\arabic{\LWR@tablecolspectindex}}[\LWR@colparameter]%
8723 \fullexpandarg%

```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

8724 \LWR@traceinfo{have now read the next token}%
8725 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8726 {% left edge of the table:
8727 \LWR@traceinfo{at the left edge}%
8728 \LWR@setexparray{\LWR@colbangspec}%

```

```

8729 {leftedge}%
8730 {\expandafter\@firstofone\LWR@colparameter}%
8731 }%
8732 {%
8733 {%
8734 {\% not at the left edge:%
8735 \LWR@traceinfo{not at the left edge}%
8736 \LWR@resetexarray{\LWR@colbangspec}%
8737 {\arabic{\LWR@tabletotalLaTeXcols}}%
8738 {\expandafter\@firstofone\LWR@colparameter}%
8739 \LWR@traceinfo{bang \arabic{\LWR@tabletotalLaTeXcols}: \LWR@colparameter!}%
8740 }%
8741 \let\LWR@colparameter\relax%
8742 \booltrue{\LWR@validtablecol}%
8743 }

```

\LWR@parsebeforecolumn Handles >{text} columns.

```
8742 \newcommand*{\LWR@parsebeforecolumn}{%
```

Move to the next token after the '>':

```
8743 \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```

8744 \expandarg%
8745 \StrChar{\LWR@origcolspect}%
8746 {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
8747 \fullexpandarg%

```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

8748 \LWR@setexarray{\LWR@colbeforespec}%
8749 {\arabic{\LWR@tabletotalLaTeXcolsnext}}%
8750 {\expandafter\@firstofone\LWR@colparameter}%
8751 \let\LWR@colparameter\relax%
8752 \booltrue{\LWR@validtablecol}%
8753 }

```

\LWR@parseaftercolumn Handles <{text} columns.

```
8754 \newcommand*{\LWR@parseaftercolumn}{%
```

Move to the next token after the '<':

```
8755 \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```

8756 \expandarg%
8757 \StrChar{\LWR@origcolspect}%
8758 {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
8759 \fullexpandarg%

```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

8760 \LWR@setexpparray{\LWR@col afterspec}%
8761 {\arabic{\LWR@tabletotalLaTeXcols}}%
8762 {\expandafter\@firstofone\LWR@colparameter}%
8763 \let\LWR@colparameter\relax%
8764 \booltrue{\LWR@validtablecol}%
8765 }
```

`\LWR@parsebarcolumn` Handles vertical rules.

```

8766 \newcommand*{\LWR@parsebarcolumn}{%
8767 \LWR@traceinfo{\LWR@parsebarcolumn}%
```

Remember the bar at this position:

```

8768 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8769 {% left edge of the table:
8770 \edef\LWR@tempone{\LWR@getexpparray{\LWR@colbarspec}{leftedge}}%
8771 \ifdefstring{\LWR@tempone}{tvertbarl}%
8772 {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarldouble}}%
8773 {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarl}}%
8774 }%
8775 {% not at the left edge:
8776 \edef\LWR@tempone{%
8777 \LWR@getexpparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcols}}%
8778 }%
8779 \ifdefstring{\LWR@tempone}{tvertbarr}%
8780 {%
8781 \LWR@setexpparray{\LWR@colbarspec}{%
8782 \arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdouble}}%
8783 {%
8784 {%
8785 \LWR@setexpparray{\LWR@colbarspec}{%
8786 \arabic{\LWR@tabletotalLaTeXcols}}{tvertbarr}}%
8787 }%
8788 }%
8789 \booltrue{\LWR@validtablecol}%
8790 }
```

`\LWR@parsecoloncolumn` Handles vertical rules.

```

8791 \newcommand*{\LWR@parsecoloncolumn}{%
8792 \LWR@traceinfo{\LWR@parsecoloncolumn}%
```

Remember the bar at this position:

```

8793 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8794 {% left edge of the table:
8795 \edef\LWR@tempone{\LWR@getexpparray{\LWR@colbarspec}{leftedge}}%
8796 \ifdefstring{\LWR@tempone}{tvertbarldash}%
8797 {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
8798 {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarldash}}%
```

```

8799 }%
8800 {%
8801 \edef\LWR@tempone{%
8802 \LWR@getexparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcols}}%
8803 }%
8804 \ifdefstring{\LWR@tempone}{tvertbarrdash}%
8805 {\LWR@setexparray{\LWR@colbarspec}{%
8806 {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%
8807 }%
8808 {\LWR@setexparray{\LWR@colbarspec}{%
8809 {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdash}}%
8810 }%
8811 }%
8812 \booltrue{\LWR@validtablecol}%
8813 }

```

\LWR@parsesemicoloncolumn      Handles vertical rules.

```
8812 \newcommand*{\LWR@parsesemicoloncolumn}{%
```

Treat ; as a : column:

```
8813 \LWR@parsecoloncolumn%
```

Skip the following width token:

```

8814 \defaddtocounter{\LWR@tablecolsindex}{1}%
8815 }
```

## 75.9 Parsing ‘l’, ‘c’, or ‘r’ columns

\LWR@parsonormalcolumn       $\{\langle thiscolumn \rangle\}$

Add to the accumulated column specs, advance counters, and pre-clear another column of at, before, and after specs.

```

8816 \newcommand*{\LWR@parsonormalcolumn}[1]{%
8817 \defaddtocounter{\LWR@tabletotalLaTeXcols}{1}%
8818 \defaddtocounter{\LWR@tabletotalLaTeXcolsnext}{1}%
8819 \LWR@setexparray{\LWR@tablecolspec}{\arabic{\LWR@tabletotalLaTeXcols}}{\#1}%
8820 \LWR@traceinfo{normal column \arabic{\LWR@tabletotalLaTeXcols}: #1}%
8821 \LWR@setexparray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8822 \LWR@setexparray{\LWR@colbangspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8823 \LWR@setexparray{\LWR@colbeforespec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8824 \LWR@setexparray{\LWR@colafterspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8825 \LWR@setexparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8826 \booltrue{\LWR@validtablecol}%
8827 }
```

## 75.10 Parsing ‘p’, ‘m’, or ‘b’ columns

`\LWR@parsepcolumn {<thiscolumn>}` The width will be ignored.

```
8828 \newcommand*{\LWR@parsepcolumn}[1]{%
```

Converts to the given column type:

```
8829 \LWR@parseenormalcolumn{#1}%
```

Skips the following width token:

```
8830 \defaddtocounter{\LWR@tablecolspectindex}{1}%
8831 }
```

## 75.11 Parsing ‘w’ columns

`\LWR@parsewcolumn` The width will be ignored.

```
8832 \newcommand*{\LWR@parsewcolumn}{%
```

```
8833 \LWR@columnspeclookahead{1}%
8834 \expandafter\parseenormalcolumn\expandafter{\LWR@strresulttwo}%
```

Skips the following width and alignment tokens:

```
8835 \defaddtocounter{\LWR@tablecolspectindex}{2}%
8836 }
```

## 75.12 Parsing ‘\*’ columns

`\LWR@parsestarcolumn` Star columns should already have been expanded, so this should never be used.

```
8837 \newcommand*{\LWR@parsestarcolumn}{%
8838 \defaddtocounter{\LWR@tablecolspectindex}{2}%
8839 }
```

## 75.13 Parsing ‘D’ columns

From the `dcolumn` package.

`\LWR@parseDcolumn {<thiscolumn>}` The three parameters will be ignored.

```
8840 \newcommand*{\LWR@parseDcolumn}[1]{%
```

Converts to the given column type.

```
8841 \LWR@parseenormalcolumn{#1}%
```

Skips the following three parameters.

```
8842 \defaddtocounter{\LWR@tablecolsindex}{3}%
8843 }
```

## 75.14 Expanding the star column specifications

Ctr `\LWR@starcount` Internal count for duplicating star columns.

```
8844 \newcount\LWR@starcount
```

`\LWR@expcolspec` Temporary storage used to build the expanded column specifier.

```
8845 \newcommand*{\LWR@expcolspec}{}%
```

Ctr `\LWR@splitstarindex` Indexes into the column specifiers.

```
8846 \newcounter{\LWR@splitstarindex}
```

Ctr `\LWR@splitstarcopies` Number of copies.

```
8847 \newcounter{\LWR@splitstarcopies}
```

`\LWR@splitstarcontents` Contents to duplicate.

```
8848 \newcommand*{\LWR@splitstarcontents}{}%
```

`\expandcolspect` Expands `\LWR@origcolspect` for star columns.

```
8849 \newcommand*{\expandcolspect}{%
```

Find the position of any star token.

```
8850 \StrPosition{\LWR@origcolspect}{*}[\LWR@tempone]%
```

Expand until no stars are found:

```
8851 \whileboolexpr{ test {\ifnumgreater{\LWR@tempone}{0}}}%
8852 {%
```

Begin with any characters to the left of the star.

```
8853 \setcounter{\LWR@splitstarindex}{\LWR@tempone}%
8854 \addtocounter{\LWR@splitstarindex}{-1}%
8855 \StrLeft{\LWR@origcolspect}{\value{\LWR@splitstarindex}}[\LWR@expcolspect]%
```

Move past the star to remember its number of copies.

```
8856 \addtocounter{\LWR@splitstarindex}{2}%
8857 \StrChar{\LWR@origcolspect}{\value{\LWR@splitstarindex}}[\LWR@tempone]%
8858 \setcounter{\LWR@splitstarcopies}{\expandafter\@firstofone\LWR@tempone}%
```

Move past the number of copies and remember the contents.

```
8859 \addtocounter{\LWR@splitstarindex}{1}%
8860 \StrChar{\LWR@origcolspec}{\value{\LWR@splitstarindex}}[\LWR@splitstarcontents]%
```

For each copy, append the contents.

```
8861 \ifnumgreater{\value{\LWR@splitstarcopies}}{0}%
8862 {%
8863 \LWR@starcount=\value{\LWR@splitstarcopies}%
8864 \loop
8865 \appto{\LWR@expcolspec}{%
```

(Remove the enclosing braces.)

```
8866 \expandafter\@firstofone\LWR@splitstarcontents%
8867 }%
8868 \advance \LWR@starcount -1
8869 \ifnum \LWR@starcount>0 \repeat
8870 }{}%
```

Remove any token to the left, and append the rightmost remaining tokens.

```
8871 \StrGobbleLeft{\LWR@origcolspec}{\value{\LWR@splitstarindex}}[\colspecremainder]%
8872 \appto{\LWR@expcolspec}{\colspecremainder}%
```

Remember the final result.

```
8873 \edef{\LWR@origcolspec}{\LWR@expcolspec}%
```

See if more stars exist.

```
8874 \StrPosition{\LWR@origcolspec}{*}[\LWR@tempone]%
8875 }%
8876 }
```

## 75.15 Parsing the column specifications

### ⚠ tabular baselines

HTML CSS cannot exactly match the L<sup>A</sup>T<sub>E</sub>X concept of a baseline for a table row. Table 12 shows the L<sup>A</sup>T<sub>E</sub>X results for various vertical-alignment choices, with the baseline of the first column drawn across all the columns for comparison. See the p column specification in table 13 for details.

Table 13 describes how each kind of column is converted to HTML.

```
\LWR@parsetablecols {\<colspecs>}
```

Scans the column specification left to right.

Builds \LWR@tablecolspec with the final specification, one L<sup>A</sup>T<sub>E</sub>X column per entry. The final number of L<sup>A</sup>T<sub>E</sub>X columns in each row is stored in \LWR@tabletotalLaTeXcols, which

Table 12: Tabular baseline

| l | p   | m   | b   | r |
|---|-----|-----|-----|---|
|   |     |     | bot |   |
|   |     | mid | bot |   |
| l | par | mid | bot | r |
|   | par | mid |     |   |
|   | par |     |     |   |

Table 13: Tabular HTML column conversions

- 
- l, r, c:** Converted to table cells without paragraph tags.  
Uses css vertical-align:middle so that top or bottom-aligned cells may go above or below this cell.
- p:** Converted to table cells with paragraph tags. Ref: Table 12, L<sup>A</sup>T<sub>E</sub>X places the top line of a parbox aligned with the rest of the text line, so css vertical-align:bottom is used to have the HTML result appear with the paragraph extending below the L, R, C cells at the middle, if possible. This may be confusing as a P cell may not top-align with an L,R,C cell in the HTML conversion, especially in the presence of a B cell, and two P cells side-by-side will be aligned at the bottom instead of the top. Some adjustment of the css may be desired, changing td.tdp, td.tdP, td.tdprule, and td.tdPrule to vertical-align: middle. Another possibility is to change L,R,C, and P to vertical-align: top and not worry about the alignment of B and M cells or trying to approximate L<sup>A</sup>T<sub>E</sub>X baselines.
- m:** With paragraph tags, css vertical-align:middle.
- b:** With paragraph tags, css vertical-align:top so that the bottom of the text is closest to the middle of the text line.
- P, M, B:** Horizontally-centered versions.
- S:** Converted to 'r'. Ignores optional argument. From the **siunitx** package.
- D:** Converted to 'c'. From the **dcolumn** package.
- @, !, >, <:** One each, in that order.
- |:** Vertical rule.
- Unknown:** Converted to 'l'.
- \newcolumn:** Currently treated as unknown.
-

is the number of & and \\ in each line, but which does not include @, !, <, > specifications in the count.

```
8877 \newcommand*{\LWR@parsetablecols}[1]{%
8878 \LWR@traceinfo{\LWR@parsetablecols}%
}
```

Remember the original supplied column spec:

```
8879 \renewcommand*{\LWR@origcolspec}{#1}%

```

Remove spaces:

```
8880 \expandarg%
8881 \StrSubstitute{\LWR@origcolspec}{ }{}[\LWR@origcolspec]%
```

Expand any star columns:

```
8882 \expandcolspec%
```

The parsed column spec data array, `LWR@tablecolspec`, will be overwritten with new values.

Total number of columns found so far. Also pre-initialize the first several columns of specs:

```
8883 \defcounter{LWR@tabletotalLaTeXcols}{0}%
8884 \defcounter{LWR@tabletotalLaTeXcolsnext}{1}%
8885 \LWR@setexpparray{\LWR@colatspec}{leftedge}{}%
8886 \LWR@setexpparray{\LWR@colatspec}{1}{}%
8887 \LWR@setexpparray{\LWR@colatspec}{2}{}%
8888 \LWR@setexpparray{\LWR@colatspec}{3}{}%
8889 \LWR@setexpparray{\LWR@colbangspec}{leftedge}{}%
8890 \LWR@setexpparray{\LWR@colbangspec}{1}{}%
8891 \LWR@setexpparray{\LWR@colbangspec}{2}{}%
8892 \LWR@setexpparray{\LWR@colbangspec}{3}{}%
8893 \LWR@setexpparray{\LWR@colbeforespec}{1}{}%
8894 \LWR@setexpparray{\LWR@colbeforespec}{2}{}%
8895 \LWR@setexpparray{\LWR@colbeforespec}{3}{}%
8896 \LWR@setexpparray{\LWR@colafterspec}{1}{}%
8897 \LWR@setexpparray{\LWR@colafterspec}{2}{}%
8898 \LWR@setexpparray{\LWR@colafterspec}{3}{}%
8899 \LWR@setexpparray{\LWR@colbarspec}{leftedge}{}%
8900 \LWR@setexpparray{\LWR@colbarspec}{1}{}%
8901 \LWR@setexpparray{\LWR@colbarspec}{2}{}%
8902 \LWR@setexpparray{\LWR@colbarspec}{3}{}%
```

Starting at the first column specification:

```
8903 \defcounter{LWR@tablecolspecindex}{1}%

```

Place the colspecs string length into `\LWR@strresult`, and remember the number of characters in the column specification:

```
8904 \expandarg%
8905 \StrLen{\LWR@origcolspec}[\LWR@strresult]%
```

```

8906 \fullexpandarg%
8907 \LWR@traceinfo{original column spec length: \LWR@strresult}%
8908 \defcounter{LWR@tablecolspeccwidth}{\LWR@strresult}%

```

Haven't seen any optional arguments so far

```
8909 \boolfalse{LWR@opttablecol}%
```

Scan through the column specifications:

```

8910 \whileboolexpr{%
8911 not test{%
8912 \ifnumcomp{\value{LWR@tablecolspeccindex}}{>}{%
8913 {\value{LWR@tablecolspeccwidth}}%}
8914 }%
8915 }%
8916 {%

```

Place the next single-character column type into \LWR@strresult:

```

8917 \expandarg%
8918 \StrChar{\LWR@origcolspec}{\arabic{LWR@tablecolspeccindex}}[\LWR@strresult]%
8919 \LWR@traceinfo{position \arabic{LWR@tablecolspeccindex}: \LWR@strresult}%
8920 \fullexpandarg%

```

Not yet found a valid column type:

```
8921 \boolfalse{LWR@validtablecol}%
```

Skip over any optional arguments, such as **siunitx S** column:

```
8922 \IfStrEq{\LWR@strresult}{}{\booltrue{LWR@opttablecol}}{}
```

Throw away anything found inside the optional argument:

```

8923 \ifbool{LWR@opttablecol}%
8924 {}% inside an optional argument
8925 {}% not an optional tabular argument

```

Not inside an optional argument, so consider the column type:

```

8926 \IfStrEq{\LWR@strresult}{l}{\LWR@parsenormalcolumn{l}}{%
8927 \IfStrEq{\LWR@strresult}{c}{\LWR@parsenormalcolumn{c}}{%
8928 \IfStrEq{\LWR@strresult}{r}{\LWR@parsenormalcolumn{r}}{%
8929 \IfStrEq{\LWR@strresult}{L}{\LWR@parsenormalcolumn{l}}{%
8930 \IfStrEq{\LWR@strresult}{C}{\LWR@parsenormalcolumn{c}}{%
8931 \IfStrEq{\LWR@strresult}{R}{\LWR@parsenormalcolumn{r}}{%
8932 \IfStrEq{\LWR@strresult}{J}{\LWR@parsenormalcolumn{l}}{%
8933 \IfStrEq{\LWR@strresult}{S}{\LWR@parsenormalcolumn{c}}{%
8934 \IfStrEq{\LWR@strresult}{s}{\LWR@parsenormalcolumn{c}}{%
8935 \IfStrEq{\LWR@strresult}{\detokenize{@}}{\LWR@parseatcolumn}{%
8936 \IfStrEq{\LWR@strresult}{!}{\LWR@parsebangcolumn}{%

```

---

```

8937 \IfStrEq{\LWR@strresult}{>}{\LWR@parsebeforecolumn}{ }%
8938 \IfStrEq{\LWR@strresult}{<}{\LWR@parseaftercolumn}{ }%
8939 \IfStrEq{\LWR@strresult}{|}{\LWR@parsebarcolumn}{ }%
8940 \IfStrEq{\LWR@strresult}{:}{\LWR@parsecoloncolumn}{ }%
8941 \IfStrEq{\LWR@strresult}{;}{\LWR@parsesemicoloncolumn}{ }%

8942 \IfStrEq{\LWR@strresult}{p}{\LWR@parsepcolumn{p}}{ }%
8943 \IfStrEq{\LWR@strresult}{m}{\LWR@parsepcolumn{m}}{ }%
8944 \IfStrEq{\LWR@strresult}{b}{\LWR@parsepcolumn{b}}{ }%

8945 \IfStrEq{\LWR@strresult}{w}{\LWR@parsewcolumn}{ }%
8946 \IfStrEq{\LWR@strresult}{W}{\LWR@parsewcolumn}{ }%

```

A star column:

```
8947 \IfStrEq{\LWR@strresult}{*}{\LWR@parsestarcolumn}{ }%
```

From the **dcolumn** package:

```
8948 \IfStrEq{\LWR@strresult}{D}{\LWR@parseDcolumn{c}}{ }%
```

From the **tabularx** package. X column has no parameter, but will be given paragraph tags.

```
8949 \IfStrEq{\LWR@strresult}{X}{\LWR@parsenormalcolumn{X}}{ }%
```

---

Many people define centered versions “P”, “M”, and “B”:

```
\newcolumntype{P}[1]{>{\centering\arraybackslash}p{#1}}
```

---

```

8950 \IfStrEq{\LWR@strresult}{P}{\LWR@parsepcolumn{P}}{ }%
8951 \IfStrEq{\LWR@strresult}{M}{\LWR@parsepcolumn{M}}{ }%
8952 \IfStrEq{\LWR@strresult}{B}{\LWR@parsepcolumn{B}}{ }%

```

If this column was an invalid column type, convert it to an l column:

```

8953 \ifbool{LWR@validtablecol}{ }{%
8954 \LWR@traceinfo{invalid column type: \LWR@strresult}{ }%
8955 \LWR@parsenormalcolumn{l}{ }%
8956 }{ }%
8957 % not an optional column argument

```

If read the closing bracket, no longer inside the optional argument:

```
8958 \IfStrEq{\LWR@strresult}{[]}{\boolfalse{LWR@opttablecol}}{ }%
```

Move to the next character:

```

8959 \defaddtocounter{LWR@tablecolsindex}{1}{ }%
8960 % whiledo
8961 }{ }%

```

## 75.16 `colortbl` and `xcolor` tabular color support

These macros provide a minimal emulation of some `colortbl` macros which might appear between table cells. If `colortbl` is loaded, these macros will be replaced with functional versions.

For each of the `HTML` colors below, the text for the `HTML` color is set if requested, but the macro is empty if none has been set.

`\rownum` Reserve a counter register.

```
8962 \@ifundefined{rownum}{\newcount\rownum}{}%
```

`\@rowcolors` Emulated in case `xcolor` is not used.

```
8963 \newcommand*{\@rowcolors}{}%
```

`\@rowc@lors` Emulated in case `xcolor` is not used.

```
8964 \newcommand*{\@rowc@lors}{}%
```

`\LWR@xcolorrowHTMLcolor` Emulated `xcolor` row color.

```
8965 \newcommand*{\LWR@xcolorrowHTMLcolor}{}%
```

`\LWR@columnHTMLcolor` `HTMLstyle` code for the column color.

```
8966 \def\LWR@columnHTMLcolor{}%
```

`\LWR@rowHTMLcolor` `HTMLstyle` code for the row color.

```
8967 \def\LWR@rowHTMLcolor{}%
```

`\LWR@cellHTMLcolor` `HTMLstyle` code for the cell color.

```
8968 \def\LWR@cellHTMLcolor{}%
```

`\LWR@ruleHTMLcolor` `HTMLstyle` code for the rule color.

```
8969 \newcommand*{\LWR@ruleHTMLcolor}{}%
```

`\rowcolor` [*<model>*] [*<color>*] [*<left overhang>*] [*<right overhang>*] Print version. The `HTML` version is in `lwarp-colortbl`. Used before starting a tabular data cell, thus `\LWR@getmynexttoken`.

```
8970 \newcommand*{\rowcolor}{\LWR@getmynexttoken}%
```

`\arrayrulecolor` [*<model>*] [*<color>*]

\arrayrulecolor{nexttoken} [⟨model⟩] {⟨color⟩}

Print versions for use outside and inside a tabular:

```
8971 \newcommand{\arrayrulecolor}[2][named]{}
8972 \newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}
```

\doublerulesepcolor [⟨model⟩] {⟨color⟩}

\doublerulesepcolornexttoken [⟨model⟩] {⟨color⟩}

Print versions for use inside and outside a tabular:

```
8973 \newcommand{\doublerulesepcolor}[2][named]{}
8974 \newcommand{\doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
```

## 75.17 Starting a new row

\LWR@maybenewtablerow If have not yet started a new table row, begin one now. Creates a new row tag, adding a class for `hline` or `tbrule` if necessary.

```
8975 \newcommand*{\LWR@maybenewtablerow}{%
8976 {%
8977 \ifbool{\LWR@startedrow}{%
8978 {}}% started the row
8979 {}}% not started the row
```

Remember that now have started the row:

8980 \booltrue{LWR@startedrow}%

Create the row tag, with a class if necessary

```
8981 \booltrue{\LWR@intabularmetadata}%
8982 \ifboolexpr{%
8983 test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}}\or%
8984 test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}}%
8985 }%
8986 {%
8987 \LWR@htmltag{tr class=\textquotedbl{}hline\textquotedbl }%
8988 \LWR@orignewline%
8989 }%
8990 {%
8991 \ifbool{\LWR@doingtbrule}{%
8992 \ifdefvoid{\LWR@ruleHTMLcolor}{%
8993 \LWR@htmltag{tr class=\textquotedbl{}tbrule\textquotedbl}%
8994 }{%
8995 \LWR@htmltag{%
8996 tr class=\textquotedbl{}tbrule\textquotedbl\ % space
8997 style=\textquotedbl{}border-top: 1px solid % space
8998 \LWR@origpound\LWR@ruleHTMLcolor \textquotedbl{}%
8999 }%
9000 }%
9001 }%
9002 }
```

```

9000 }%
9001 }%
9002 \LWR@orignewline%
9003 }%
9004 {\LWR@htmltag{tr}\LWR@orignewline}%
9005 }% end of not doing hline
9006 }% end of not started the row
9007 }

```

## 75.18 Printing vertical bar tags

```
\LWR@printbartag {<index>}
```

Adds to a tabular data cell an HTML class name for a left/right vertical bar.

```

9008 \newcommand*{\LWR@printbartag}[1]{%
9009 \LWR@traceinfo{\LWR@printbartag !#1!}%
9010 \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}{%
9011 {}% muting or empty
9012 \% not muting
9013 \edef\LWR@tempone{\LWR@getexpparray{\LWR@colbarspec}{#1}}%
9014 \ifdefempty{\LWR@tempone}{}{\LWR@tempone}%
9015 }% not muting
9016 \LWR@traceinfo{\LWR@printbartag done}%
9017 }

```

## 75.19 Printing @ or ! tags

```
\LWR@printatbang {<at-or-bang>} {<index>}
```

```
9018 \newcommand*{\LWR@printatbang}[2]{%
```

Fetch the column at or bang spec:

```

9019 \xdef\LWR@atbangspec{\LWR@getexpparray{\LWR@col#1spec}{#2}}%
9020 \LWR@traceinfo{atbang: #2 !\LWR@atbangspec!}%

```

Only generate if is not empty;

```

9021 \ifdefempty{\LWR@atbangspec}{%
9022 {}%
9023 \% not empty
9024 \LWR@htmltag{%
9025 td class=\textquotedbl{}td#1%
9026 \LWR@subaddcmidruletrim{}{}%
9027 \LWR@printbartag{#2}%
9028 \textquotedbl{}%
9029 \LWR@tdstartstyles%
9030 \LWR@addcmidrulewidth%
9031 \LWR@addcdashline%
9032 \LWR@addtabularrulecolors%
}

```

```
9033 \LWR@tdendstyles%
9034 }
```

Create an empty cell if muting for the \bottomrule:

```
9035 \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}%
9036 {}%
9037 {\LWR@atbangspec}%
9038 %
9039 \LWR@htmltag{/td}\LWR@orignewline%
9040 \global\booltrue{\LWR@tabularcelladded}%
9041 }% not empty
9042 }
```

\LWR@addleftmostbartag

```
9043 \newcommand*{\LWR@addleftmostbartag}{%
9044 \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{1}{%
9045 \LWR@printbartag{leftedge}%
9046 }{}%
9047 }
```

\LWR@tabularleftedge

```
9048 \newcommand*{\LWR@tabularleftedge}{%
9049 \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{1}{%
9050 {}%
9051 \LWR@printatbang{at}{leftedge}%
9052 \LWR@printatbang{bang}{leftedge}%
9053 }% left edge
9054 {}% not left edge
9055 }
```

## 75.20 Data opening tag

\LWR@thiscolspec Temporary storage.

```
9056 \newcommand*{\LWR@thiscolspec}{}%
```

\LWR@tabledatasinglecolumntag Print a table data opening tag with style for alignment and color.

```
9057 \newcommand*{\LWR@tabledatasinglecolumntag}{%
9058 {}%
9059 \LWR@traceinfo{\LWR@tabledatasinglecolumntag}%
9060 \LWR@maybenewtablerow%
```

Don't start a new paragraph tag if have already started one:

```
9061 \ifbool{\LWR@intabularmetadata}%
9062 {}%
```

If have found the end of tabular command, do not create the next data cell:

```
9063 \ifbool{LWR@exittingtabular}{}%
9064 {%
9065 \LWR@tabularleftedge%
```

Print the @ and ! contents before first column:

```
9065 \LWR@tabularleftedge%
```

Fetch the current column's alignment character into \LWR@strresult:

```
9066 \xdef\LWR@strresult{%
9067 \LWR@getexparray{LWR@tablecolspec}{\arabic{LWR@tableLaTeXcolindex}}%
9068 }%
```

Print the start of a new table data cell:

```
9069 \LWR@traceinfo{LWR@tabledatasinglecolumntag: about to print td tag}%
9070 \LWR@htmltag{%
9071 td class=\textquotedbl{}td\textquotedbl{}}
```

Append this column's spec:

```
9072 \LWR@strresult%
```

If this column has a cmidrule, add “rule” to the end of the HTML class tag. Also add vertical bar tags.

```
9073 \LWR@addcmidruletrim{%
9074 \LWR@addleftmostbartag{%
9075 \LWR@printbartag{\arabic{LWR@tableLaTeXcolindex}}%
9076 \textquotedbl{}%
9077 }%
```

Add styles for rules, alignment:

```
9077 \LWR@tdstartstyles%
9078 \LWR@addcmidrulewidth%
9079 \LWR@addcdashline%

9080 \xdef\LWR@thiscolspec{%
9081 \LWR@getexparray{LWR@tablecolspec}{%
9082 \arabic{LWR@tableLaTeXcolindex}}%
9083 }%
9084 \LWR@addformatwpaignment{\LWR@thiscolspec}%
```

Add styles for cell and rule colors:

```
9085 \LWR@addtabulararrowcolor%
9086 \LWR@addtabularrulecolors%

9087 \LWR@tdendstyles%
9088 }% HTML td
9089 \LWR@traceinfo{LWR@tabledatasinglecolumntag: done printing td tag}%
```

If this is a p, m, b, or X column, allow paragraphs:

```

9090 \ifboolexpr{%
9091 test{ \ifdefstring{\LWR@strresult}{p} } or
9092 test{ \ifdefstring{\LWR@strresult}{m} } or
9093 test{ \ifdefstring{\LWR@strresult}{b} } or
9094 test{ \ifdefstring{\LWR@strresult}{P} } or
9095 test{ \ifdefstring{\LWR@strresult}{M} } or
9096 test{ \ifdefstring{\LWR@strresult}{B} } or
9097 test{ \ifdefstring{\LWR@strresult}{X} }%
9098 }%
9099 {% allow pars
9100 \LWR@traceinfo{\LWR@tabledatasinglecolumntag: about to \LWR@startpars}%
9101 \booltrue{\LWR@tableparcell}%
9102 \LWR@startpars%
9103 \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done with \LWR@startpars}%
9104 }% allow pars
9105 {}% no pars

```

Print the > contents unless muted for the \bottomrule:

```

9106 \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}{%
9107 {}%
9108 {}%
9109 \LWR@getexpparray{\LWR@colbeforespec}{\arabic{\LWR@tableLaTeXcolindex}}%
9110 }%
9111 \boolfalse{\LWR@intabularmetadata}%
9112 }% not exiting tabular
9113 }{}% in tabular metadata
9114 \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done}%
9115 }%

```

## 75.21 Midrules

**LWR@midrules** LWR@midrules is a data array (section 42) of columns each containing a non-zero width if a midrule should be created for this column.

**LWR@trimlrules** LWR@trimlrules is a data array (section 42) of columns containing l if a midrule should be left trimmed for each column.

**LWR@trimrrules** LWR@trimrrules is a data array (section 42) of columns containing r if a midrule should be right trimmed for each column.

**LWR@cdashlines** LWR@cdashlines is a data array (section 42) of columns each containing a Y if an `arydshln` package "cdashed line" should be created for this column.

**Len \LWR@heavyrulewidth** The default width of the rule.

```

9116 \newlength{\LWR@heavyrulewidth}
9117 \setlength{\LWR@heavyrulewidth}{.08em}

```

**Len \LWR@lightrulewidth** The default width of the rule.

```
9118 \newlength{\LWR@lightrulewidth}
```

```
9119 \setlength{\LWR@lightrulewidth}{.05em}
```

Len \LWR@cmidrulewidth The default width of the rule.

```
9120 \newlength{\LWR@cmidrulewidth}
9121 \setlength{\LWR@cmidrulewidth}{.03em}
```

Len \LWR@thiscmidrulewidth The width of the next rule, defaulting to \LWR@cmidrulewidth.

If not \LWR@cmidrulewidth, a style will be used to generate the custom width.

Assigned from the LWR@midrules array.

```
9122 \newlength{\LWR@thiscmidrulewidth}
9123 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}
```

\LWR@clearmidrules Start new midrules. Called at beginning of tabular and also at \\.

Clears all LWR@midrules and LWR@trimrules markers for this line.

```
9124 \newcommand*{\LWR@clearmidrules}{%
9125 {%
9126 \defcounter{LWR@midrulecounter}{1}%
9127 \whileboolexpr{%
9128 not test{%
9129 \ifnumcomp{\value{LWR@midrulecounter}}{>}{%
9130 {\value{LWR@tabletotalLaTeXcols}}%
9131 }%
9132 }%
9133 {%
9134 \LWR@setexpararray{LWR@midrules}{\arabic{LWR@midrulecounter}}{0pt}%
9135 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9136 \LWR@setexpararray{LWR@trimlrules}{\arabic{LWR@midrulecounter}}{}%
9137 \LWR@setexpararray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{}%
9138 \LWR@setexpararray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}%
9139 \defaddtocounter{LWR@midrulecounter}{1}%
9140 }%
9141 }}
```

\LWR@subcmidrule {\langle width\rangle} {\langle trim\rangle} {\langle leftcolumn\rangle} {\langle rightcolumn\rangle}

Marks LWR@midrules data array elements to be non-zero widths from left to right columns.  
Also marks trimming for the L and/or R columns.

LWR@doingcmidrule is set to force an empty row at the end of the tabular to create the rule.

```
9142 \newcommand*{\LWR@subcmidrule}[4]{%
9143 \defcounter{LWR@midrulecounter}{#3}%
9144 \whileboolexpr{%
9145 not test {%
9146 \ifnumcomp{\value{LWR@midrulecounter}}{>}{{#4}}{%
9147 }%
9148 }%
```

```

9149 {%
9150 \LWR@setexpararray{\LWR@midrules}{\arabic{\LWR@midrulecounter}}{#1}%
9151 \defaddtocounter{\LWR@midrulecounter}{1}%
9152 }% whiledo
9153 \IfSubStr{#2}{l}{\LWR@setexpararray{\LWR@trimlrules}{#3}{l}}{}%
9154 \IfSubStr{#2}{r}{\LWR@setexpararray{\LWR@trimrrules}{#4}{r}}{}%
9155 \booltrue{\LWR@doingcmidrule}%
9156 }

```

\LWR@docmidrule [*width*] (*trim*) {*leftcolumn-rightcolumn*}

Marks LWR@midrules array elements to be a non-zero width from left to right columns.  
Also marks trimming for the L and/or R columns.

```

9157 \NewDocumentCommand{\LWR@docmidrule}{%
9158 O{\LWR@cmidrulewidth} D(){} >{\SplitArgument{1}{-}m}%
9159 {\LWR@subcmidrule{#1}{#2}#3}

```

\LWR@subcdashline {*leftcolumn*} {*rightcolumn*}

Marks LWR@cdashlines data array elements to be Y from left to right columns.

LWR@doingcmidrule is set to force an empty row at the end of the tabular to create the rule.

```

9160 \newcommand*{\LWR@subcdashline}[2]{%
9161 \defcounter{\LWR@midrulecounter}{#1}%
9162 \whileboolexpr{%
9163 not test {%
9164 \ifnumcomp{\value{\LWR@midrulecounter}}{>}{#2}%
9165 }%
9166 }%
9167 {%
9168 \LWR@setexpararray{\LWR@cdashlines}{\arabic{\LWR@midrulecounter}}{Y}%
9169 \defaddtocounter{\LWR@midrulecounter}{1}%
9170 }% whiledo
9171 \booltrue{\LWR@doingcmidrule}%
9172 }

```

\LWR@docdashline {*leftcolumn-rightcolumn*}

Marks LWR@cdashlines data array elements to be Y from left to right columns.

```

9173 \NewDocumentCommand{\LWR@docdashline}{%
9174 >{\SplitArgument{1}{-}m}%
9175 {%
9176 \LWR@subcdashline#1%
9177 }

```

\LWR@tdstartstyles Begins possibly adding a table data cell style.

```

9178 \newcommand*{\LWR@tdstartstyles}{\boolfalse{\LWR@tdhavecellstyle}}

```

\LWR@tdaddstyle Starts adding a table data cell style.

```

9179 \newcommand*{\LWR@tdaddstyle}{%
9180 \ifbool{LWR@tdhavecellstyle}{%
9181 {; }%
9182 { style=\textquotedbl}%
9183 \booltrue{LWR@tdhavecellstyle}%
9184 }

```

\LWR@tdendstyles Finishes possibly adding a table data cell style. Prints the closing quote.

```

9185 \newcommand*{\LWR@tdendstyles}{%
9186 \ifbool{LWR@tdhavecellstyle}{%
9187 {%
9188 \textquotedbl%
9189 \boolfalse{LWR@tdhavecellstyle}%
9190 }{}%
9191 }

```

\LWR@subaddcmidruletrim {<lefttrim>} {<righttrim>} Adds a \cmidrule with optional trim.

```

9192 \newcommand*{\LWR@subaddcmidruletrim}[2]{%
9193 \setlength{\LWR@templengthone}{%
9194 \LWR@getexpparray{\LWR@midrules}{\arabic{\LWR@tableLaTeXcolindex}}%
9195 }%
9196 \ifdimcomp{\LWR@templengthone}{>}{0pt}%
9197 {%

```

Print the class with left and right trim letters appended:

```
9198 \LWR@origtilde tdrule#1#2%
```

Remember the width of the rule:

```

9199 \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}%
9200 }%
9201 {%
9202 \setlength{\LWR@thiscmidrulewidth}{0pt}%
9203 }%
9204 }

```

\LWR@addcmidruletrim Adds left or right trim to a \cmidrule.

```

9205 \newcommand*{\LWR@addcmidruletrim}{%
9206 \LWR@subaddcmidruletrim%
9207 {\LWR@getexpparray{\LWR@trimlrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9208 {\LWR@getexpparray{\LWR@trimrrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9209 }

```

\LWR@addrulewidth {<thiswidth>} {<defaultwidth>}

If not default width, add a custom style with width and color depending on thiswidth.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```
9210 \newcommand{\LWR@addrulewidth}[2]{%
```

Only add a custom width if `thiswidth` is different than the `defaultwidth`, or if a color is being used:

```
9211 \ifboolexpr{%
9212 test{\ifdimcomp{#1}{=}{0pt}} or
9213 (
9214 (test{\ifdimcomp{#1}{=}{#2}} and not bool{FormatWP})
9215 and (test {\ifdefvoid{\LWR@ruleHTMLcolor}})
9216)
9217 }%
9218 {}% default width and color
9219 {}% custom width and/or color
```

Ensure that the width is wide enough to display in the browser:

```
9220 \LWR@forceminwidth{#1}%
```

Begin adding another style:

```
9221 \LWR@tdaddstyle%
```

The style itself:

```
9222 border-top:\LWR@printlength{\LWR@atleastonept} solid % space
```

If default gray, the darkness of the color depends on the thickness of the rule:

```
9223 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9224 \ifdimcomp{#1}{<}{\LWR@lightrulewidth}{%
9225 {\LWR@origpound{}A0A0A0}%
9226 {% lightrule or heavier
9227 \ifdimcomp{#1}{<}{\LWR@heavyrulewidth}{%
9228 {\LWR@origpound{}808080}%
9229 {black}%
9230 }% lightrule or heavier
9231 }%
9232 \LWR@origpound\LWR@ruleHTMLcolor%
9233 }%
9234 }% custom width and/or color
9235 }
```

`\LWR@addcmidrulewidth` Adds a style for the rule width.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```
9236 \newcommand{\LWR@addcmidrulewidth}{%
9237 \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9238 }
```

\LWR@addcdashline Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

9239 \newcommand{\LWR@addcdashline}{%
9240 \edef\LWR@tempone{%
9241 \LWR@getexparray{\LWR@cdashlines}{\arabic{LWR@tableLaTeXcolindex}}%
9242 }%
9243 \ifdefstring{\LWR@tempone}{Y}{%
9244 \LWR@tdaddstyle%
9245 border-top: 1pt dashed %
9246 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9247 {black}%
9248 {\LWR@origpound\LWR@ruleHTMLcolor}%
9249 }{}%
9250 }%
9251 \newcommand*{\LWR@WPcell}[2]{%
9252 \LWR@tdaddstyle%
9253 \LWR@print@mbox{text-align:#1}; \LWR@print@mbox{vertical-align:#2}%
9254 }
```

\LWR@addformatwpalignment If FormatWP, adds a style for the alignment.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

9255 \newcommand*{\LWR@addformatwpalignment}[1]{%
9256 \ifbool{FormatWP}{%
9257 \IfSubStr{#1}{l}{\LWR@WPcell{left}{middle}}{}%
9258 \IfSubStr{#1}{c}{\LWR@WPcell{center}{middle}}{}%
9259 \IfSubStr{#1}{r}{\LWR@WPcell{right}{middle}}{}%
9260 \IfSubStr{#1}{p}{\LWR@WPcell{left}{bottom}}{}%
9261 \IfSubStr{#1}{m}{\LWR@WPcell{left}{middle}}{}%
9262 \IfSubStr{#1}{b}{\LWR@WPcell{left}{top}}{}%
9263 \IfSubStr{#1}{P}{\LWR@WPcell{center}{bottom}}{}%
9264 \IfSubStr{#1}{M}{\LWR@WPcell{center}{middle}}{}%
9265 \IfSubStr{#1}{B}{\LWR@WPcell{center}{top}}{}%
9266 }{}%
9267 }
```

## 75.22 Cell colors

\LWR@addtabularrowcolor Adds a cell's row color style, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

9268 \newcommand*{\LWR@addtabularrowcolor}{%
9269 \ifbool{LWR@tabularmutemods}{%{%
9270 \ifdefvoid{\LWR@rowHTMLcolor}{%
9271 \ifdefvoid{\LWR@xcolorarrowHTMLcolor}{%{%
9272 % xcolor row color
9273 \LWR@tdaddstyle%{%
```

```

9274 background:\LWR@origpound\LWR@xcolorrowHTMLcolor%
9275 }%
9276 }%
9277 {%
9278 explicit row color
9279 \LWR@tdaddstyle%
9280 background:\LWR@origpound\LWR@rowHTMLcolor%
9281 }%
9282 }%

```

\LWR@addtabularhrulecolor Adds a cell's horizontal rule color style, if needed.

```
9283 \newcommand*\LWR@addtabularhrulecolor{%
```

If either form of horizontal rule is requested:

```

9284 \ifboolexpr{%
9285 test{\ifnumcomp{\value{LWR@hlines}}>}{0} or%
9286 test{\ifnumcomp{\value{LWR@hdashedlines}}>}{0} or%
9287 bool{LWR@doingtbrule}%
9288 }{%

```

If there is a no custom color:

```

9289 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9290 }{%
9291 \ifnumcomp{\value{LWR@hlines}}>}{1}{%
9292 \LWR@tdaddstyle%
9293 border-top: 4px double%
9294 }{%
9295 \ifnumcomp{\value{LWR@hdashedlines}}>}{1}{%
9296 \LWR@tdaddstyle%
9297 border-top: 2px dashed%
9298 }{%
9299 \ifnumcomp{\value{LWR@hdashedlines}}=}{1}{%
9300 \LWR@tdaddstyle%
9301 border-top: 1px dashed%
9302 }{%
9303 }{%
9304 }{%
9305 }{%

```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```
9306 }{%

```

If there is a custom color:

```

9307 {%
9308 \ifnumcomp{\value{LWR@hlines}}>}{1}{%
9309 \LWR@tdaddstyle%
9310 border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
9311 }{%
9312 }{%

```

```

9313 \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9314 {%
9315 \LWR@tdaddstyle%
9316 border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9317 }{%
9318 \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9319 {%
9320 \LWR@tdaddstyle%
9321 border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9322 }{%
9323 \LWR@tdaddstyle%
9324 border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
9325 }{}}%
9326 }%
9327 }{}}%
9328 }

```

\LWR@addtabularrulecolors Adds a cell's rule color styles, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```
9329 \newcommand*{\LWR@addtabularrulecolors}{%
```

Custom horizontal rule color:

```
9330 \LWR@addtabularhrulecolor%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9331 \ifbool{\LWR@tabularmutemods}{ }{%
```

If at the leftmost cell, possibly add a leftmost vertical rule:

```
9332 \ifnumequal{\value{LWR@tableTeXcolindex}}{1}{%
```

Fetch the left edge's vertical bar specification:

```
9333 \edef\LWR@tempone{\LWR@getexpparray{\LWR@colbarspec}{leftedge}}%
```

Add a custom style if a vertical bar was requested:

```

9334 \ifdefstring{\LWR@tempone}{tvertbarl}{%
9335 \LWR@tdaddstyle%
9336 border-left: 1px solid % space
9337 \LWR@vertruleHTMLcolor%
9338 }{%
9339 \ifdefstring{\LWR@tempone}{tvertbarldouble}{%
9340 \LWR@tdaddstyle%
9341 border-left: 4px double % space
9342 \LWR@vertruleHTMLcolor%
9343 }{%
9344 \ifdefstring{\LWR@tempone}{tvertbarldash}{%
9345 \LWR@tdaddstyle%
9346 border-left: 1px dashed % space
}

```

```

9347 \LWR@vertruleHTMLcolor%
9348 }{ }%
9349 \ifdefstring{\LWR@tempone}{tvertbarldoubledash}{%
9350 \LWR@tdaddstyle%
9351 border-left: 2px dashed % space
9352 \LWR@vertruleHTMLcolor%
9353 }{ }%
9354 }{ }%

```

Possibly add a right vertical rule for this cell:

```

9355 \edef\LWR@tempone{%
9356 \LWR@getexpparray{\LWR@colbarspec}{\arabic{\LWR@tableLaTeXcolindex}}%
9357 }%
9358 \ifdefstring{\LWR@tempone}{tvertbarr}{%

```

Add a custom style if a vertical bar was requested:

```

9359 \LWR@tdaddstyle%
9360 border-right: 1px solid \LWR@vertruleHTMLcolor%
9361 }{ }%
9362 \ifdefstring{\LWR@tempone}{tvertbarrdouble}{%
9363 \LWR@tdaddstyle%
9364 border-right: 4px double \LWR@vertruleHTMLcolor%
9365 }{ }%
9366 \ifdefstring{\LWR@tempone}{tvertbarrdash}{%
9367 \LWR@tdaddstyle%
9368 border-right: 1px dashed \LWR@vertruleHTMLcolor%
9369 }{ }%
9370 \ifdefstring{\LWR@tempone}{tvertbarrdashedash}{%
9371 \LWR@tdaddstyle%
9372 border-right: 2px dashed \LWR@vertruleHTMLcolor%
9373 }{ }%
9374 }%
9375 }

```

\LWR@subaddtabularcellcolor {<HTML color>}

```

9376 \newcommand*{\LWR@subaddtabularcellcolor}[1]{%
9377 \LWR@htmltag{div class=\textquotedbl{}cellcolor\textquotedbl\ % space
9378 style=\textquotedbl{}%
9379 background:\LWR@origpound{}{}#1 %
9380 \textquotedbl\ %
9381 }% space
9382 \defaddtocounter{\LWR@cellcolordepth}{1}%
9383 }

```

\LWR@addtabularcellcolor Adds a cell color style, if needed.

```

9384 \newcommand*{\LWR@addtabularcellcolor}{%
9385 \ifdefvoid{\LWR@cellHTMLcolor}{%
9386 }{%
9387 \ifdefvoid{\LWR@rowHTMLcolor}{%
9388 }{%

```

```

9389 \ifdefvoid{\LWR@xcolorrowHTMLcolor}%
9390 {%
9391 \ifdefvoid{\LWR@columnHTMLcolor}%
9392 {}%
9393 {\LWR@subaddtabularcellcolor{\LWR@columnHTMLcolor}}%
9394 }%
9395 {\LWR@subaddtabularcellcolor{\LWR@xcolorrowHTMLcolor}}%
9396 }%
9397 {\LWR@subaddtabularcellcolor{\LWR@rowHTMLcolor}}%
9398 }%
9399 {\LWR@subaddtabularcellcolor{\LWR@cellHTMLcolor}}%
9400 }

```

## 75.23 Multicolumns

### 75.23.1 Parsing multicolumns

\LWR@printmccoltype {*colspec*} Print any valid column type found. Does not print @, !, >, or < columns or their associated tokens.

This is printed as part of the table data tag's class.

```

9401 \newcommand*{\LWR@printmccoltype}[1]{%
9402 \LWR@traceinfo{lwr@printmccoltype -#1-}%

```

Get one token of the column spec:

```
9403 \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
```

Add to the HTML tag depending on which column type is found:

```

9404 \IfStrEq{\LWR@strresult}{l}{l}{%
9405 \IfStrEq{\LWR@strresult}{c}{c}{%
9406 \IfStrEq{\LWR@strresult}{r}{r}{%
9407 \IfStrEq{\LWR@strresult}{p}{p}{%
9408 \IfStrEq{\LWR@strresult}{m}{m}{%
9409 \IfStrEq{\LWR@strresult}{b}{b}{%
9410 \IfStrEq{\LWR@strresult}{P}{P}{%
9411 \IfStrEq{\LWR@strresult}{M}{M}{%
9412 \IfStrEq{\LWR@strresult}{B}{B}{%
9413 \IfStrEq{\LWR@strresult}{w}{w}{%
9414 \IfStrEq{\LWR@strresult}{W}{W}{%
9415 \IfStrEq{\LWR@strresult}{S}{c}{%
9416 \IfStrEq{\LWR@strresult}{s}{c}{%
9417 \IfStrEq{\LWR@strresult}{X}{p}{%
9418 \IfStrEq{\LWR@strresult}{|}{%
9419 {%
9420 \ifbool{LWR@mcolvertbaronleft}{%

```

```

9421 {\defaddtocounter{LWR@mcolvertbarsl}{1}}% left edge
9422 {\defaddtocounter{LWR@mcolvertbarsr}{1}}% not left edge
9423 }%
9424 {%
9425 \IfStrEq{\LWR@strresult}{:}%
9426 {%
9427 \ifbool{LWR@mcolvertbaronleft}%
9428 {\defaddtocounter{LWR@mcolvertbarsldash}{1}}% left edge
9429 {\defaddtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
9430 }%
9431 {%
9432 \IfStrEq{\LWR@strresult}{;}%
9433 {%
9434 \ifbool{LWR@mcolvertbaronleft}%
9435 {\defaddtocounter{LWR@mcolvertbarsldash}{1}}% left edge
9436 {\defaddtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
9437 }%
9438 {\boolfalse{LWR@mcolvertbaronleft}}%
9439 }%
9440 }%
9441 \LWR@traceinfo{lwr@printmccoltype done}%
9442 }

```

\LWR@multicolpartext {\langle num parameters\rangle} Print the data with paragraph tags, advance to bypass the given number of parameters.

```

9443 \newcommand*{\LWR@multicolpartext}[1]{%
9444 \LWR@startpars%
9445 \LWR@multicoltext%
9446 \defaddtocounter{LWR@tablemulticolspos}{#1}%
9447 \LWR@stoppars%
9448 }

```

\LWR@multicolother {\langle colspec\rangle} For @, !, >, <, print the next token without paragraph tags:

```

9449 \newcommand*{\LWR@multicolother}[1]{%
9450 \defaddtocounter{LWR@tablemulticolspos}{1}%
9451 \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9452 \LWR@strresult%

```

A valid column data type was found:

```

9453 \booltrue{LWR@validtablecol}%
9454 }

```

\LWR@multicolskip Nothing to print for this column type.

```

9455 \newcommand*{\LWR@multicolskip}{%

```

A valid column data type was found:

```

9456 \booltrue{LWR@validtablecol}%
9457 }

```

---

\LWR@printmccoldata {*colspec*} Print the data for any valid column type found.

```
9458 \newcommand*{\LWR@printmccoldata}[1]{%
9459 \LWR@traceinfo{lwr@printmccoldata -#1}%
```

Not yet found a valid column type:

```
9460 \boolfalse{\LWR@validtablecol}%
```

Get one token of the column spec, into a local copy in case nested.

```
9461 \StrChar[#1]{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%
9462 \edef\LWR@printmccoldatatoken{\LWR@strresult}%
```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```
9463 \IfStrEq{\LWR@printmccoldatatoken}{l}{\LWR@multicoltext}{}%
9464 \IfStrEq{\LWR@printmccoldatatoken}{c}{\LWR@multicoltext}{}%
9465 \IfStrEq{\LWR@printmccoldatatoken}{r}{\LWR@multicoltext}{}%
9466 \IfStrEq{\LWR@printmccoldatatoken}{D}{%
9467 \defaddtocounter{\LWR@tablemulticolspos}{3}%
9468 \LWR@multicoltext}%
9469 }{}%
```

  

```
9470 \IfStrEq{\LWR@printmccoldatatoken}{p}{\LWR@multicolpartext{2}}{}%
9471 \IfStrEq{\LWR@printmccoldatatoken}{m}{\LWR@multicolpartext{2}}{}%
9472 \IfStrEq{\LWR@printmccoldatatoken}{b}{\LWR@multicolpartext{2}}{}%
9473 \IfStrEq{\LWR@printmccoldatatoken}{P}{\LWR@multicolpartext{2}}{}%
9474 \IfStrEq{\LWR@printmccoldatatoken}{M}{\LWR@multicolpartext{2}}{}%
9475 \IfStrEq{\LWR@printmccoldatatoken}{B}{\LWR@multicolpartext{2}}{}%
```

  

```
9476 \IfStrEq{\LWR@printmccoldatatoken}{w}{\LWR@multicolpartext{3}}{}%
9477 \IfStrEq{\LWR@printmccoldatatoken}{W}{\LWR@multicolpartext{3}}{}%
```

  

```
9478 \IfStrEq{\LWR@printmccoldatatoken}{S}{\LWR@multicoltext}{}%
9479 \IfStrEq{\LWR@printmccoldatatoken}{s}{\LWR@multicoltext}{}%
```

  

```
9480 \IfStrEq{\LWR@printmccoldatatoken}{X}{\LWR@multicolpartext{1}}{}%
9481 \IfStrEq{\LWR@printmccoldatatoken}{|}{\LWR@multicolskip}{}%
9482 \IfStrEq{\LWR@printmccoldatatoken}{:}{\LWR@multicolskip}{}%
9483 \IfStrEq{\LWR@printmccoldatatoken}{;}{%
9484 \LWR@multicolskip}%
9485 \defaddtocounter{\LWR@tablemulticolspos}{1}%
9486 }{}% skip parameter
```

  

```
9487 \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{@}}{\LWR@multicolother{#1}}{}%
9488 \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{!}}{\LWR@multicolother{#1}}{}%
9489 \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{>}}{\LWR@multicolother{#1}}{}%
9490 \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{<}}{\LWR@multicolother{#1}}{}%
```

If an invalid column type:

```
9491 \ifbool{\LWR@validtablecol}{}{\LWR@multicoltext}{}%
```

Tracing:

```
9492 \LWR@traceinfo{lwr@printmccoldata done}%
9493 }
```

\parsemulticolumnalignment {⟨1: colspec⟩} {⟨2: printresults⟩}

Scan the multicolumn specification and execute the printfunction for each entry.

Note that the spec for a p{spec} column, or @, >, <, is a token list which will NOT match l, c, r, or p.

```
9494 \newcommand*\LWR@parsemulticolumnalignment[2]{%
9495 \defcounter{LWR@tablemulticolspos}{1}%
9496 \StrLen{#1}[\LWR@strresult]%
9497 \defcounter{LWR@tablemulticolswidth}{\LWR@strresult}%
```

Scan across the tokens in the column spec:

```
9498 \whileboolexpr{%
9499 not test {%
9500 \ifnumcomp{\value{LWR@tablemulticolspos}}{>}{%
9501 \value{LWR@tablemulticolswidth}}%
9502 }%
9503 }%
9504 {%
```

Execute the assigned print function for each token in the column spec:

```
9505 #2{#1}%
```

Move to the next token in the column spec:

```
9506 \defaddtocounter{LWR@tablemulticolspos}{1}%
9507 }
9508 }
```

### 75.23.2 Multicolumn factored code

\LWR@addmulticolverrulecolor

```
9509 \newcommand*\LWR@addmulticolverrulecolor{%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9510 \ifbool{LWR@tabularmutemods}{}{%
```

Left side:

```
9511 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{%
9512 \LWR@tdaddstyle%
9513 border-left: 1px solid \LWR@vertruleHTMLcolor%
9514 }{}
```

```

9515 \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{%
9516 \LWR@tdaddstyle%
9517 border-left: 4px double \LWR@verruleHTMLcolor%
9518 }{%
9519 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{%
9520 \LWR@tdaddstyle%
9521 border-left: 1px dashed \LWR@verruleHTMLcolor%
9522 }{%
9523 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{%
9524 \LWR@tdaddstyle%
9525 border-left: 2px dashed \LWR@verruleHTMLcolor%
9526 }{%

```

Right side:

```

9527 \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{%
9528 \LWR@tdaddstyle%
9529 border-right: 1px solid \LWR@verruleHTMLcolor%
9530 }{%
9531 \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{%
9532 \LWR@tdaddstyle%
9533 border-right: 4px double \LWR@verruleHTMLcolor%
9534 }{%
9535 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{%
9536 \LWR@tdaddstyle%
9537 border-right: 1px dashed \LWR@verruleHTMLcolor%
9538 }{%
9539 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{%
9540 \LWR@tdaddstyle%
9541 border-right: 2px dashed \LWR@verruleHTMLcolor%
9542 }{%
9543 }%
9544 }

```

```
9545 \newcommand{\LWR@multicoltext}{}%
```

To find multicolumn right trim:

```
9546 \newcounter{LWR@lastmulticolumn}
```

```
\LWR@domulticolumn [<1: vpos] [<2: #rows] {<3: numLaTeXcols} {<4: numHTMLcols} {<5: colspec} {<6: text}}

9547 \NewDocumentCommand{\LWR@domulticolumn}{o o m m +m}{%
9548 \LWR@traceinfo{LWR@domulticolumn -#1- -#2- -#4- -#5-}%

```

Remember the text to be inserted, and remember that a valid column type was found:

```

9549 \renewcommand{\LWR@multicoltext}{%
9550 #6%
9551 \booltrue{LWR@validtablecol}%
9552 }%

```

Compute the rightmost column to be included. This is used to create the right trim.

```
9553 \defcounter{LWR@lastmulticolumn}{\value{LWR@tableLaTeXcolindex}}%
9554 \defaddtocounter{LWR@lastmulticolumn}{#3}%
9555 \defaddtocounter{LWR@lastmulticolumn}{-1}%
```

Row processing:

```
9556 \LWR@maybenewtablerow%
```

Begin the opening table data tag:

```
9557 \LWR@htmltag{%
9558 td colspan=\textquotedbl#4\textquotedbl\ %
9559 \IfValueT{#2}{ % rows?
9560 rowspan=\textquotedbl#2\textquotedbl\ %
9561 }%
9562 class=\textquotedbl{}td%
```

Print the column type and vertical bars:

```
9563 \defcounter{LWR@mcolvertbarsl}{0}%
9564 \defcounter{LWR@mcolvertbarsr}{0}%
9565 \defcounter{LWR@mcolvertbarsldash}{0}%
9566 \defcounter{LWR@mcolvertbarsrdash}{0}%
9567 \booltrue{LWR@mcolvertbaronleft}%
9568 \LWR@parsemulticolumnalignment{#5}{\LWR@printmccoltype}%

```

If this column has a cmidrule, add “rule” to the end of the HTML class tag.

If this position had a “Y” then add “rule” for a horizontal rule:

```
9569 \LWR@subaddcmidruletrim%
9570 {%
9571 \LWR@getexpparray{\LWR@trimlrules}%
9572 {\arabic{LWR@tableLaTeXcolindex}}%
9573 }%
9574 {%
9575 \LWR@getexpparray{\LWR@trimrrules}%
9576 {\arabic{LWR@lastmulticolumn}}%
9577 }%
```

Also add vertical bar class.

```
9578 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{ tvertbarl}{}
9579 \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{ tvertbarldouble}{}
9580 \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{ tvertbarr}{}
9581 \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{ tvertbarrdouble}{}
9582 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{ tvertbarldash}{}
9583 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{ tvertbarldoubledash}{}
9584 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{ tvertbarrdash}{}
```

```

9586 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}%
9587 { tvertbarrdoubledash}{ }%

```

Close the class tag's opening quote:

```

9588 \textquotedbl{ }%
9589 \LWR@tdstartstyles%

```

Style for vertical position:

```

9590 \IfValueT{#1}{% vpos?
9591 \ifstrequal{#1}{b}{%
9592 {%
9593 \LWR@tdaddstyle%
9594 \LWR@print@mbox{vertical-align:bottom}%
9595 }{ }%
9596 \ifstrequal{#1}{t}{%
9597 {%
9598 \LWR@tdaddstyle%
9599 \LWR@print@mbox{vertical-align:top}%
9600 }{ }%
9601 }% vpos?

```

Style for row colors:

```

9602 \LWR@addtabulararrowcolor%

```

Other styles:

```

9603 \LWR@addcmidrulewidth%
9604 \LWR@addcdashline%
9605 \LWR@addtabularhrulecolor%
9606 \LWR@addmulticolvertrulecolor%
9607 \LWR@addformatwpalignment{#5}%
9608 \LWR@tdendstyles%
9609 }% end of the opening table data tag
9610 \boolfalse{LWR@intabularmetadata}%
9611 \LWR@parsemulticolumnalignment{#5}{\LWR@printmccoldata}%
9612 }

```

### 75.23.3 Multicolumn

```
\LWR@htmlmulticolumn {\langle numcols \rangle} {\langle alignment \rangle} {\langle text \rangle}
```

```

9613 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}{%
9614 {%

```

Figure out how many extra **HTML** columns to add for @ and ! columns:

```

9615 \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{#1}%

```

Create the multicolumn tag:

```
9616 \LWR@domulticolumn{\arabic{LWR@tabhtmlcoltotal}}{\#2}{\#3}%
```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
9617 \defaddtocounter{LWR@tableLaTeXcolindex}{\#1}%
9618 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
9619 \booltrue{LWR@skipatbang}%
9620 }
```

#### 75.23.4 Longtable captions

**longtable** captions use `\multicolumn`.

Per the **caption** package. User-redefinable float type.

```
9621 \providetoggle{\LTcaptype}{table}
```

```
\LWR@longtabledatacaptiontag * [\langle toc entry\rangle] {\langle caption\rangle}
9622 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}%
9623 {%
```

Remember the latest name for `\nameref`:

```
9624 \IfValueTF{\#2}{% optional given?
9625 \ifblank{\#2}{% optional empty?
9626 {\LWR@setlatestname{\#3}}% empty
9627 {\LWR@setlatestname{\#2}}% given and non-empty
9628 }% optional given
9629 {\LWR@setlatestname{\#3}}% no optional
```

Create a multicolumn across all the columns:

Figure out how many extra HTML columns to add for @ and ! columns found between the first and the last column:

```
9630 \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}%
```

Create the multicolumn tag:

```
9631 \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
9632 {\arabic{LWR@tabhtmlcoltotal}}%
9633 {P}%
9634 {\LWR@domulticolumn
9635 \IfBooleanTF{\#1}{% star?
```

Star version, show a caption but do not make a LOT entry:

```

9636 {%
9637 yes star
9638 \LWR@figcaption%
9639 \LWR@isolate{#3}%
9640 \endLWR@figcaption%
9641 }%
9642 {%
9643 No star:

```

Not the star version:

Don't step the counter if \caption[]{}{A caption.}

```

9642 \ifbool{\LWR@starredlongtable}{%
9643 {%
9644 \ifblank{#2}{% TOC entry
9645 {}%
9646 {%
9647 \refstepcounter{\LTcaptype}%
9648 \protected@edef{\currentlabel}{%
9649 \@nameuse{p@\LTcaptype}\@nameuse{the\LTcaptype}%
9650 }%
9651 }%
9652 }%

```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```

9653 \LWR@figcaption%
9654 \LWR@isolate{\@nameuse{fnum@\LTcaptype}}%
9655 \CaptionSeparator%
9656 \LWR@isolate{#3}%
9657 \endLWR@figcaption%

```

See if an optional caption was given:

```
9658 \ifblank{#2}{% TOC entry empty
```

if the optional caption was given, but empty, do not form a TOC entry

```
9659 {}%
```

If the optional caption was given, but might only be []:

```

9660 {%
9661 TOC entry not empty
9662 \IfNoValueTF{#2}{% No TOC entry?}
```

The optional caption is []:

```

9662 {%
9663 No TOC entry
9664 \addcontentsline{%
9665 \@nameuse{ext@\LTcaptype}}{%
9666 \LTcaptype}%
9667 {%
9668 \protect\newline%
9669 \LWR@isolate{\@nameuse{p@\LTcaptype}\@nameuse{the\LTcaptype}}%
```

```

9669 {\ignorespaces \LWR@isolate{\#3}\protect\relax}%
9670 }%
9671 }% end of No TOC entry

```

The optional caption has text enclosed:

```

9672 {%
9673 yes TOC entry
9674 \addcontentsline%
9675 {\@nameuse{ext@\LTcaptype}}%
9676 {\LTcaptype}%
9677 {%
9678 \protect\newline%
9679 {\LWR@isolate{\@nameuse{p@\LTcaptype}}\@nameuse{the\LTcaptype}}%
9680 {\ignorespaces \LWR@isolate{\#2}\protect\relax}%
9681 }%
9682 }% end of yes TOC entry
9683 }% end of TOC entry not empty
9683 }% end of no star

```

Skip any trailing @ or ! columns for this cell:

```

9684 \booltrue{\LWR@skipatbang}%
9685 }% end of \LWR@domulticolumn
9686 \defaddtocounter{\LWR@tableLaTeXcolindex}{\value{\LWR@tabletotalLaTeXcols}}%
9687 \defaddtocounter{\LWR@tableLaTeXcolindex}{-1}
9688
9689 }

```

### 75.23.5 Counting HTML tabular columns

The L<sup>A</sup>T<sub>E</sub>X specification for a table includes a number of columns separated by the & character. These columns differ in content from line to line. Additional virtual columns may be specified by the special @ and ! columns. These columns are identical from line to line, but may be skipped during a multicolumn cell.

For HTML output, @ and ! columns are placed into their own tabular columns. Thus, a L<sup>A</sup>T<sub>E</sub>X \multicolumn command may span several additional @ and ! columns in HTML output. These additional columns must be added to the total number of columns spanned by an HTML multi-column data cell.

```

9690 \newcounter{\LWR@tabhtmlcolindex}
9691 \newcounter{\LWR@tabhtmlcolend}
9692 \newcounter{\LWR@tabhtmlcoltotal}

```

\LWR@subtabularhtmlcolumns {<index>}

Factored from \LWR@tabularhtmlcolumns, which follows.

```

9693 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%

```

Temporarily define a macro equal to the @ specification for this column:

```

9694 \edef\LWR@atbangspec{\LWR@getexarray{\LWR@colatspec}{#1}}%

```

If the @ specification is not empty, add to the count:

```
9695 \ifdefempty{\LWR@atbangspec}%
9696 {}%
9697 {\defaddtocounter{\LWR@tabhtmlcoltotal}{1}}%
```

Likewise for the ! columns:

```
9698 \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colbangspec}{#1}}%
9699 \ifdefempty{\LWR@atbangspec}%
9700 {}%
9701 {\defaddtocounter{\LWR@tabhtmlcoltotal}{1}}%
9702 }
```

\LWR@tabularhtmlcolumns {<starting L<sup>A</sup>T<sub>E</sub>X column>} {<number L<sup>A</sup>T<sub>E</sub>X columns>}

Compute the total number of HTML columns being spanned, considering the starting L<sup>A</sup>T<sub>E</sub>X table column and the number of L<sup>A</sup>T<sub>E</sub>X tabular columns being spanned. Any @ and ! columns within this span are included in the total count. The resulting number of HTML columns is returned in the counter L<sup>A</sup>T<sub>E</sub>X tabhtmlcoltotal.

```
9703 \newcommand*{\LWR@tabularhtmlcolumns}[2]{%
```

Count the starting index, compute ending index, and begin with the count being the L<sup>A</sup>T<sub>E</sub>X span, to which additional @ and ! columns may be added:

```
9704 \defcounter{\LWR@tabhtmlcolindex}{#1}%
9705 \defcounter{\LWR@tabhtmlcoltotal}{#2}%
9706 \defcounter{\LWR@tabhtmlcolend}{#1}%
9707 \defaddtocounter{\LWR@tabhtmlcolend}{#2}%
```

If at the left edge, add the at/bang columns for the left edge:

```
9708 \ifnumcomp{\value{\LWR@tabhtmlcolindex}}{=}{1}{%
9709 \LWR@subtabularhtmlcolumns{leftedge}%
9710 }{}
```

Walk across the L<sup>A</sup>T<sub>E</sub>X columns looking for @ and ! columns:

```
9711 \whileboolexpr{%
9712 test {%
9713 \ifnumcomp{\value{\LWR@tabhtmlcolindex}}{<}{\value{\LWR@tabhtmlcolend}}{%
9714 }%
9715 }%
9716 {%
9717 \LWR@subtabularhtmlcolumns{\arabic{\LWR@tabhtmlcolindex}}%
9718 \defaddtocounter{\LWR@tabhtmlcolindex}{1}%
9719 }% whiledo
9720 }%
9721 \end{warpHTML}
```

## 75.24 Multirow if not loaded

A default defintion in case `multirow` is not loaded. This is used during table parsing.

```
9722 \begin{warpHTML}
9723 \newcommand{\multirow}[2][c]{}%
9724 \end{warpHTML}
```

## 75.25 Multicolumnrow

A print-mode version is defined here, and is also used during `HTML` output while inside a `\teximage`.

See section 420 for the `HTML` versions.

**for HTML & PRINT:** 9725 `\begin{warpall}`

```
\multicolumnrow {\{1:cols\}} {\{2:halign\}} [\{3:vpos\}] {\{4:numrows\}} [\{5:bigstruts\}] {\{6:width\}} [\{7:fixup\}]%
{\{8:text\}}
```

For discussion of the use of `\DeclareExpandableDocumentCommand`, see:

<https://tex.stackexchange.com/questions/168434/problem-with-abbreviation-of-multirow-and-multicolumn-latex>

`\AtBeginDocument` to adjust after the user may have loaded `multirow`, which requires several tests to determine which version is loaded and thus which options are available.

```
9726 \AtBeginDocument{
```

`\@ifundefined{@xmultirow}` determines if `multirow` was never loaded.

Null action if not loaded:

```
9727 \@ifundefined{@xmultirow}%
9728 {%
9729 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9730 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9731 {}%
9732 }% no version of multirow was loaded%
9733 { \% \@xmultirow defined, so some version of multirow was loaded%
```

`\@ifpackageloaded{multirow}` determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The print version:

```
9734 \@ifpackageloaded{multirow}{% v2.0 or newer%
9735 \@ifpackagelater{multirow}{2016/09/01}{2016/09/27 for v2.0}%
9736 { \% v2.0+%
9737 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9738 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9739 {\multicolumn{\#1}{\#2}{\@xmultirow[\#3]{\#4}{\#5}{\#6}{\#7}{\#8}}}%
9740 }
```

---

```

9741 {%
9742 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9743 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9744 {\multicolumn{#1}{#2}{\@xmultirow{#4}{#5}{#6}{#7}{#8}}}}%
9745 }%
9746 }% package loaded{multirow}

```

If not \ifpackage{multirow} but \@xmultirow is defined, then this must be v1.6 or earlier, which did not \ProvidesPackage{multirow}, and did not have the vposn option.

```

9747 {%
9748 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9749 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9750 {\multicolumn{#1}{#2}{\@xmultirow{#4}{#5}{#6}{#7}{#8}}}}%
9751 }%
9752
9753 }% \@ifundefined{@xmultirow}
9754
9755 \providecommand*{\multicolumnrow}{\LWR@print@multicolumnrow}
9756
9757 }% AtBeginDocument

9758 \end{warpall}

```

## 75.26 Utility macros inside a table

**for HTML output:** 9759 \begin{warpHTML}

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

```
9760 \newcommand*{\LWR@donothing}{}%
```

In case **array** is not loaded:

```

9761 \let\firsthline\relax
9762 \let\lasthline\relax
9763 \newcommand*{\firsthline}{}%
9764 \newcommand*{\lasthline}{}%

```

In case **bigdelim** is not loaded:

```

9765 \newcommand*{\ldelim}{}%
9766 \newcommand*{\rdelim}{}%

9767 \end{warpHTML}

```

## 75.27 Special-case tabular markers

**for HTML & PRINT:** 9768 \begin{warpall}

\TabularMacro Place this just before inserting a custom macro in a table data cell. Doing so tells `lwarp` not to automatically start a new HTML table data cell yet. See section 8.10.1.

```
9769 \newcommand*\{\TabularMacro\}{}
9770 \end{warpall}
```

\ResumeTabular Used to resume tabular entries after resuming an environment.

⚠ **tabular inside another environment** When creating a new environment which contains a `tabular` environment, `lwarp`'s emulation of the `tabular` does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```
\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
 \tabular{cc}
 left & right \\
}
{
 \TabularMacro\ResumeTabular
 left & right \\
 \endtabular
}
\StopDefiningTabulars
```

**for HTML output:** 9771 `\begin{warpHTML}`

```
9772 \newcommand*\{\ResumeTabular\}{%
9773 \boolexpr{LWR@exittingtabular} %
9774 \boolexpr{LWR@tabularatmetabular} %
9775 \LWR@getmynexttoken %
9776 }
```

```
9777 \end{warpHTML}
```

**for PRINT output:** 9778 `\begin{warpprint}`

```
9779 \newcommand*\{\ResumeTabular\}{}
9780 \end{warpprint}
```

## 75.28 Checking for a new table cell

**for HTML output:** 9781 `\begin{warpHTML}`

\LWR@tabledatacolumnntag Open a new HTML table cell unless the next token is for a macro which does not create data, such as `\hline`, `\toprule`, etc:

```

9782 \newcommand*{\LWR@tabledatacolumntag}{%
9783 {%
9784 \LWR@traceinfo{\LWR@tabledatacolumntag}%
9785
9786 \show\lwr@mynexttoken to see what tokens to look for

```

If not any of the below, start a new table cell:

```
9785 \global\let\lwr@mynextaction\LWR@tabledatasinglecolumntag%
```

If exiting the tabular:

```

9786 \ifdefequal{\lwr@mynexttoken}{\end}{%
9787 {\booltrue{\lwr@exittingtabular}}{}%

```

`longtable` can have a caption in a cell

```

9788 \ifdefequal{\lwr@mynexttoken}{\caption}{%
9789 {\global\let\lwr@mynextaction\LWR@donothing}{}%

```

Look for other things which would not start a table cell:

```

9790 \ifdefequal{\lwr@mynexttoken}{\multicolumn}{%
9791 {\global\let\lwr@mynextaction\LWR@donothing}{}%
9792 \ifdefequal{\lwr@mynexttoken}{\multirow}{%
9793 {\global\let\lwr@mynextaction\LWR@donothing}{}%
9794 \ifdefequal{\lwr@mynexttoken}{\multicolumnrow}{%
9795 {\global\let\lwr@mynextaction\LWR@donothing}{}%
9796 \ifdefequal{\lwr@mynexttoken}{\noalign}{%
9797 {\global\let\lwr@mynextaction\LWR@donothing}{}%

```

If an `\mrowcell`, this is a cell to be skipped over:

```

9798 \ifdefequal{\lwr@mynexttoken}{\mrowcell}{%
9799 {\global\let\lwr@mynextaction\LWR@donothing}{}%

```

If an `\mcolrowcell`, this is a cell to be skipped over:

```

9800 \ifdefequal{\lwr@mynexttoken}{\mcolrowcell}{%
9801 {\global\let\lwr@mynextaction\LWR@donothing}{}%
9802 \ifdefequal{\lwr@mynexttoken}{\TabularMacro}{%
9803 {\global\let\lwr@mynextaction\LWR@donothing}{}%
9804 \ifdefequal{\lwr@mynexttoken}{\hline}{%
9805 {\global\let\lwr@mynextaction\LWR@donothing}{}%
9806 \ifdefequal{\lwr@mynexttoken}{\firsthline}{%
9807 {\global\let\lwr@mynextaction\LWR@donothing}{}%
9808 \ifdefequal{\lwr@mynexttoken}{\lasthline}{%
9809 {\global\let\lwr@mynextaction\LWR@donothing}{}%

```

```

9810 \ifdefequal{\LWR@mynexttoken}{\toprule}%
9811 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9812 \ifdefequal{\LWR@mynexttoken}{\midrule}%
9813 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9814 \ifdefequal{\LWR@mynexttoken}{\cmidrule}%
9815 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9816 \ifdefequal{\LWR@mynexttoken}{\morecmidrules}%
9817 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9818 \ifdefequal{\LWR@mynexttoken}{\specialrule}%
9819 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9820 \ifdefequal{\LWR@mynexttoken}{\cline}%
9821 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9822 \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
9823 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9824 \ifdefequal{\LWR@mynexttoken}{\hhline}%
9825 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9826 \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
9827 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9828 \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
9829 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9830 \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
9831 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9832 \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
9833 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9834 \ifdefequal{\LWR@mynexttoken}{\warpHTMLonly}%
9835 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9836 \ifdefequal{\LWR@mynexttoken}{\ldelim}%
9837 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9838 \ifdefequal{\LWR@mynexttoken}{\rdelim}%
9839 {\global\let\LWR@mynextaction\LWR@donothing}{ }%

```

For `arydshln`:

```

9840 \ifdefequal{\LWR@mynexttoken}{\hdashline}%
9841 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9842 \ifdefequal{\LWR@mynexttoken}{\cdashline}%
9843 {\global\let\LWR@mynextaction\LWR@donothing}{ }%

```

---

```

9844 \ifdefequal{\LWR@mynexttoken}{\firstdashline}%
9845 {\global\let\LWR@mynextaction\LWR@donothing}{}%
9846 \ifdefequal{\LWR@mynexttoken}{\lastdashline}%
9847 {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

Ignore an empty line between rows:

```

9848 \ifdefequal{\LWR@mynexttoken}{\par}%
9849 {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

No action for an \end token.

Add similar to the above for any other non-data tokens which might appear in the table.

Start the new table cell if was not any of the above:

```

9850 \LWR@traceinfo{\LWR@tabledatacolumntag: about to do mynext}%
9851 \LWR@mynextaction%
9852 \LWR@traceinfo{\LWR@tabledatacolumntag: done}%
9853 }%
9854 \end{warpHTML}

```

## 75.29 \mrowcell

**for HTML & PRINT:** 9855 \begin{warpall}

⚠ **\mrowcell** The user must insert \mrowcell into any \multirow cells which must be skipped. This command has no action during print output.

```

9856 \newcommand*\mrowcell{}%
9857 \end{warpall}

```

## 75.30 \mcolrowcell

**for HTML & PRINT:** 9858 \begin{warpall}

⚠ **\mcolrowcell** The user must insert \mcolrowcell into any \multicolumnrow cells which must be skipped. This command has no action during print output.

```

9859 \newcommand*\mcolrowcell{}%
9860 \end{warpall}

```

### 75.31 HTML **tabular** environment

**for HTML output:** 9861 \begin{warpHTML}

These are default definitions in case `booktabs` is not loaded, and are not expected to be used, but must exist as placeholders. `memoir` may have already loaded `booktabs`.

```
9862 \providecommand*\toprule[1][]{\hline}
9863 \providecommand*\midrule[1][]{\hline}
9864 \providecommand*\cmidrule{\cline}
9865 \providecommand*\bottomrule[1][]{\hline}
9866 \providecommand*\addlinespace[1][]{}
9867 \providecommand*\morecmidrules(){}
9868 \providecommand*\specialrule[3]{\hline}
```

\noalign {*text*} Redefined for use inside `tabular`.

```
9869 \LetLtxMacro{\LWR@orignoalign}{\noalign}
9870
9871 \newcommand{\LWR@tabularnoalign}[1]{%
9872 \advance\rownum\m@ne%
9873 \LetLtxMacro{\LWR@save@xcolorrowHTMLcolor}{\LWR@xcolorrowHTMLcolor}%
9874 \renewcommand*{\LWR@xcolorrowHTMLcolor}{}%
9875 \multicolumn{\value{\LWR@tabletotalLaTeXcols}}{l}{\#1} \\
9876 \LetLtxMacro{\LWR@xcolorrowHTMLcolor}{\LWR@save@xcolorrowHTMLcolor}%
9877 % \@rowc@lors%
9878 \LWR@getmynexttoken%
9879 }
```

\LWR@HTMLhline The definition of `\hline` depends on whether `tbls` has been loaded. If so, optional space below the line may be specified, but will be ignored.

```
9880 \AtBeginDocument{
9881
9882 \@ifpackageloaded{lwarp-tables}
9883 {
9884 \newcommand*{\LWR@HTMLhline}[1][]{%
9885 \ifbool{FormatWP}{%
9886 {\LWR@docmidrule{1-\arabic{\LWR@tabletotalLaTeXcols}}}%
9887 {\defaddtocounter{\LWR@hlines}{1}}%
9888 \LWR@getmynexttoken}%
9889 }
9890 {
9891 \newcommand*{\LWR@HTMLhline}[]{%
9892 \ifbool{FormatWP}{%
9893 {\LWR@docmidrule{1-\arabic{\LWR@tabletotalLaTeXcols}}}%
9894 {\defaddtocounter{\LWR@hlines}{1}}%
9895 \LWR@getmynexttoken}%
9896 }
9897
9898 }% AtBeginDocument
```

```
\LWR@HTMLcline {\{columns\}}
9899 \NewDocumentCommand{\LWR@HTMLcline}{m}%
9900 {\LWR@docmidrule{\#1}\LWR@getmynexttoken}%
```

\LWR@tabular@warpprintonly {\{contents\}}

Only process the contents if producing printed output. Modified inside a `tabular` to grab the next token.

```
9901 \newcommand{\LWR@tabular@warpprintonly}[1]{%
9902 \ifbool{warpingprint}{\#1}{}%
9903 \LWR@getmynexttoken%
9904 }
```

\LWR@nullifyNoAutoSpacing For `babel-french`, turn off auto spacing at the start of the tabular, then nullify the autospacing commands inside the tabular, since they were not compatible with the tabular parsing code for each cell, which uses `xstring`.

```
9905 \AtBeginDocument{%
9906 @ifundefined{NoAutoSpacing}%
9907 {%
9908 \newcommand*\LWR@nullifyNoAutoSpacing{}%
9909 }%
9910 {%
9911 \newcommand*\LWR@nullifyNoAutoSpacing{%
9912 \NoAutoSpacing%
9913 \renewcommand*\NoAutoSpacing{}%
9914 \renewcommand*\LWR@FBcancel{}%
9915 }%
9916 }%
9917 }%
9918 AtBeginDocument
```

`Env` `tabular` <direction> [<vertposition>] {\{colspecs\}}

The <direction> is from `plexit` for Japanese documents, and is ignored.

```
9918 \StartDefiningTabulars
9919
9920 \NewDocumentCommand{\LWR@HTML@@tabular}{d<> o m}%
9921 {%
9922 \LWR@traceinfo{\LWR@HTML@@tabular started}%
9923 }
```

### ⚠ <table> inside <span>

In `LATEX`, a `tabular` may be placed inside a `minipage`, but in `HTML` a `<table>` may not be inside a `<span>`. Since there may be several nested `<span>`s, with an unknown number of other objects between, it is hard to undo all these `<span>`s before the `<table>` then redo them after. The browser probably compensates for this situation, but formatting may be lost inside the `<table>` because several things are neutralized inside a `<span>`. Furthermore, in the `HTML` output, the entire `<table>` is placed on a single line of `HTML` code, since the line breaking commands are neutralized inside a `<span>`. Since this is such a sloppy situation, a warning is issued here instructing the user to please isolate the `<span>` to print-only.

```
9923 \LWR@spanwarnformat{tabular}%
9924 \addtocounter{\LWR@tabulardepth}{1}%
```

Not yet started a table row:

```
9925 \boolfalse{\LWR@startedrow}%
```

Not yet doing any rules:

```
9926 \defcounter{\LWR@hlines}{0}%
9927 \defcounter{\LWR@hdashedlines}{0}%
9928 \boolfalse{\LWR@doingtbrule}%
9929 \boolfalse{\LWR@doingcmidrule}%
```

For **babel-french**, turn off auto spacing one time, then nullify the autospacing commands since were not compatible with the tabular parsing code.

```
9930 \LWR@nullifyNoAutoSpacing%
```

Have not yet found the end of tabular command. Unmute the @ and ! columns.

```
9931 \boolfalse{\LWR@exittingtabular}%
9932 \boolfalse{\LWR@tabularmutemods}%
```

Error if failed to use \mrowcell or \mcolrowcell when needed.

```
9933 \boolfalse{\LWR@usedmultirow}%
9934 \boolfalse{\LWR@foundmrowcell}%

9935 \renewcommand*{\LWR@multicoltext}{}%
```

Create the table tag:

```
9936 \booltrue{\LWR@intabularmetadata}%
9937 \LWR@traceinfo{\LWR@tabular: About to \LWR@forecenewpage.}%
9938 \LWR@forcenewpage
9939 \LWR@htmlblocktag{table}%
```

Parse the table columns:

```
9940 \LWR@parsetablecols{#3}%
```

Table col spec is: \LWR@tablecols which is a string of llccrr, etc.

Do not place the table inside a paragraph:

```
9941 \LWR@stoppars%
```

Track column #:

```
9942 \defcounter{\LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
9943 \global\boolfalse{\LWR@tabularcelladded}%
```

Start looking for midrules:

```
9944 \LWR@clearmidrules%
```

\\" becomes a macro to end the table row:

```
9945 \LetLtxMacro{\\"}{\LWR@tabularendofline}%
```

\warpprintonly inside a tabular must grab the next token.

```
9946 \LetLtxMacro{\warpprintonly}{\LWR@tabular@warpprintonly}%
```

The following adjust for **colortbl**.

```
9947 \LetLtxMacro{\arrayrulecolor}{\arrayrulecolornexttoken%}
9948 \LetLtxMacro{\doublerulesepcolor}{\doublerulesepcolornexttoken%}
9949 \def\LWR@columnHTMLcolor{}%
9950 \def\LWR@rowHTMLcolor{}%
9951 \def\LWR@cellHTMLcolor{}%
9952 \rowcolors%
```

The vertical rules are set to the color active at the start of the tabular. \arrayrulecolor will then affect horizontal rules inside the tabular, but not the vertical rules.

```
9953 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9954 \edef\LWR@vertruleHTMLcolor{black}%
9955 \edef\LWR@vertruleHTMLcolor{\LWR@origpound\LWR@ruleHTMLcolor}}%
```

Tracking the depth of cell color <div>s:

```
9956 \defcounter{LWR@cellcolordepth}{0}%
```

The following may appear before a data cell is created, so after doing their actions, we look ahead with \LWR@getmynexttoken to see if the next token might create a new data cell:

The optional parameter for \hline supports the **tbls** package.

```
9957 \LWR@traceinfo{\LWR@@HTML@tabular: redefining macros}%
9958 \LetLtxMacro{\noalign}{\LWR@tabularnoalign}%
9959 \LetLtxMacro{\hline}{\LWR@HTMLhline}%
9960 \LetLtxMacro{\cline}{\LWR@HTMLcline}%

9961 \DeclareDocumentCommand{\hdashline}{o}{%
9962 \ifbool{FormatWP}{%
9963 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
9964 {\defaddtocounter{LWR@hdashedlines}{1}}%
9965 \LWR@getmynexttoken%
9966 }%
9967 \DeclareDocumentCommand{\cdashline}{m}{%
9968 \LWR@docdashline{##1}\LWR@getmynexttoken%
9969 }%
9970 \DeclareDocumentCommand{\firstdashline}{o}{%
```

```

9971 \ifboolexist{FormatWP}%
9972 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}{}
9973 {\defaddtocounter{LWR@hdashedlines}{1}}%
9974 \LWR@getmynexttoken%
9975 }%

9976 \DeclareDocumentCommand{\lastdashline}{o}{%
9977 \ifboolexist{FormatWP}%
9978 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}{}
9979 {\defaddtocounter{LWR@hdashedlines}{1}}%
9980 \LWR@getmynexttoken%
9981 }%

```

The following create data cells and will have no more data in this cell, so we do not want to look ahead for a possible data cell, so do not want to use \LWR@getmynexttoken.

```

9982 \renewcommand{\multicolumn}{\LWR@htmlemulticolumn}%
9983 \renewcommand*{\mrowcell}{%
9984 \LWR@maybenewtablerow%
9985 \LWR@tabularleftedge%
9986 \booltrue{LWR@skippingmrowcell}%
9987 \booltrue{LWR@foundmrowcell}%
9988 }%
9989 \renewcommand*{\mcolrowcell}{%
9990 \LWR@maybenewtablerow%
9991 \booltrue{LWR@skippingmcolrowcell}%
9992 \booltrue{LWR@foundmrowcell}%
9993 }%
9994 \LetLtxMacro{\caption}{\LWR@longtabledatacaptiontag}%

```

Reset for new processing:

```

9995 \boolfalse{LWR@tableparcell}%
9996 \boolfalse{LWR@skippingmrowcell}%
9997 \boolfalse{LWR@skippingmcolrowcell}%
9998 \boolfalse{LWR@skipatbang}%
9999 \boolfalse{LWR@emptyatbang}%

```

Set & for its special meaning inside the tabular:

```

10000 \StartDefiningTabulars%
10001 \protected\gdef&{\LWR@tabularampersand}%

```

Locally force any minipages to be fullwidth, until the end of the tabular:

```

10002 \booltrue{LWR@forceminipagefullwidth}%

```

Nest one level deeper of tabular paragraph handling:

```

10003 \addtocounter{LWR@tabularpardepth}{1}%

```

Look ahead for a possible table data cell:

```

10004 \LWR@traceinfo{\LWR@@HTML@tabular: about to \LWR@getmynexttoken}%

```

```

10005 \LWR@getmynexttoken%
10006 }%

```

Ending the environment:

```

10007 \newcommand*{\LWR@HTML@endtabular}{%
10008 {%
10009 \LWR@traceinfo{\LWR@HTML@endtabular}%

```

Unnest one level of tabular paragraph handling:

```

10010 \addtocounter{\LWR@tabularpardepth}{-1}%
10011 \ifboolexpr{%
10012 test {%
10013 \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{<}{%
10014 \value{\LWR@tabletotalLaTeXcols}%
10015 } or %
10016 (%
10017 \bool{\LWR@intabularmetadata} and%
10018 not \bool{\LWR@tabularcelladded} and%
10019 test {%
10020 \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}%
10021 \value{\LWR@tabletotalLaTeXcols}%
10022 }%
10023)%
10024 }%
10025 {%
10026 \LWR@tabularfinishrow%
10027 }%
10028 {%
10029 \LWR@closetabledatacell%
10030 }%
10031 \LWR@htmlblocktag{/tr}%

```

**xcolor** row color support:

```

10032 @rowc@lors%
10033 \LWR@htmlblocktag{/table}%
10034 \boolfalse{\LWR@intabularmetadata}%

```

Unnest one level of tabular:

```

10035 \addtocounter{\LWR@tabulardepth}{-1}%

```

Restore & to its usual meaning:

```

10036 \ifnumequal{\value{\LWR@tabulardepth}}{0}{%
10037 \protected\gdef&{\LWR@origampmacro}%
10038 \StopDefiningTabulars%
10039 }{%

```

Error if used `\multirow` or `\multicolumn` without using `\mrowcell` or `\mcolrowcell`.

```

10040 \ifboolex{\LWR@usedmultirow}{%
10041 \ifboolex{\LWR@foundmrowcell}{%
10042 {\relax}%
10043 {%
10044 \PackageError{lwarp}{%
10045 {%
10046 When using \protect\multirow, \protect\multicolumn, \MessageBreak
10047 or the bigdelim package, \MessageBreak
10048 place \protect\mrowcell\space or \protect\mcolrowcell\MessageBreak
10049 in empty cells which are to be skipped.\MessageBreak
10050 See the Lwarp package documentation:\MessageBreak
10051 "Special cases and limitations" -> "Tabular"
10052 }%
10053 {%
10054 See the Lwarp package documentation:\MessageBreak
10055 "Special cases and limitations" -> "Tabular".
10056 }%
10057 }%
10058 }{}%
10059 \LWR@traceinfo{\LWR@HTML@endtabular finished}%
10060 }
10061
10062 \csletcs{\LWR@HTML@endtabular*}{\LWR@HTML@endtabular}
10063
10064 \StopDefiningTabulars

```

`siunitx` may redefine `tabular`, so set the following later:

```

10065 \AtBeginDocument{%
10066 \LetLtxMacro{\LWR@origendtabular}{\endtabular}
10067 \csletcs{\LWR@origendtabular*}{\endtabular*}
10068 \LWR@formatted{@tabular}
10069 \LWR@formatted{endtabular}
10070 \LWR@formatted{endtabular*}
10071 }

10072 \end{warpHTML}

```

## 76 Cross-references

Sectioning commands have been emulated from scratch, so the cross-referencing commands are custom-written for them. Emulating both avoids several layers of patches.

File `*_html.aux` A new entry in `*_html.aux` is used to remember section name, file, and lateximage depth and number for each label:

```
\newlabel{<labelname>}@lwarp}{{<section name>}{{<filename>}}
{<limagedepth>}{{<imagenum>}}}
```

Table 14 shows the data structures related to cross-referencing.

for HTML output: 10073 `\begin{warpHTML}`

Table 14: Cross-referencing data structures

| Original L <sup>A</sup> T <sub>E</sub> X:                                                                                                                                                                                                                                                                                                                                                                              | (print and HTML) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>\refstepcounter:</b> Steps the counter and sets \currentlabel.                                                                                                                                                                                                                                                                                                                                                      |                  |
| <b>\@currentlabel:</b> \p@<ctr>\the<ctr> Updated by \refstepcounter.                                                                                                                                                                                                                                                                                                                                                   |                  |
| <b>\label:</b> Writes to the .aux file:<br>\newlabel{<label>}{{\@currentlabel}{\thepage}}                                                                                                                                                                                                                                                                                                                              |                  |
| <b>\newlabel:</b> When the .aux file is read, sets \r@<label>.                                                                                                                                                                                                                                                                                                                                                         |                  |
| <b>\r@&lt;label&gt;:</b> Set to: {{\@currentlabel}{\thepage}}                                                                                                                                                                                                                                                                                                                                                          |                  |
| <b>\ref:</b> Returns the first part of \r@<label>.                                                                                                                                                                                                                                                                                                                                                                     |                  |
| <b>\pageref:</b> Returns the second part of \r@<label>.                                                                                                                                                                                                                                                                                                                                                                |                  |
| Added by l warp:                                                                                                                                                                                                                                                                                                                                                                                                       | (HTML only)      |
| <b>\label:</b> Adds HTML tags (section 76.3), and another .aux entry (section 76.2). If memoir is used, its \mem@old@label points to l warp's version, and cleveref patches.                                                                                                                                                                                                                                           |                  |
| <b>\newlabel:</b> Unchanged. When the .aux file is read, sets \r@<label>@l warp.                                                                                                                                                                                                                                                                                                                                       |                  |
| <b>\r@&lt;label&gt;@l warp:</b> Set to {{section_name}{file_name}{depth}{number}}:<br>\LWR@nameref: The section or object name for this label.<br>\LWR@currentautosecpageref: The LWR@currentautosecpage for this label.<br>\LWR@htmlfileref: The filenumber or name for this label.<br>\LWR@lateximagedepthref: The lateximagedepth for this label.<br>\LWR@lateximagenumberref: The lateximagenumber for this label. |                  |
| <b>\nameref:</b> Emulated from hyperref for l warp. See section 76.4.                                                                                                                                                                                                                                                                                                                                                  |                  |
| <b>\ref and \nameref:</b> Adds HTML tags. See section 76.4.                                                                                                                                                                                                                                                                                                                                                            |                  |
| Added by amsmath:                                                                                                                                                                                                                                                                                                                                                                                                      | (print and HTML) |
| <b>\label:</b> Execution is delayed until the math environment is completed.                                                                                                                                                                                                                                                                                                                                           |                  |
| <b>\ltx@label:</b> L <sup>A</sup> T <sub>E</sub> X \label, (HTML: patched by l warp,) later patched by cleveref.                                                                                                                                                                                                                                                                                                       |                  |
| Added by cleveref:                                                                                                                                                                                                                                                                                                                                                                                                     | (print and HTML) |
| <b>\refstepcounter:</b> Added: sets \cref@currentlabel.                                                                                                                                                                                                                                                                                                                                                                |                  |
| <b>\cref@currentlabel:</b> (<type>=<ctr> unless an alias is used):<br>[<type>][\arabic{<ctr>}][<parent ctrs>]{\p@<ctr>\the<ctr>} Also see section 60.4 for use with footnotes.                                                                                                                                                                                                                                         |                  |
| <b>\label:</b> Writes to the .aux file:<br>\newlabel{<label>@\cref}{{\cref@currentlabel}{\thepage}}                                                                                                                                                                                                                                                                                                                    |                  |
| <b>\newlabel:</b> Unchanged. When the .aux file is read, sets \r@<label>@\cref.                                                                                                                                                                                                                                                                                                                                        |                  |
| <b>\r@&lt;label&gt;@\cref:</b> Set to: {{\cref@currentlabel}{\thepage}}                                                                                                                                                                                                                                                                                                                                                |                  |
| <b>Utility functions:</b> See \cref@getlabel, \cref@gettype, \cref@getcounter, \cref@getprefix.                                                                                                                                                                                                                                                                                                                        |                  |
| <b>Cross-referencing names:</b> \crefname and \Crefname assign human-readable names for references to this counter type.                                                                                                                                                                                                                                                                                               |                  |
| Additionally patched by l warp:                                                                                                                                                                                                                                                                                                                                                                                        | (HTML only)      |
| <b>\cref, etc.:</b> Modified for l warp. See section 199.                                                                                                                                                                                                                                                                                                                                                              |                  |
| <b>\label inside math:</b> See section 83.7.1.                                                                                                                                                                                                                                                                                                                                                                         |                  |
| <b>Footnotes:</b> See \noteentry in section 60.4.                                                                                                                                                                                                                                                                                                                                                                      |                  |

## 76.1 Setup

\@currentlabelname To remember the most recently defined section name, description, or caption, for \nameref.

```
10074 \def\@currentlabelname{\linkhomename}%
```

\LWR@stripperiod {\langle text \rangle} [⟨.⟩]

Removes a trailing period.

```
10075 \def\LWR@stripperiod#1.\ltx@empty#2@nil{#1}%
```

\LWR@setlatestname {\⟨object name⟩}

Removes \label, strips any final period, and remembers the result.

```
10076 \newcommand*{\LWR@setlatestname}[1]{%
```

Remove \label and other commands from the name, the strip any final period. See [gettitledstring](#).

```
10077 \GetTitleStringExpand{#1}%
10078 \edef\@currentlabelname{\detokenize\expandafter{\GetTitleStringResult}}%
10079 \edef\@currentlabelname{%
10080 \expandafter\LWR@stripperiod\@currentlabelname%
10081 \ltx@empty.\ltx@empty\@nil%
10082 }%
10083 }
```

## 76.2 New lwarp labels.

File \*\_html.aux A new entry in \*\_html.aux is used to remember section name, file, and lateximage depth and number for each label:

```
\newlabel{<labelname>}@lwarp}{\{<section name>\}\{<filename>\}
{\langle limagedepth \rangle}\{<Imagenumber>\}}
```

See:

<http://tex.stackexchange.com/questions/57194/extract-section-number-from-equation-reference>

\LWR@setref {\⟨args list⟩} {\⟨selector⟩} {\⟨label⟩}

\@setref without the \null (\hbox), and without the warning messages. Each caused problems with lwarp references. The regular reference will cause the warning.

```
10084 \def\LWR@setref#1#2#3{%
10085 \ifx#1\relax%
10086 ??%
10087 \else%
10088 \expandafter#2#1%
10089 \fi}
```

\LWR@nameref {*label*} Returns the section name for this label:

```
10090 \newcommand*{\LWR@nameref}[1]{%
10091 \expandafter\LWR@setref\csname r@#1@lwarf\endcsname\LWR@firstoffive{#1}%
10092 }
```

\LWR@currentautosecpageref {*label*} Returns the \LWR@currentautosecpage for this label:

```
10093 \newcommand*{\LWR@currentautosecpageref}[1]{%
10094 \expandafter\LWR@setref\csname r@#1@lwarf\endcsname\LWR@secondoffive{#1}%
10095 }
```

\LWR@htmlfileref {*label*} Returns the file number or name for this label:

```
10096 \newcommand*{\LWR@htmlfileref}[1]{%
10097 \expandafter\LWR@setref\csname r@#1@lwarf\endcsname\LWR@thirdoffive{#1}%
10098 }
```

\LWR@lateximagedepthref {*label*} Returns the \lateximagedepth for this label:

```
10099 \newcommand*{\LWR@lateximagedepthref}[1]{%
10100 \expandafter\LWR@setref\csname r@#1@lwarf\endcsname\LWR@fourthoffive{#1}%
10101 }
```

\LWR@lateximagenumberref {*label*} Returns the \lateximagenumber for this label:

```
10102 \newcommand*{\LWR@lateximagenumberref}[1]{%
10103 \expandafter\LWR@setref\csname r@#1@lwarf\endcsname\LWR@fifthoffive{#1}%
10104 }
```

\LWR@write@lwarplabel {*label*} Sanitize the name and then creates the label:

```
10105 \newcommand*{\LWR@write@lwarplabel}[1]{%
10106 \LWR@traceinfo{\LWR@write@lwarplabel !#1!}%
10107 \LWR@setlatestname{@currentlabelname}%
10108 @bsphack%
10109 \protected@write\@auxout{%
10110 %
10111 \string\newlabel{#1@lwarf}{%
10112 \@currentlabelname}%
10113 \the\LWR@currentautosecpage}%
10114 %
10115 \ifbool{FileSectionNames}%
10116 {\LWR@thisfilename}%
10117 {\arabic{LWR@htmlfilenumber}}%
10118 }%
10119 {\arabic{LWR@lateximagedepth}}%
10120 {\arabic{LWR@lateximagenumber}}%
10121 }%
10122 }%
10123 @esphack%
10124 }
```

### 76.3 Labels

\LWR@label@subcreatetag Creates the tag from \LWR@sanitized.

```
10125 \newcommand*{\LWR@Label@subcreatetag}{%
10126 \LWR@htmltag{a \LWR@print@mbox{id=\textquotedbl\textquotedbl\textquotedbl}}%
10127 \LWR@htmltag{/a}%
10128 }
```

\LWR@label@inmathcomment

```
10129 \newcommand*{\LWR@label@inmathcomment}{%
10130 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }{%
10131 {}}
```

The combined L<sup>A</sup>T<sub>E</sub>X & HTML label is printed in a \mbox field:

```
10132 \mbox{%
```

Shift the label over to the right side of the environment to avoid over-printing the math:

```
10133 \ifdef{\totwidth}{\ifbool{\LWR@amsmultiline}{}{\hspace*{\totwidth}}}{}
```

Temporarily end the HTML comment, insert the L<sup>A</sup>T<sub>E</sub>X & HTML label, then resume the HTML comment. \@firstofone is required to remove extra braces introduced by the amsmath package.)

```
10134 \LWR@htmclosecomment%
10135 \LWR@label@subcreatetag%
10136 \LWR@htmopencomment%
10137 }% mbox
10138 }% mathjax
10139 {%
10140 \LWR@label@subcreatetag%
10141 }%
10142 }
```

\LWR@label@createtag {<label>} Creates an HTML id tag.

Used by \LWR@new@label and \hyperdef.

\detokenize is used to allow underscores in the labels.

```
10143 \newcommand*{\LWR@Label@createtag}[1]{%
10144 \LWR@traceinfo{\LWR@label@createtag !#!}%
```

Create an HTML id tag unless are inside a lateximage, since it would appear in the image:

```
10145 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
10146 {}%
10147 { \% not lateximage }
```

If not doing a lateximage, create an HTML ID tag.

```

10148 \LWR@sanitize{#1}%
10149 \ifbool{\LWR@insidemathcomment}{%
10150 {%
10151 \LWR@label@inmathcomment%
10152 }%
10153 {%
10154 \ifbool{\LWR@doingstartpars}{%
10155 {%
10156 \ifbool{\LWR@doingapar}{%
10157 {%
10158 \LWR@label@subcreatetag%
10159 }%
10160 {%
10161 \LWR@stoppars%
10162 \LWR@label@subcreatetag%
10163 \LWR@startpars%
10164 }%
10165 }%
10166 {%
10167 \LWR@label@subcreatetag%
10168 }%
10169 }%
10170 }%
10171 }%

```

\LWR@new@label {*<label>*}

\label during HTML output when not in SVG math mode, removing extra spaces around the label, as done by a regular L<sup>A</sup>T<sub>E</sub>X \label.

The is also used during a lateximage, including svg math, since the special label handling is required, but \LWR@Label@createtag does not generate HTML tags inside a lateximage.

If memoir is used, it's \mem@old@label is pointed here.

clevereref later encases this to add its own cross-referencing, and also patches memoir.

```

10172 \newcommand*{\LWR@new@label}[1]{%
10173 \LWR@traceinfo{\LWR@new@label: starting}%
10174 \LWR@traceinfo{\LWR@new@label: !#1!}%
10175 % \@bsphack%

```

Create a traditional L<sup>A</sup>T<sub>E</sub>X label, as modified by cleveref:

```
10176 \LWR@orig@label{#1}%
```

Create a special label which holds the section number, section name, LWR@htmlfilename, LWR@lateximagedepth, and LWR@lateximagenumber:

```

10177 \LWR@traceinfo{%
10178 LWR@new@label: filesectionnames is %
10179 \ifbool{FileSectionNames}{true}{false}%
10180 }%
10181 \LWR@traceinfo{%
10182 LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!%

```

```

10183 }%
10184 \LWR@traceinfo{%
10185 \LWR@new@label: \LWR@htmlfilename is \arabic{\LWR@htmlfilename}%
10186 }%
10187 \LWR@write@lwarplabel{\#1}%
10188 \LWR@label@createtag{\#1}%
10189 % \@esphack%
10190 \LWR@traceinfo{\LWR@new@label: done}%
10191 }

```

## 76.4 References

\LWR@addlinktitle

```

10192 \newcommand*{\LWR@addlinktitle}{%
10193 \ifdefvoid{\LWR@ThisAltText}{}{ % space
10194 title=\textquotedbl\LWR@ThisAltText\textquotedbl\ % space
10195 \gdef\LWR@ThisAltText{}%
10196 }%
10197 }

```

\LWR@startref {<label>} (Common code for \ref and \nameref.)

Open an HTML tag reference to a filename, # character, and a label.

```

10198 \newcommand*{\LWR@startref}[1]
10199 {%
10200 \LWR@sanitize{\#1}%
10201 \LWR@traceinfo{\LWR@startref A: !#1!}%

```

Create the filename part of the link:

```

10202 \LWR@htmlltag{a href=\textquotedbl%
10203 \LWR@traceinfo{\LWR@startref B}%
10204 \LWR@print@mbox{\LWR@htmlrefsectionfilename{\#1}}%
10205 \LWR@traceinfo{\LWR@startref C}%
10206 \LWR@origpound%

```

Create the destination id:

See if \LWR@lateximagedepth is unknown:

```

10207 \LWR@traceinfo{\LWR@startref D: !#1!}%
10208 \ifcsundef{r@#1@lwarf}%

```

“??” if \LWR@lateximagedepth is unknown, so create a link with an unknown destination:

```

10209 {%
10210 \LWR@traceinfo{\LWR@startref D0: ??}%
10211 ??%
10212 }%

```

If `LWR@lateximagedepth` is known. Use a `lateximage` if the depth is greater than zero, or a regular link otherwise:

```
10213 {%
10214 \ifthenelse{\cnttest{\LWR@lateximagedepthref{#1}}{>}{0}}{%
10215 {%
10216 lateximage-\BaseJobname-\LWR@lateximagenumberref{#1}%
10217 }%
10218 {%
10219 \LWR@traceinfo{\LWR@startref D3}%

```

`\detokenize` is used to allow underscores in the labels:

```
10220 \LWR@print@mbox{\LWR@sanitized}%
10221 }%
10222 }%
10223 \LWR@traceinfo{\LWR@startref E}%

```

Closing quote:

```
10224 \textquotedbl%
```

Maybe add a title:

```
10225 \LWR@addlinktitle%
10226 }%
10227 \LWR@traceinfo{\LWR@startref F}%
10228 }
```

`\LWR@subnewref {<label>} {<label or sub@label>}`

Factored for the `subfig` package. Uses the original label for the hyper-reference, but prints its own text, such as “1(b)”.

```
10229 \NewDocumentCommand{\LWR@subnewref}{m m}{%
10230 \LWR@traceinfo{\LWR@subnewref #1 #2}%
10231 \LWR@startref{#1}%
10232 \LWR@print@ref{#2}%
10233 \LWR@htmltag{/a}%
10234 }
```

`\ref * {<label>}`    `\ref` is redefined to `\LWR@HTML@ref`, except inside the text part of a `\hyperref`, where it is redefined to `\LWR@ref@ignorestar`.

`\LWR@HTML@ref * {<label>}` Create an internal document reference link, or without a link if starred per `hyperref`.

`hyperref` defines a starred version. Since `hyperref` is only emulated, the starred version is defined here for print mode, in case `\ref` is used inside SVG math:

```
10235 \LWR@absorbstar{ref}%
```

The HTML version:

```

10236 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%
10237 \LWR@traceinfo{\LWR@HTML@ref !#2!}%
10238 \IfBooleanTF{#1}%
10239 {\LWR@print@ref{#2}}%
10240 {\LWR@subnewref{#2}{#2}}%
10241 }
10242
10243 \LWR@formatted{ref}

\LWR@refwithsection

10244 \NewDocumentCommand{\LWR@refwithsection}{s m}{%
10245 \LWR@traceinfo{\LWR@refwithsection !#2!}%
10246 \IfBooleanTF{#1}%
10247 {\LWR@print@ref{\BaseJobname-autopage-\LWR@currentautosecpageref{#2}}}%
10248 {%
10249 \LWR@startref{#2}%
10250 \LWR@print@ref{\BaseJobname-autopage-\LWR@currentautosecpageref{#2}}%
10251 \LWR@htmltag{/a}%
10252 }%
10253 }

```

For MATHJAX:

```

10254 \CustomizeMathJax{\let\LWRref\ref}
10255 \CustomizeMathJax{\renewcommand{\ref}{\ifstar\LWRref\LWRref}}

```

\pagerefPageFor Text for page references.

```
10256 \newcommand*{\pagerefPageFor}{see }
```

\pageref \* {*<label>*} Create an internal document reference, or just the unlinked number if starred, per [hyperref](#).

```

10257 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
10258 \IfBooleanTF{#1}%
10259 {(\pagerefPageFor\LWR@print@ref{#2})}%
10260 {(\cpageref{#2})}%
10261 }

```

\nameref {*<label>*}

```

10262 \newrobustcmd*{\nameref}[1]{%
10263 \LWR@traceinfo{\nameref}%
10264 \LWR@startref{#1}%
10265 \LWR@traceinfo{\nameref B}%
10266 \LWR@nameref{#1}%
10267 \LWR@traceinfo{\nameref C}%
10268 \LWR@htmltag{/a}%

```

```
10269 \LWR@traceinfo{nameref: done}%
10270 }
```

\Nameref {*label*} In print, adds the page number. In HTML, does not.

```
10271 \LetLtxMacro\Nameref\nameref
```

## 76.5 Hyper-references

- ⚠ Note that the code currently only sanitizes the underscore character. Additional characters should be rendered inert as well. See the `hyperref.sty` definition of `\gdef\hyper@normalise` for an example.

Pkg `hyperref`

- ⚠ Do not tell other packages that `hyperref` is emulated. Some packages patch various commands if `hyperref` is present, which will probably break something, and the emulation already handles whatever may be emulated anyhow.

```
10272 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:
10273 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.
```

Emulates `hyperref`:

\@currentHref Added to support `backref`.

```
10274 \AtBeginDocument{
10275 \def\@currentHref{\BaseJobname-autopage-\theLWR@previousautopagelabel}%
10276 }
```

\LWR@linkcatcodes Sets catcodes before processing macros which have hyperlinks as arguments.

```
10277 \newcommand*{\LWR@linkcatcodes}{%
10278 \catcode`\#=12%
10279 \catcode`\%=12%
10280 \catcode`\&=12%
10281 \catcode`\~=12%
10282 \catcode`_=12%
```

For `babel-french`:

```
10283 \LWR@hook@processingtags%
10284 }
```

\LWR@linkmediacatcodes Sets catcodes before processing macros which have hyperlinks as arguments. Modified for multimedia links.

```
10285 \newcommand*{\LWR@linkmediacatcodes}{%
10286 \catcode`\#=12%
10287 \catcode`\%=12%
```

```
10288 % \catcode`\&=12% left alone for splitting flash variables
10289 \catcode`\~=12%
10290 \catcode`_=12%
```

For babel-french:

```
10291 \LWR@hook@processingtags%
10292 }
```

\LWR@subhyperref {⟨URL⟩}

Starts a link for \LWR@hrefb. A group must have been opened first, with nullified catcodes. The text name is printed afterwards, after the group is closed and catcodes restored.

```
10293 \NewDocumentCommand{\LWR@subhyperref}{m}{%
10294 \LWR@traceinfo{\LWR@subhyperref !#1!}%
10295 \LWR@sanitize{#1}%
10296 \LWR@htmltag{%
10297 a href=\textquotedbl\text{\LWR@sanitized}\textquotedbl\ % space
10298 \LWR@addlinktitle % space
10299 target=\textquotedbl_{\blank}\textquotedbl\ % space
10300 }%
10301 }
```

\LWR@subhyperreftext {⟨text⟩}

Finishes the hyperref for \LWR@hrefb. Catcodes must have been restored already. To be used after \LWR@subhyperref, and after its group has been closed.

```
10302 \newcommand{\LWR@subhyperreftext}[1]{%
10303 #1%
10304 \LWR@htmltag{/a}%
10305 \LWR@ensuredoingapar%
10306 }
```

\LWR@subhyperrefclass {⟨URL⟩} {⟨text⟩} {⟨htmlclass⟩}

```
10307 \NewDocumentCommand{\LWR@subhyperrefclass}{m +m m}{%
10308 \LWR@htmltag{%
10309 a % space
10310 href=\textquotedbl\begingroup\@sanitize#1\endgroup\textquotedbl\ % space
10311 class=\textquotedbl#3\textquotedbl\ % space
10312 \LWR@addlinktitle % space
10313 }\LWR@newline%
10314 #2%
10315 \LWR@htmltag{/a}%
10316 \LWR@ensuredoingapar%
10317 }
```

\LWR@href [⟨options⟩] {⟨URL⟩}

Create a link with accompanying text:

```

10318 \DeclareDocumentCommand{\LWR@hrefb}{O{} m}{%
10319 \LWR@ensuredoingapar%
10320 \LWR@subhyperref{#2}%
10321 \endgroup% restore catcodes
10322 \LWR@subhyperreftext%
10323 }
10324
10325 \newrobustcmd*\LWR@href{%
10326 \begingroup%
10327 \LWR@linkcatcodes%
10328 \LWR@hrefb%
10329 }

```

\LWR@nolinkurl {<URL>}

Print the name of the link without creating the link:

```

10330 \newcommand*\LWR@nolinkurlb[1]{%
10331 \LWR@ensuredoingapar%
10332 \def\LWR@templink{#1}%
10333 \@onelvel@sanitize\LWR@templink%
10334 \LWR@templink%
10335 \endgroup%
10336 }
10337
10338 \newrobustcmd*\LWR@nolinkurl{%
10339 \begingroup%
10340 \LWR@linkcatcodes%
10341 \LWR@nolinkurlb%
10342 }

```

\LWR@url {<URL>}

Create a link whose text name is the address of the link.

The `url` package may redefine `\url`, so it is `\let` to `\LWR@urlahere` and also redefined by `lwarp-url`.

```

10343 \DeclareDocumentCommand{\LWR@urlb}{m}{%
10344 \LWR@ensuredoingapar%
10345 \def\LWR@templink{#1}%
10346 \@onelvel@sanitize\LWR@templink%
10347 \LWR@href{\LWR@templink}{\LWR@templink}%
10348 \endgroup%
10349 }
10350
10351 \newrobustcmd*\LWR@url{%
10352 \begingroup%
10353 \LWR@linkcatcodes%
10354 \LWR@urlb%
10355 }

```

\LWR@subinlineimage {{1: <alt> tag}} {{2: class}} {{3: filename}} {{4: extension}} {{5: css style}} {{6: ARIA role}}

Factored from `lateximage`.

```
10356 \newcommand*{\LWR@subinlineimage}[6]{%
10357 \ifblank{#6}{%
10358 {\renewcommand*{\LWR@tempone}{}}
10359 {\renewcommand*{\LWR@tempone}{\role="#6"\LWR@indentHTML}}
10360 \ifblank{#1}{%
10361 {%
10362 \LWR@htmltag{img \LWR@indentHTML
10363 src=\textquotedbl#3.\#4\textquotedbl \LWR@indentHTML
10364 alt=\textquotedbl#3\textquotedbl \LWR@indentHTML
10365 \LWR@tempone
10366 style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10367 class=\textquotedbl#2\textquotedbl \LWR@newline
10368 }%
10369 }%
10370 {%
10371 \LWR@htmltag{img \LWR@indentHTML
10372 src=\textquotedbl#3.\#4\textquotedbl \LWR@indentHTML
10373 alt=\textquotedbl#1\textquotedbl \LWR@indentHTML
10374 \LWR@tempone
10375 style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10376 class=\textquotedbl#2\textquotedbl \LWR@newline
10377 }%
10378 }%
10379 }%
10380 \end{warpHTML}
```

Table 15: Float data structures

---

For each <type> of float (figure, table, etc.) there exists the following:

**counter <type>**: A counter called <type>, such as figure, table.

**\<type>name**: Name. \figurename prints “Figure”, etc.

**\ext@<type>**: File extension. \ext@figure prints “lof”, etc.

**\fps@<type>**: Placement.

**\the<type>**: Number. \thetable prints the number of the table, etc.

**\p@<type>**: Parent’s number. Prints the number of the [within] figure, etc.

**\fnum@<type>**: Prints the figure number for the caption.  
\<type>name \the<type>, “Figure 123”.

**\<type>**: Starts the float environment. \figure or \begin{figure}

**\end<type>**: Ends the float environment. \endfigure or \end{figure}

**\tf@<ext>**: The L<sup>A</sup>T<sub>E</sub>X file identifier for the output file.

**LWR@have<type>**: A boolean remembering whether a \listof was requested for a float of this type.

**File with extension lo<f,t,a-z>**: An output file containing the commands to build the \listof<type> “table-of-contents” structure.

**Cross-referencing names**: For cleveref’s \cref and related, \crefname and \Crefname assign human-readable names for references to this float type.

---

## 77 Floats

Floats are supported, although partially through emulation.

Table 15 shows the data structure associated with each <type> of float.

### 77.1 Float environment

**for HTML output:** 10381 \begin{warpHTML}

\LWR@floatbegin {<type>} [<placement>]      Begins a \newfloat environment.

10382 \NewDocumentCommand{\LWR@floatbegin}{m o}{%

Warn if starting a float inside a <span>:

10383      \LWR@spanwarninvalid{float} %

```
10384 \ifbool{FormatWP}{\newline}{ }%
10385 \LWR@stoppars%
```

There is a new float, so increment the unique float counter:

```
10386 \addtocounter{LWR@thisautoid}{1}%
10387 \booltrue{LWR@freezethisautoid}%

10388 \begingroup%
```

Settings while inside the environment:

```
10389 \LWR@print@raggedright%
```

Open an **HTML** figure tag. The figure is assigned a **class** equal to its type, and another class according to the **float** package style, if used. Note that **\csuse** returns an empty string if **\LWR@floatstyle@<type>** is not defined.

```
10390 \LWR@htmllag{%
10391 figure id=\textquotedbl%
10392 \LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}%
10393 \textquotedbl\ % space
10394 class=\textquotedbl#1 \nameuse{LWR@floatstyle@#1}\textquotedbl%
10395 }%
10396 \ifbool{FormatWP}{%
10397 \LWR@newline%
10398 \LWR@BlockClassWP{}{}{wp#1}%
10399 }{ }%
```

Update the caption type:

```
10400 \renewcommand*{\@capttype}{#1}%
```

Mark the float for a word processor conversion:

```
10401 \LWR@startpars%
10402 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10403 === begin #1 ===
10405 }{ }%
```

After each **\LWR@floatbegin**, look for **\centering**, etc next, using **\LWR@floatalignment**.

```
10407 }
```

For **koma-script**. The following does not work for tables.

```
10408 \AtBeginDocument{%
10409 %
10410 \@ifpackageloaded{tocbasic}{%
10411 %
10412 \appto\figure@atbegin{%
```

```

10413 \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%
10414 }
10415
10416 }{ }% tocbasic
10417
10418 }% AtBeginDocument

```

\@xfloat Support packages which create floats directly.  
\@xdlbfloat Look for \centering, etc using \LWR@floatalignment.

```

10419 \AtBeginDocument{
10420 \def\@xfloat #1[#2]{%
10421 \LWR@floatbegin{#1}[#2]
10422 \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%
10423 }
10424 \def\@xdblfloat #1[#2]{%
10425 \LWR@floatbegin{#1}[#2]
10426 \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%
10427 }
10428 }

```

\LWR@floatend Ends a \newfloat environment.

```
10429 \newcommand*\LWR@floatend}{%
```

If saw a \centering, finish the center environment:

```
10430 \LWR@endfloatalignment%
```

Mark the float end for a word processor conversion:

```

10431 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10432 === end ===
10433
10434
10435 }{ }%
10436 \LWR@stoppars%

```

Close an HTML figure tag:

```

10437 \ifbool{FormatWP}{\endLWR@BlockClassWP}{}
10438 \LWR@htmlelementend{figure}%
10439 \endgroup%
10440 \boolfalse{\LWR@freezethisautoid}%
10441 \LWR@startpars%
10442 \ifbool{FormatWP}{\newline}{}
10443 }

```

\end@float Support packages which create floats directly.  
\end@dlbfloating  
10444 \AtBeginDocument{
10445 \let\end@float\LWR@floatend

```
10446 \let\end@dblfloat\LWR@floatend
10447 }
```

## 77.2 Float tracking

Ctr `\LWR@thisautoid` A sequential counter for all floats and theorems. This is used to identify the float or theorem then reference it from the List of Figures and List of Tables.

```
10448 \newcounter{\LWR@thisautoid}
```

Ctr `\LWR@thisautoidWP` A sequential counter for all word processor conversion <div>s. This is used to convince LIBREOFFICE to form a frame around this element.

```
10449 \newcounter{\LWR@thisautoidWP}
```

Bool `\LWR@freezethisautoid` Prevents multiple increments of `\LWR@thisautoid` inside a float.

```
10450 \newbool{\LWR@freezethisautoid}
10451 \boolexfalse{\LWR@freezethisautoid}
```

`\LWR@forcenewautoidanchor` Adds a new <autoid> anchor.

```
10452 \newcommand*{\LWR@forcenewautoidanchor}{%
10453 \addtocounter{\LWR@thisautoid}{1}%
10454 \ifbool{\LWR@doingapar}{%
10455 {%
10456 \LWR@htmltag{a id=\textquotedbl%
10457 \LWR@print@mbox{autoid-\arabic{\LWR@thisautoid}}%
10458 \textquotedbl\ }% space
10459 \LWR@htmltag{/a}%
10460 }%
10461 {%
10462 \LWR@stoppars%
10463 \LWR@htmltag{a id=\textquotedbl%
10464 \LWR@print@mbox{autoid-\arabic{\LWR@thisautoid}}%
10465 \textquotedbl\ }% space
10466 \LWR@htmltag{/a}%
10467 \LWR@startpars%
10468 }%
10469 }
```

`\LWR@newautoidanchor` Sometimes adds a new <autoid> anchor.

```
10470 \newcommand*{\LWR@newautoidanchor}{%
10471 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
10472 {}%
10473 {\ifbool{\LWR@freezethisautoid}{\LWR@forcenewautoidanchor}{}}%
10474 }
```

`\@capttype` Remembers which float type is in use.

```
10475 \newcommand*{\@capttype}{}%
```

\LWR@floatalignmentname Set to center, flushleft, or flushright if saw \centering, \raggedright, or \raggedleft.

```
10476 \newcommand*{\LWR@floatalignmentname}{}%
```

\LWR@floatalignment If sees a \centering, \raggedleft, or \raggedright, creates a center, flushright, or flushleft environment.

```
10477 \newcommand*{\LWR@floatalignment}{%
10478 \ifdefstreq{\LWR@mynexttoken}{\centering}{%
10479 \center%
10480 \renewcommand*{\LWR@floatalignmentname}{center}%
10481 }{%
10482 \ifdefstreq{\LWR@mynexttoken}{\raggedright}{%
10483 \flushleft%
10484 \renewcommand*{\LWR@floatalignmentname}{flushleft}%
10485 }{%
10486 \ifdefstreq{\LWR@mynexttoken}{\raggedleft}{%
10487 \flushright%
10488 \renewcommand*{\LWR@floatalignmentname}{flushright}%
10489 }{%
10490 }}
```

\LWR@endfloatalignment Closes an environment from \LWR@floatalignment.

```
10491 \newcommand*{\LWR@endfloatalignment}{%
10492 \ifdefvoid{\LWR@floatalignmentname}{%
10493 {}%
10494 {\@nameuse{end\LWR@floatalignmentname}}%
10495 \renewcommand*{\LWR@floatalignmentname}{}%
10496 }
```

### 77.3 Caption inside a float environment

\CaptionSeparator How to separate the float number and the caption text, if not defined by the user. In most cases, `caption`'s settings are used instead.

```
10497 \AtBeginDocument{\providecommand*{\CaptionSeparator}{:~}}
```

\@caption {⟨posn⟩} [⟨name⟩] {⟨long name⟩}

\@makecaption {⟨name and num⟩} {⟨text⟩}

Prints the float type and number, the caption separator, and the caption text.

\@caption is provided here in case `caption` is not loaded, and is based on the `nameref` package.

```
10498 \AtBeginDocument{
10499 \@ifpackageloaded{caption}{}{%
10500 \let\LWR@orig@caption\@caption%
10501 \long\def\@caption{\#1[\#2]{%
```

Warn if using a caption inside a <span>:

```

10502 \LWR@spanwarnformat{caption}%
10503 \LWR@setlatestname{#2}%
10504 \LWR@orig@caption{#1}[{#2}]% also takes third argument
10505 }%
10506
10507 \renewcommand{\@makecaption}[2]{%
10508 \LWR@traceinfo{@makecaption}%
10509 \caption@begin{\@capttype}%
10510 \LWR@isolate{#1}%
10511 \edef\LWR@tempone{#1}%
10512 \ifdefvoid{\LWR@tempone}{}{\CaptionSeparator}%
10513 \LWR@isolate{#2}%
10514 \caption@end%
10515 \LWR@traceinfo{@makecaption: done}%
10516 }%
10517 }
10518 }
```

## 77.4 Caption and LOF linking and tracking

When a new HTML file is marked in the L<sup>A</sup>T<sub>E</sub>X PDF file, or at the start of a new section, the L<sup>A</sup>T<sub>E</sub>X PDF page number at that point is stored in LWR@currentautosecfloatpage, (and the associated filename is remembered by the special L<sup>A</sup>T<sub>E</sub>X labels). This page number is used to generate an autopage HTML <id> in the HTML output at the start of the new HTML file or section. Meanwhile, there is a float counter used to generate an HTML autoid <id> at the start of the float itself in the HTML file. The autopage and autoid values to use for each float are written to the .lof, etc. files just before each float's entry. These values are used by \l@figure, etc. to create the HTML links in the List of Figures, etc.

Ctr LWR@nextautoid Tracks autoid for floats. Tracks autopage for floats.

Ctr LWR@nextautopage These are updated per float as the .lof, .lot file is read.

```

10519 \newcounter{LWR@nextautoid}
10520 \newcounter{LWR@nextautopage}
```

\LWRsetnextfloat {\langle autopage\rangle} {\langle float autoid\rangle}

File \*\_html.lof This is written to the \*\_html.lof or \*\_html.lot file just before each float's usual entry.  
File \*\_html.lot The autopage and the float's autoid are remembered for \l@figure to use when creating the HTML links.

```

10521 \newcommand*{\LWRsetnextfloat}[2]{%
10522 \setcounter{LWR@nextautopage}{#1}%
10523 \setcounter{LWR@nextautoid}{#2}%
10524 }
```

Env LWR@figcaption An HTML <figcaption> is not allowed in places where L<sup>A</sup>T<sub>E</sub>X does allow a figure caption, such as inside a `longtable` where the tabular has already started, or inside a `center` environment. Therefore, a <div> of class `figurecaption` is used instead.

```
10525 \newenvironment*{LWR@figcaption}
10526 {%
10527 \ifbool{FormatWP}{%
10528 \BlockClass[font-style:italic]{figurecaption}%
10529 }{%
10530 \BlockClass{figurecaption}%
10531 }%
10532 }%
10533 {\endBlockClass}
```

\LWR@HTML@caption@begin {{type}}

Low-level code to create HTML tags for captions.

The print versions are from the `caption` package, if loaded.

```
10534 \newcommand*{\LWR@HTML@caption@begin}[1]
10535 {%
10536 \LWR@traceinfo{\LWR@HTML@caption@begin}%
```

Keep par and minipage changes local:

```
10537 \begingroup%
```

No need for a `minipage` or `\parbox` inside the caption:

```
10538 \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}{}{%
10539 \RenewDocumentCommand{\parbox}{O{t} O{} O{t} m +m}##5}%
```

Enclose the original caption code inside an HTML tag:

```
10540 \LWR@figcaption%
10541 \LWR@traceinfo{\LWR@HTML@caption@begin: about to LWR@origcaption@begin}%
10542 \LWR@print@caption@begin{#1}%
10543 \LWR@traceinfo{\LWR@HTML@caption@begin: done}%
10544 }
```

\LWR@HTML@caption@end Low-level patches to create HTML tags for captions.

```
10545 \newcommand*{\LWR@HTML@caption@end}%
10546 {%
10547 \LWR@traceinfo{\LWR@HTML@caption@end}%
10548 \LWR@print@caption@end%
```

Closing tag:

```
10549 \endLWR@figcaption%
10550 \endgroup%
10551 % \leavevmode% avoid bad space factor (0) error
```

```
10552 \LWR@traceinfo{\LWR@HTML@caption@end: done}%
10553 }
```

\caption@begin Low-level patches to create HTML tags for captions. These are assigned \AtBeginDocument so that other packages which modify captions will have already been loaded before saving the print-mode version.

Print versions are provided here in case `caption` is not loaded.

```
10554 \AtBeginDocument{%
10555 \providecommand{\caption@begin}{\caption@begin}[1]{}
10556 \LWR@formatted{caption@begin}%
10557 \providecommand{\caption@end}{\caption@end}%
10559 \LWR@formatted{caption@end}%
10560 }
```

\captionlistentry Tracks the float number for this caption used outside a float. Patched to create an HTML anchor.

```
10561 \AtBeginDocument{%
10562 \@ifpackageloaded{caption}{%
10563 \let\LWR@origcaptionlistentry\captionlistentry%
10564 \renewcommand*\captionlistentry{%
10565 \LWR@ensuredoingapar%
10566 \LWR@origcaptionlistentry%
10567 }%
10568 }%
10569 \def\LWR@LTcaptionlistentry{%
10570 \LWR@ensuredoingapar%
10571 \LWR@forcenewautoidanchor%
10572 \bgroup%
10573 \@ifstar{\egroup\LWR@LT@captionlistentry}{%
10574 \egroup\LWR@LT@captionlistentry}%
10575 }%
10576 \def\LWR@LT@captionlistentry#1{%
10577 \caption@listentry@\firstoftwo[\LTcotype]{#1}%
10579 }%
10580 }% caption loaded
10581 {%
10582 \newcommand{\captionlistentry}[2]{}%
10583 \newcommand{\LWR@LT@captionlistentry}[2]{}%
10584 }%
10585 }% AtBeginDocument
```

\addcontentsline Patched to write the autopage and autoid before each float's entry. No changes if writing .toc For a theorem, automatically defines \ext@<type> as needed, to mimic and reuse the float mechanism.

---

```

10586 \let\LWR@origaddcontentsline\addcontentsline
10587
10588 \renewcommand*{\addcontentsline}[3]{%
10589 \ifstrequal{#1}{toc}{}% not TOC

10590 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
10591 {}%
10592 {\LWR@newautoidanchor}%

10593 \ifcsvvoid{ext@#2}{\csdef{ext@#2}{#1}}{}{%
10594 \addtocontents{\@nameuse{ext@#2}}{%
10595 \protect\LWRsetnextfloat{%
10596 {\arabic{\LWR@currentautosecfloatpage}}%
10597 {\arabic{\LWR@thisautoid}}}%
10598 }%
10599 }% not TOC
10600 \LWR@origaddcontentsline{#1}{#2}{#3}%
10601 }

```

Pkg capt-of Either package provides `\captionof`, which is later patched at the beginning of the document.

`\captionof` Patched to handle paragraph tags.

```

10602 \RequirePackage{capt-of}
10603
10604 \AtBeginDocument{
10605 \let\LWR@origcaptionof\captionof
10606
10607 \renewcommand*{\captionof}{%
10608 \LWR@stoppars%
10609 \LWR@origcaptionof%
10610 }
10611 }% AtBeginDocument

10612 \end{warpHTML}

```

## 78 Table of Contents, LOF, LOT

This section controls the generation of the TOC, LOF, and LOT.

The `.toc`, `.lof`, and `.lot` files are named by the source code `\jobname`.

In HTML, the printed tables are placed inside a `<div>` of class `toc`, `lof`, or `lot`.

A “`sitetoc`” is provided which prints a subset of the TOC on the side of each page other than the homepage.

The regular L<sup>A</sup>T<sub>E</sub>X infrastructure is used for TOC, along with some patches to generate HTML output.

**for HTML output:** 10613 \begin{warpHTML}

## 78.1 Reading and printing the TOC

\LWR@myshorttoc {<toc/lof/lot/sidetoc>}

Reads in and prints the TOC/LOF/LOT at the current position. While doing so, makes the @ character into a normal letter to allow formatting commands in the section names.

Unlike in regular L<sup>A</sup>T<sub>E</sub>X, the file is not reset after being read, since the sidetoc may be referred to again in each HTML page.

```
10614 \newcommand*{\LWR@myshorttoc}[1]{%
10615 \LWR@traceinfo{\LWR@myshorttoc: #1}%
10616 \LWR@ensuredoingapar%
```

Only if the file exists:

```
10617 \IfFileExists{\jobname.\#1}{%
10618 \LWR@traceinfo{\LWR@myshorttoc: loading}%

```

 Many of the commands in the file will have @ characters in them, so @ must be made a regular letter.

```
10619 \begingroup%
10620 \makeatletter%
```

Disable CJK xpinyin while generating the sidetoc.

```
10621 \LWR@disablepinyin%
```

Read in the TOC file:

```
10622 \@input{\jobname.\#1}%
10623 \endgroup%
10624 }%
10625 {%
10626 \LWR@traceinfo{\LWR@myshorttoc: done}%
10627 }
```

\LWR@subtableofcontents {<toc/lof/lot>} {<sectionstarname>}

Places a TOC/LOF/LOT at the current position.

```
10628 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%
```

Closes previous levels:

```
10629 \@ifundefined{chapter}%
10630 {\LWR@closeprevious{section}}%
10631 {\LWR@closeprevious{chapter}}%
```

Prints any pending footnotes so that they appear above the potentially large TOC:

```
10632 \LWR@printpendingfootnotes%
```

Place the list into its own chapter (if defined) or section:

```
10633 \@ifundefined{chapter}{\section*{\#2}}{\chapter*{\#2}}%
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
10634 \LWR@htmlelementclass{nav}{#1}%
```

Create the actual list:

```
10635 \LWR@myshorttoc{#1}%
```

Close the nav:

```
10636 \LWR@htmlelementclassend{nav}{#1}%
10637 }
```

\@starttoc {*ext*}

Patch \@starttoc to encapsulate the TOC inside HTML tags:

```
10638 \let\LWR@orig@starttoc\@starttoc
10639
10640 \renewcommand{\@starttoc}[1]{
10641 \LWR@htmlelementclass{nav}{#1}%
10642 \LWR@orig@starttoc{#1}%
10643 \LWR@htmlelementclassend{nav}{#1}%
10644 }
```

Bool LWR@copiedsidetoc Used to only copy the TOC file to the sidetoc a single time.

(*listings* and perhaps other packages would re-use \tableofcontents for their own purposes, causing the sidetoc to be copied more than once, and thus end up empty.)

```
10645 \newbool{LWR@copiedsidetoc}
10646 \boolefalse{LWR@copiedsidetoc}
```

\tableofcontents Patch \tableofcontents, etc. to print footnotes first. **newfloat** uses \listoffigures for all future float types.

```
10647 \AtBeginDocument{
10648
10649 \let\LWR@origtableofcontents\tableofcontents
10650
10651 \renewcommand*\tableofcontents}{%
```

Do not print the table of contents if formatting for a word processor, which will presumably auto-generate its own updated table of contents:

```
10652 \ifboolexpr{bool{FormatWP} and bool{WPMarkTOC}}{
10653 === table of contents ===
10655
10656 }
10657 {
```

Copy the .toc file to .sidetoc for printing the sidetoc. The original .toc file is renewed when \tableofcontents is finished.

```
10658 \ifbool{LWR@copiedsidetoc}{}{
10659 \LWR@copyfile{\jobname.toc}{\jobname.sidetoc}
10660 \booltrue{LWR@copiedsidetoc}
10661 }
10662 \LWR@printpendingfootnotes
10663 \LWR@origtableofcontents
10664 }
10665 }% \tableofcontents
10666
10667 }% AtBeginDocument
```

#### \listoffigures

```
10668 \let\LWR@origlistoffigures\listoffigures
10669
10670 \renewcommand*{\listoffigures}{
10671 \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
10672 === list of figures ===
10673 }
10674 }
10675 {
10676 \LWR@printpendingfootnotes
10677 \LWR@origlistoffigures
10678 }
10680 }
```

#### \listoftables

```
10681 \let\LWR@origlistoftables\listoftables
10682
10683 \renewcommand*{\listoftables}{
10684 \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
10685 === list of tables ===
10686 }
10687 }
10688 {
10689 \LWR@printpendingfootnotes
10690 \LWR@origlistoftables
10692 }
10693 }
```

## 78.2 High-level toc commands

\listof {*type*} {*title*}

Emulate the \listof command from the float package (section 271). Used to create lists of custom float types. Also used to redefine the standard L<sup>A</sup>T<sub>E</sub>X \listoffigures and \listoftables commands.

```
10694 \NewDocumentCommand{\listof}{m +m}{%
10695 @ifundefined{l@#1}{%
10696 \csdef{l@#1##1##2}{\hypertocfloat{1}{#1}{\@nameuse{ext@#1}}{##1}{##2}}%
10697 }{}%
10698 \LWR@subtableofcontents{\@nameuse{ext@#1}}{#2}%
10699 \expandafter\newwrite\csname tf@\csname ext@#1\endcsname\endcsname%
10700 \immediate\openout \csname tf@\csname ext@#1\endcsname\endcsname\endcsname%
10701 \jobname.\@nameuse{ext@#1}\relax%
10702 }
```

## 78.3 Side toc

The “side toc” is a table-of-contents positioned to the side.

It may be renamed by redefining \sidetocname, and may contain paragraphs.

Per table 16, css may be used to format the sidetoc.

Table 16: CSS related to the sidetoc

- div.sidetoccontainer:** The entire sidetoc.
- div.sidetotitle:** The title.
- div.sidetoccontents:** The table of contents.

```
10703 \end{warpHTML}
```

**for HTML & PRINT:** 10704 \begin{warpall}

**Ctr SideTOCDepth** Controls how deep the side-TOC gets. Use a standard L<sup>A</sup>T<sub>E</sub>X section level similar to tocdepth. Warn if parts of the website may be inaccessible.

```
10705 \newcounter{SideTOCDepth}
10706 \setcounter{SideTOCDepth}{1}
10707
10708 \AtEndDocument{%
10709 \ifnumcomp{\value{SideTOCDepth}}{<}{\value{FileDepth}}{%
10710 \PackageWarningNoLine{lwarp}%
10711 {%
10712 SideTOCDepth is less than FileDepth, \MessageBreak%
10713 so some website pages may be inaccessible%%
10714 }%
10715 }{}%
10716 }
```

\sidetocname Holds the default name for the sidetoc.

```
10717 \newcommand{\sidetocname}{Contents}
10718 \end{warpall}
```

**for HTML output:** 10719 \begin{warpHTML}

\LWR@sidetoc Creates the actual side-TOC.

```
10720 \newcommand*{\LWR@sidetoc}{%
10721 \LWR@forcenewpage
10722 \LWR@stoppars
10723 }
```

The entire sidetoc is placed into a nav of class sidetoc.

```
10724 \LWR@htmlelementclass{div}{sidetoccontainer}
10725 \LWR@htmlelementclass{nav}{sidetoc}
10726
10727 \setcounter{tocdepth}{\value{SideTOCDepth}}
10728 }
```

The title is placed into a <div> of class sidetoctitle, and may contain paragraphs.

```
10729 \begin{BlockClass}{sidetoctitle}
10730 \ifcsvvoid{thetitle}{}{\InlineClass{sidetocthetitle}{\thetitle}\par}
10731 \sidetocname
10732 \end{BlockClass}
```

The table of contents is placed into a <div> of class sidetoccontents.

```
10733 \begin{BlockClass}{sidetoccontents}
10734 \LinkHome
10735
10736 \LWR@myshorttoc{sidetoc}
10737 \end{BlockClass}
10738 \LWR@htmlelementclassend{nav}{sidetoc}
10739 \LWR@htmlelementclassend{div}{sidetoccontainer}
10740 }
```

## 78.4 Low-level toc line formatting

\numberline {\langle number\rangle}

(Called from each line in the .aux, .lof files.)

Record this section number for further use:

```
10741 \newcommand*{\LWR@numberline}[1]{%
10742 \LWR@sectionnumber{\#1}\quad%
10743 }
```

```
10744
10745 \LetLtxMacro\numberline\lWR@numberline
```

\lWR@maybetocdata Replaced by **tocdata**. Adds author name.

```
10746 \newcommand*\lWR@maybetocdata{}{}
```

```
\hypertoc {\langle 1: depth\rangle} {\langle 2: type\rangle} {\langle 3: name\rangle} {\langle 4: page\rangle}
```

Called by \l@section, etc. to create a hyperlink to a section.

The autopage label is always created just after the section opens.

#1 is depth

#2 is section, subsection, etc.

#3 the text of the caption

#4 page number

```
10747 \NewDocumentCommand{\hypertoc}{m m +m m}{%
10748 \lWR@traceinfo{hypertoc !#1!#2!#3!#4!}%
}
```

Respond to tocdepth:

```
10749 \ifnumcomp{#1}{>}{\value{tocdepth}}{%
10750 {}%
10751 {%
10752 \lWR@startpars%
```

Create an HTML link to <filename>#autosec-(page), with the name, of the given HTML class.

\BaseJobname is added to the label in case **xr** or **xr-hyper** are used.

```
10753 \lWR@subhyperrefclass{%
10754 \lWR@htmlrefsectionfilename{\BaseJobname-autopage-#4}%
10755 \lWR@origpound\lWR@print@mbox{autosec-#4}%
10756 }{#3}{toc#2}%
10757 \lWR@maybetocdata%
10758 \lWR@stoppars%
10759 }%
10760 \lWR@traceinfo{hypertoc done}%
10761 }
```

Ctr \lofdepth TOC depth for figures.

```
10762 @ifclassloaded{memoir}{}{%
10763 \newcounter{lofdepth}%
10764 \setcounter{lofdepth}{1}%
10765 }
```

`ctr lotdepth` toc depth for tables.

```

10766 \@ifclassloaded{memoir}{}{
10767 \newcounter{lotdepth}
10768 \setcounter{lotdepth}{1}
10769 }

\hypertocfloat {<1: depth>} {<2: type>} {<3: ext of parent>} {<4: caption>} {<5: page>}

#1 is depth
#2 is figure, table, etc.
#3 is lof, lot, of the parent.
#4 the text of the caption
#5 page number

```

10770 \newcommand{\hypertocfloat}[5]{%

If some float-creation package has not yet defined the float type's `lofdepth` counter, etc, define it here:

```

10771 \@ifundefined{c@#3depth}{}{
10772 \newcounter{#3depth}%
10773 \setcounter{#3depth}{1}%
10774 }%

```

Respond to `lofdepth`, etc.:

```

10775 \LWR@traceinfo{hypertocfloat depth is #1 #3depth is \arabic{#3depth}}%
10776 \ifthenelse{\cnttest{#1}{<=}{\arabic{#3depth}}}%
10777 {}%
10778 \LWR@startpars%

```

Create an `HTML` link to `filename#autoid-(float number)`, with text of the caption, of the given `HTML` class.

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```

10779 \LWR@subhyperrefclass{%
10780 \LWR@htmlrefsectionfilename{%
10781 \BaseJobname-autopage-\arabic{\LWR@nextautopage}}%
10782 }%
10783 \LWR@origpound\LWR@print@mbox{autoid-\arabic{\LWR@nextautoid}}}}%
10784 {#4}{toc#2}%

10785 \LWR@maybetocdata%

10786 \LWR@stopars%
10787 }%
10788 {}%
10789 }

```

Automatically called by \contentsline:

```
\l@book {\langle name\rangle} {\langle page\rangle}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \book.

```
10790 \DeclareDocumentCommand{\l@book}{m m}{\hypertoc{-2}{book}{#1}{#2}}
```

```
\l@part {\langle name\rangle} {\langle page\rangle}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \part.

```
10791 \DeclareDocumentCommand{\l@part}{m m}{\hypertoc{-1}{part}{#1}{#2}}
```

```
\l@chapter {\langle name\rangle} {\langle page\rangle}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \chapter.

```
10792 @ifundefined{chapter}
10793 {}
10794 {
10795 \DeclareDocumentCommand{\l@chapter}{m m}
10796 {\hypertoc{0}{chapter}{#1}{#2}}
10797 }
```

```
\l@section {\langle name\rangle} {\langle page\rangle}
```

```
10798 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}
```

```
\l@subsection {\langle name\rangle} {\langle page\rangle}
```

```
10799 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}
```

```
\l@subsubsection {\langle name\rangle} {\langle page\rangle}
```

```
10800 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}
```

```
\l@paragraph {\langle name\rangle} {\langle page\rangle}
```

```
10801 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}
```

```
\l@ subparagraph {\langle name\rangle} {\langle page\rangle}
```

```
10802 \renewcommand{\l@ subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}
```

```
\l@figure {\langle name\rangle} {\langle page\rangle}
```

```
10803 \renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}
```

---

```
\l@table {<name>} {<page>}

10804 \renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{\l@t@#1}{#2}}
10805 \end{warpHTML}
```

## 79 Index and glossary

See:

[http://tex.stackexchange.com/questions/187038/  
how-to-mention-section-number-in-index-created-by-imakeidx](http://tex.stackexchange.com/questions/187038/how-to-mention-section-number-in-index-created-by-imakeidx)

Index links are tracked by the counter `LWR@autoindex`. This counter is used to create a label for each index entry, and a reference to this label for each entry in the index listing. This method allows each index entry to link directly to its exact position in the document.

**for HTML output:** 10806 `\begin{warpHTML}`

```
10807 \newcounter{LWR@autoindex}
10808 \setcounter{LWR@autoindex}{0}
10809
10810 \newcounter{LWR@autoglossary}
10811 \setcounter{LWR@autoglossary}{0}
```

`\IndexPageSeparator` User-adjustable delimiters for page and range separators in the `*.ind` files.  
`\IndexRangeSeparator`

```
10812 \newcommand*{\IndexPageSeparator}{, }
10813 \newcommand*{\IndexRangeSeparator}{--}
```

**Env** `theindex`

```
10814 \@ifundefined{chapter}
10815 {\newcommand*{\LWR@indexsection}[1]{\section*{#1}}}
10816 {\newcommand*{\LWR@indexsection}[1]{\chapter*{#1}}}
10817
10818
10819 \AtBeginDocument{
10820
10821 \renewenvironment*{theindex}{%
10822 \LWR@indexsection{\indexname}%
10823 \let\item\LWR@indexitem%
10824 \let\subitem\LWR@indexsubitem%
10825 \let\subsubitem\LWR@indexsubsubitem%
10826 }{}%
10827
10828 }% AtBeginDocument
```

`\LWR@indexitem` [*<index key>*] The optional argument is added to support `repeatindex`.

```
10829 \newcommand{\LWR@indexitem}[1][\empty]{
```

```

10830
10831 \InlineClass{indexitem}{\LWR@htmlcomment{} }#1%
10832 }

\LWR@indexsubitem

10833 \newcommand{\LWR@indexsubitem}{%
10834
10835 \InlineClass{indexsubitem}{\LWR@htmlcomment{} }%
10836 }

```

\LWR@indexsubsubitem

```

10837 \newcommand{\LWR@indexsubsubitem}{%
10838
10839 \InlineClass{indexsubsubitem}{\LWR@htmlcomment{} }%
10840 }

```

\LWR@index@modifyentry {*indexing term*}

If using *xindex*, modifies the pipe character to become \hyperindexformat. The indexing term is split into two argument at the pipe, then fed to \LWR@index@modifyentrysub.

```

10841 \NewDocumentCommand{\LWR@index@modifyentry}{>{\SplitArgument{1}{|}}m}
10842 {\LWR@index@modifyentrysub#1}

```

Handle left and right parenthesis range argument, or add a hyperindexformat clause.

```

10843 \newcommand*{\LWR@index@modifyentrysub}[2]{%
10844 \edef\LWR@tempone{\#1}%
10845 \edef\LWR@temptwo{\#2}%
10846 \IfValueTF{\#2}{%
10847 \ifx{\#2}{%
10848 \appto{\LWR@tempone{|}}{%
10849 \else%
10850 \ifx{\#2}{%
10851 \appto{\LWR@tempone{|}}{%
10852 \else%
10853 \appto{\LWR@tempone{%
10854 |hyperindexformat\LWRleftbrace{%
10855 \LWRbackslash{2}%
10856 \LWRrightbrace{%
10857 }}%
10858 \fi%
10859 \fi%
10860 }%
10861 {}%
10862 }

```

\@wrindex {*indexing term*} Redefined to write the \LWR@autoindex counter instead of page.

If using *xindex*, the first line is a comment including a special phrase which tricks *xindex* into thinking that **hyperref** was used.

```

10863 \newbool{LWR@xindex@tricked}
10864 \boolfalse{LWR@xindex@tricked}
10865
10866 \def\LWR@wrindex#1{%
10867 \ifbool{LWR@xindex}{%
10868 \ifbool{LWR@xindex@tricked}{}{%
10869 \protected@write\@indexfile{%
10870 {%
10871 \LWRpercent\space hyperpage\rightbrace%
10872 \LWRpercent\space trick xindex to assume hyperref%
10873 }%
10874 \global\booltrue{LWR@xindex@tricked}%
10875 }%
10876 \LWR@xindex@modifyentry{#1}%
10877 }{%
10878 \def\LWR@tempone{#1}%
10879 }%
10880 \addtocounter{LWR@autoindex}{1}%
10881 \label{LWRindex-\arabic{LWR@autoindex}}%
10882 \protected@write\@indexfile{%
10883 {\string\indexentry{\LWR@tempone}{\arabic{LWR@autoindex}}}%
10884 \endgroup%
10885 \esphack%
10886 }
10887
10888 \AtBeginDocument{
10889 \let\@wrindex\LWR@wrindex
10890 }
```

\@wrglossary {*term*} Redefined to write the LWR@autoglossary counter instead of page.

```

10891 \def\@wrglossary#1{%
10892 \addtocounter{LWR@autoglossary}{1}%
10893 \LWR@new@label{LWRglossary-\theLWR@autoglossary}%
10894 \protected@write\@glossaryfile{%
10895 {\string\glossaryentry{#1}{\theLWR@autoglossary}}}%
10896 \endgroup%
10897 \esphack%
10898 }
```

\LWR@indexnameref@anonref {*LWR@autoindex*}

Displays a reference link where there no \ref available.

```

10899 \newcommand*{\LWR@indexnameref@anonref}[1]{%
10900 \LWR@startref{LWRindex-\#1}%
10901 (*)%
10902 \LWR@htmltag{/a}%
10903 }
```

\LWR@indexnameref@ref {*LWR@autoindex*}

Creates \ref-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first.

```

10904 \newcommand*{\LWR@indexnameref@ref}[1]{%
10905 \edef\LWR@thisref{\csuse{r@LWRindex-\#1}}%
10906 \ifdefvoid{\LWR@thisref}{}{%
10907 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10908 \ifdefvoid{\LWR@thisref}{%
10909 {\LWR@indexnameref@anonref{\#1}}%
10910 {\ref{LWRindex-\#1}}%
10911 }%
10912 }

```

\LWR@indexnameref@refnameref {<LWR@autoindex>}

Creates \ref-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first. For links to starred or ?? objects, only the name is used.

```

10913 \newcommand*{\LWR@indexnameref@refnameref}[1]{%
10914 \edef\LWR@thisref{\csuse{r@LWRindex-\#1}}%
10915 \ifdefvoid{\LWR@thisref}{}{%
10916 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10917 \ifdefvoid{\LWR@thisref}{%
10918 \ifdefstring{\LWR@thisref}{(*)}%
10919 {}%
10920 {\ref{LWRindex-\#1} }% space
10921 }%
10922 }%
10923 \nameref{LWRindex-\#1}%
10924 }

```

\LWR@indexnameref@cref {<LWR@autoindex>}

Creates \cref-style index references. If no numbered reference is available, a \nameref is used instead. If the reference is ??, which will be changed by \LWR@indexnameref to become (\*), then the link is changed to show (\*).

```

10925 \newcommand*{\LWR@indexnameref@cref}[1]{%
10926 \edef\LWR@thisref{\csuse{r@LWRindex-\#1}}%
10927 \ifdefvoid{\LWR@thisref}{%
10928 \nameref{LWRindex-\#1}%
10929 }{%
10930 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10931 \ifdefvoid{\LWR@thisref}{%
10932 \nameref{LWRindex-\#1}%
10933 }{%
10934 \ifdefstring{\LWR@thisref}{(*)}{%
10935 \LWR@indexnameref@anonref{\#1}%
10936 }{%
10937 \cref{LWRindex-\#1}%
10938 }%
10939 }%
10940 }%

```

```
10941 }
```

```
\LWR@indexnameref{\LWR@autoindex}
```

Creates \cref-style index references. If no numbered reference is available, a \nameref is used instead. If the reference is ??, which will be changed by \LWR@indexnameref to become (\*), then the link is changed to show only the name.

```
10942 \newcommand*{\LWR@indexnameref@crefnameref}[1]{%
10943 \edef\LWR@thisref{\csuse{r@LWRindex-\#1}}%
10944 \ifdefvoid{\LWR@thisref}%
10945 {}%
10946 {}%
10947 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10948 \ifdefvoid{\LWR@thisref}%
10949 {}%
10950 {}%
10951 \ifdefstring{\LWR@thisref}{(*)}%
10952 {}%
10953 {\cref{LWRindex-\#1}} % space
10954 {}%
10955 {}%
10956 \nameref{LWRindex-\#1}%
10957 }
```

```
\LWR@indexnameref{\LWR@autoindex}
```

Creates a hyperlink based on the given entry's autoindex.

```
10958 \newcommand*{\LWR@indexnameref}[1]{%
10959 {% group
```

Temporarily redefine **caption**'s \caption@xref because it was printing ?? in the indexes, and also causing error on expansion:

```
10960 \ifdef{\caption@xref}{%
10961 \renewcommand*{\caption@xref}[2]{(*)}%
10962 }{}%
10963 \ifdefstring{\LWR@IndexRef}{ref}{%
10964 \LWR@indexnameref@ref{\#1}%
10965 }{}%
10966 \ifdefstring{\LWR@IndexRef}{nameref}{%
10967 \nameref{LWRindex-\#1}%
10968 }{}%
10969 \ifdefstring{\LWR@IndexRef}{refnameref}{%
10970 \LWR@indexnameref@refnameref{\#1}%
10971 }{}%
10972 \ifdefstring{\LWR@IndexRef}{cref}{%
10973 \LWR@indexnameref@cref{\#1}%
10974 }{}%
10975 \ifdefstring{\LWR@IndexRef}{crefnameref}{%
10976 \LWR@indexnameref@crefnameref{\#1}%
10977 }{}%
```

```

10978 \ifdefstring{\LWR@IndexRef}{autoref}{%
10979 \LWR@indexnameref{cref{#1}}%
10980 }{%
10981 \LWR@startref{LWRindex-#1}%
10982 \LWR@IndexRef%
10983 \LWR@htmlltag{/a}%
10984 }{%
10985 }%
10986 }
```

\LWR@doindexentrysubsub {*range start: LWR@autoindex, or macros.*} {*range end or blank*}

Creates a hyperlink, or handles \see, \textbf{etc}.

```

10987 \newrobustcmd{\LWR@doindexentrysubsub}[2]{%
10988 \IfInteger{#1}{%
10989 {\LWR@indexnameref{#1}}%
10990 {#1}%
10991 \IfValueT{#2}{%
10992 \IndexRangeSeparator%
10993 \IfInteger{#2}{%
10994 {\LWR@indexnameref{#2}}%
10995 {#2}%
10996 }%
10997 }}
```

\LWR@doindexentrysub {*range delimiter*} {*LWR@autoindex or macros, possible a range*}

```

10998 \NewDocumentCommand{\LWR@doindexentrysub}{m >{\SplitArgument{1}{#1}}m}
10999 {\LWR@doindexentrysub#2}
```

\LWR@doindexentry {*LWR@autoindex or macros, possible a range*}

```

11000 \newcommand*{\LWR@doindexentry}[1]{%
11001 \relax% required
11002 \expandafter\LWR@doindexentry\expandafter{\IndexRangeSeparator{#1}}%
11003 }
```

\LWR@hyperindexrefnullified Handles macros commonly seen inside an \index entry. Each macro is redefined to create and format a link to its entry.

⚠ **index formatting** To handle additional macros:

```
\appto{\LWR@hyperindexrefnullified}{...}
```

```

11004 \newcommand{\LWR@hyperindexrefnullified}{%
11005 \renewrobustcmd{\emph}[1]{\LWR@HTML@emph{\LWR@doindexentry{##1}}}%
11006 \renewrobustcmd{\textbf}[1]{\LWR@HTML@textbf{\LWR@doindexentry{##1}}}%
11007 \renewrobustcmd{\texteb}[1]{\LWR@HTML@texteb{\LWR@doindexentry{##1}}}%
11008 \renewrobustcmd{\textlg}[1]{\LWR@HTML@textlg{\LWR@doindexentry{##1}}}%
11009 \renewrobustcmd{\textrm}[1]{\LWR@HTML@textrm{\LWR@doindexentry{##1}}}%
11010 \renewrobustcmd{\textsf}[1]{\LWR@HTML@textsf{\LWR@doindexentry{##1}}}%
11011 \renewrobustcmd{\texttt}[1]{\LWR@HTML@texttt{\LWR@doindexentry{##1}}}%
```

```

11012 \renewrobustcmd{\textup}[1]{\LWR@HTML@textup{\LWR@doindexentry{##1}}}%

11013 \renewrobustcmd{\textsc}[1]{\LWR@HTML@textsc{\LWR@doindexentry{##1}}}%

11014 \renewrobustcmd{\textulc}[1]{\LWR@HTML@textulc{\LWR@doindexentry{##1}}}%

11015 \renewrobustcmd{\textsi}[1]{\LWR@HTML@textsi{\LWR@doindexentry{##1}}}%

11016 \renewrobustcmd{\textit}[1]{\LWR@HTML@textit{\LWR@doindexentry{##1}}}%

11017 \renewrobustcmd{\textsl}[1]{\LWR@HTML@textsl{\LWR@doindexentry{##1}}}%

11018 }

```

\hyperindexref {⟨list of LWR@autoindex, commas, and ranges⟩}

\hyperindexref{LWR@autoindex} is inserted into \*.ind by the *makeindex* style file lwarf.ist or the *xindy* style file lwarf.xdy. For *xindex*, \hyperpage is inserted, which is \let to \hyperindexref. For *gindex*, \addindexitem and related are inserted, which are defined to use \hyperindexref.

The argument is split at commas, and also for ranges, then passed to \LWR@hyperindexrefsub.

```

11019 \newcommand*{\hyperindexref}[1]{%

11020 \relax% required

11021 \expandafter\lWR@hyperindexref@comma\expandafter{\IndexPageSeparator}{#1}}%

11022 }

```

\lWR@hyperindexref@comma {⟨separator⟩} {⟨list of args⟩}

The list is split at commas, and passed to \lWR@hyperindexref@@comma.

```

11023 \NewDocumentCommand{\lWR@hyperindexref@comma}{%

11024 m >{\SplitList{#1}} m}

11025 %

```

Used to place the separator between each entry, but not before the first.

```

11026 \def\lWR@hyperindexref@thiscomma{}%

11027 \def\lWR@hyperindexref@nextcomma{#1}%

```

Each comma-delimited entry is now passed individually to \lWR@hyperindexref@@comma.

```

11028 \ProcessList{#2}\lWR@hyperindexref@@comma%

11029 }

```

\lWR@hyperindexref@@comma {⟨arg, perhaps with a range⟩}

A comma separator is placed if not the first item, then the range is parsed.

```

11030 \newcommand*{\lWR@hyperindexref@@comma}[1]{%

11031 \lWR@hyperindexref@thiscomma%

11032 \renewcommand{\lWR@hyperindexref@thiscomma}{\lWR@hyperindexref@nextcomma}%

11033 \expandafter\lWR@hyperindexref@range\expandafter{\IndexRangeSeparator}{#1}}%

11034 }

```

\lWR@hyperindexref@range {⟨range delimiter⟩} {⟨arg⟩}

```

11035 \NewDocumentCommand{\LWR@hyperindexref@range}{%
11036 m >{\SplitArgument{1}{#1} m}%
11037 {\LWR@hyperindexrefsub#2}

```

\LWR@hyperindexrefsub {*range start: LWR@autoindex*} {*range end, or -NoValue-*}

Handles the start and end of a range, if applicable.

```

11038 \newcommand*{\LWR@hyperindexrefsub}[2]{%
11039 \LWR@hyperindexrefsubtwo{#1}%
11040 \IfValueT{#2}{%
11041 \IndexRangeSeparator%
11042 \LWR@hyperindexrefsubtwo{#2}%
11043 }%
11044 }

```

\LWR@hyperindexrefsubtwo {*LWR@autoindex*}

```
11045 \newcommand*{\LWR@hyperindexrefsubtwo}[1]{%
```

In long index lines with numerous entries, *makeindex* can insert a newline before the page number, resulting in an extra space before the first digit. If the first character is a space, remove it first.

```

11046 \edef\LWR@tempone{#1}%
11047 \IfBeginWith{\LWR@tempone}{ }{%
11048 \StrGobbleLeft{\LWR@tempone}{1}[\LWR@tempone]%
11049 }%

```

If a numeric entry, create a link. If not numeric, such as \see, use the entry as-is. \emph, \textit, etc. have been redefined above to create and format the entry.

```

11050 \IfInteger{\LWR@tempone}{%
11051 {\LWR@indexnameref{\LWR@tempone}}%
11052 {%
11053 \begingroup%
11054 \LWR@hyperindexrefnullified%
11055 #1%
11056 \endgroup%
11057 }%
11058 }

```

\hyperpage Emulate **hyperref**.

```
11059 \LetLtxMacro\hyperpage\hyperindexref
```

\nohyperpage Emulate **hyperref**.

```
11060 \def\nohyperpage#1{}
```

\hyperindexformat Emulate **hyperref**.

```

11061 \def\hyperindexformat#1#2{%
11062 #1{\hyperpage{#2}}%
11063 }%
11064 \end{warpHTML}

```

**for PRINT output:** A null command for print mode, in case `hyperref` was not used:

```

11065 \begin{warpprint}%
11066 \newcommand{\hyperindexref}[1]{#1}%
11067 \end{warpprint}%

```

**for HTML & PRINT:** For the `glossaries` package, try to prevent an error where `\glo@name` was not found:

```

11068 \begin{warpall}%
11069 \providecommand{\glo@name}{}%
11070 \end{warpall}%

```

## 80 Bibliography presentation

**for HTML output:** 11071 `\begin{warpHTML}`

`\bibliography {⟨filenames⟩}` At one time this was modified to read `\BaseJobname.bbl`, which meant the HTML version could not resolve until the print version was also present. This also confused `multibib`. It has been reverted to the original to use `\jobname.bbl`.

`\@biblabel {⟨text-refnumber⟩}`

```
11072 \renewcommand{\@biblabel}[1]{[#1]\quad}
```

**Env `thebibliography`** To emphasize document titles in the bibliography, the following redefines `\em` inside `thebibliography` to gather everything until the next closing brace, then display these tokens with `\textit`.

*Adapted from `embracedef.sty`, which is by TAKAYUKI YATO:*

<https://gist.github.com/zr-tex8r/b72555e3e7ad2f0a37f1>

```

11073 \AtBeginDocument{%
11074
11075 \AtBeginEnvironment{thebibliography}{%
11076
11077 \providecommand*\LWR@newem[1]{\textit{#1}}%
11078
11079 \renewrobustcmd{\em}{%
11080 \begingroup
11081 \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
11082 \afterassignment\LWR@em@after
11083 \toks@\bgroup
11084 }%
11085

```

---

```

11086 \def\LWR@em@finish#1{%
11087 \xdef\LWR@em@after{\noexpand#1{\the\toks@}}%
11088 \endgroup
11089 \LWR@em@after\egroup
11090 }
11091
11092 }% \AtBeginEnvironment{thebibliography}
11093
11094 }% \AtBeginDocument

11095 \end{warpHTML}

```

## 81 Restoring original formatting

**for HTML output:** 11096 \begin{warpHTML}

\LWR@restoreMathJaxFormatting A few macros (ref: `tcolorbox`) must be treated separately while printing the HTML comment for a MATHJAX expression. These are set here, to which other functions may be appended.

```
11097 \newcommand*{\LWR@restoreMathJaxFormatting}{}%
```

\LWR@restoreorigFormatting Used to temporarily restore the print-mode meaning of a number of formatting, graphics, and symbols-related macros while generating SVG math or a `lateximage`.

Must be used inside a group.

Sets `\LWR@formatting` to `print` until the end of the group.

A number of packages will `\appto` additional actions to this macro.

Various packages add to this macro using `\appto`.

```

11098 \newcommand*{\LWR@restoreorigFormatting}{}%
11099 \LWR@traceinfo{\LWR@restoreorigFormatting}%

```

Numerous macros change their print/HTML meaning depending on `\LWR@formatting`:

```

11100 \renewcommand*{\LWR@formatting}{print}%
11101 \linespread{1}%

11102 \let\par\LWR@origpar%

11103 \LWR@select@print@hspace%

11104 \LetLtxMacro\hfil\LWR@orighfil%
11105 \let\hss\LWR@orighss%
11106 \let\llap\LWR@origllap%
11107 \let\rlap\LWR@origrlap%
11108 \let\hfilneg\LWR@origfilneg%

```

```

11109 \let\,,\LWR@origcomma% disable HTML short unbreakable space
11110 \let\thinspace\LWR@origthinspace% disable HTML short unbreakable space
11111 \let\negthinspace\LWR@orignegthinspace% disable HTML negative short unbreakable space
11112 \let\textellipsis\LWR@origtextellipsis%
11113 \let\vdots\LWR@origvdots%
11114 \let\textless\LWR@origtextless%
11115 \let\textgreater\LWR@origtextgreater%
11116 \let\&\LWR@origampersand%
11117 \LetLtxMacro\em\LWR@origem%
11118 \LetLtxMacro\normalfont\LWR@orignormalfont%
11119 \let\sp\LWR@origsp%
11120 \let\sb\LWR@origsb%
11121 \LetLtxMacro\underline\LWR@origunderline%
11122 \let~\LWR@origtilde%
11123 \let\enskip\LWR@origenskip%
11124 \let\quad\LWR@origquad%
11125 \let\qquad\LWR@origqquad%

```

`\endtabular` must be restored to its original, instead of relying on `lwarp`'s `\LWR@formatted` mechanism:

```

11126 \LetLtxMacro\endtabular\LWR@origendtabular%
11127 \csletcs{\endtabular}{\LWR@origendtabular}%
11128 \LetLtxMacro\noalign\LWR@orignoalign%
11129 \LetLtxMacro\hline\LWR@orighline%
11130 \let\newline\LWR@orignewline%
11131 \LetLtxMacro\includegraphics\LWR@origincludegraphics%
11132 \LetLtxMacro{@ensuredmath}\LWR@origensuredmath%
11133 \let\math\LWR@origmath%
11134 \let\endmath\LWR@origendmath%
11135 \let\displaymath\LWR@origdisplaymath%
11136 \let\enddisplaymath\LWR@origenddisplaymath%
11137 %
11138 \LWR@restoreorigaccents%
11139 \LWR@restoreoriglists%
11140 %
11141 \LWR@hook@processingtags%

```

To enable MATHJAX-specific nullification, used for `tcolorbox`:

```

11142 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
11143 {\LWR@restoreMathJaxformatting}%
11144 {}%
11145 }

```

---

```
11146 \end{warpHTML}
```

## 82 Nullifying filename formatting

The following are used to nullify certain macros and environments while converting section names to file names.

**for HTML output:** 11147 \begin{warpHTML}

Also commonly used are \@empty, \@gobble, and \@firstofone.

```
11148 \newcommand*{\LWR@dash}{-}
```

\LWR@nullfonts Removes formatting during filename operations, file references, and HTML comments.

⚠ **Use only inside a group.**

The following are *not* made robust, since they must be expanded to their nullified versions.

```
11149 \catcode`\$=\active% redefining $ below
11150 \catcode`_=12% redefining _ below
11151 \newcommand*{\LWR@nullfonts}{%
```

Various built-in symbols.

```
11152 \renewcommand*{\$}{-}%
11153 \renewcommand*{\%}{-}%
11154 \renewcommand*{_}{-}%
11155 \renewcommand*{\{}{-}%
11156 \renewcommand*{\}}{-}%
11157 \renewcommand*{\&}{-}%
11158 \renewcommand*{\#}{-}%
11159 \renewcommand*{\,}{-}%
11160 \renewcommand*{\~}{-}%
11161 %
11162 % accents:
11163 \renewcommand*{'[1]{##1}%
11164 \renewcommand*{'[1]{##1}%
11165 \renewcommand*{^}[1]{##1}%
11166 \renewcommand*{~}[1]{##1}%
11167 \renewcommand*{=}[1]{##1}%
11168 \renewcommand*{\u}[1]{##1}%
11169 \renewcommand*{\.}[1]{##1}%
11170 \renewcommand*{"}[1]{##1}%
11171 \renewcommand*{\H}[1]{##1}%
11172 \renewcommand*{\v}[1]{##1}%
11173 \renewcommand*{\d}[1]{##1}%
11174 \renewcommand*{\c}[1]{##1}%
11175 \renewcommand*{\b}[1]{##1}%
11176 \renewcommand*{\t}[1]{##1}%
11177 %
11178 \let\newline\LWR@dash%
```

```
11179 \let\textasciicircum\LWR@dash%
11180 \let\textasciitilde\LWR@dash%
11181 \let\textasteriskcentered\LWR@dash%
11182 \let\textbackslash\LWR@dash%
11183 \let\textbar\LWR@dash%
11184 \let\textbardbl\LWR@dash%
11185 \let\textbigcircle\LWR@dash%
11186 \let\textbraceleft\LWR@dash%
11187 \let\textbraceright\LWR@dash%
11188 \let\textbullet\LWR@dash%
11189 \let\textcopyright\LWR@dash%
11190 \let\textdagger\LWR@dash%
11191 \let\textdaggerdbl\LWR@dash%
11192 \let\textdollar\LWR@dash%
11193 \let\textellipsis\LWR@dash%
11194 \let\textemdash\LWR@dash%
11195 \let\textendash\LWR@dash%
11196 \let\textexclamdown\LWR@dash%
11197 \let\textgreater\LWR@dash%
11198 \let\textless\LWR@dash%
11199 \let\textordfeminine\LWR@dash%
11200 \let\textordmasculine\LWR@dash%
11201 \let\textparagraph\LWR@dash%
11202 \let\textperiodcentered\LWR@dash%
11203 \let\textpertenthousand\LWR@dash%
11204 \let\textperthousand\LWR@dash%
11205 \let\textquestiondown\LWR@dash%
11206 \let\textquotedblleft\LWR@dash%
11207 \let\textquotedblright\LWR@dash%
11208 \let\textquotefont\textquoteleft\LWR@dash%
11209 \let\textquoteright\LWR@dash%
11210 \let\textregistered\LWR@dash%
11211 \let\textsection\LWR@dash%
11212 \let\textsterling\LWR@dash%
11213 \let\texttrademark\LWR@dash%
11214 \let\textunderscore\LWR@dash%
11215 \let\textvisiblespace\LWR@dash%
11216 \let\copyright\LWR@dash%
11217 \let\dag\LWR@dash%
11218 \let\ddag\LWR@dash%
11219 \let\ldots\LWR@dash%
11220 \let\P\LWR@dash%
11221 \let\pounds\LWR@dash%
11222 \let\S\LWR@dash%
11223 %
11224 \renewcommand*\{aa}\{a}%
11225 \renewcommand*\{AA}\{A}%
11226 \renewcommand*\{AE}\{AE}%
11227 \renewcommand*\{ae}\{ae}%
11228 \renewcommand*\{dh}\{d}%
11229 \renewcommand*\{DH}\{D}%
11230 \renewcommand*\{DJ}\{D}%
11231 \renewcommand*\{dj}\{d}%
11232 \renewcommand*\{IJ}\{IJ}%
11233 \renewcommand*\{ij}\{ij}%
```

```

11234 \renewcommand*\{L\}{L}%
11235 \renewcommand*\{l\}{l}%
11236 \renewcommand*\{NG\}{NG}%
11237 \renewcommand*\{ng\}{ng}%
11238 \renewcommand*\{O\}{O}%
11239 \renewcommand*\{o\}{o}%
11240 \renewcommand*\{oe\}{oe}%
11241 \renewcommand*\{OE\}{OE}%
11242 \renewcommand*\{ss\}{ss}%
11243 \renewcommand*\{SS\}{SS}%
11244 \renewcommand*\{th\}{th}%
11245 \renewcommand*\{TH\}{TH}%
11246 %
11247 \let\guillemotleft\@empty%
11248 \let\guilsinglleft\@empty%
11249 \let\quotedblbase\@empty%
11250 \let\textquotedbl\@empty%
11251 \let\guillemotright\@empty%
11252 \let\guilsinglright\@empty%
11253 \let\quotesinglbase\@empty%

11254 \renewcommand*\{HTMLunicode}[1]{}%
11255 \renewcommand*\{HTMLentity}[1]{}%

11256 \renewcommand{\textsuperscript}[1]{##1}%
11257 \renewcommand{\textsubscript}[1]{##1}%

11258 \renewcommand{\underline}[1]{##1}%

11259 \RenewDocumentCommand{\hspace}{s m}{}%
11260 \RenewDocumentCommand{\LWR@htmlspanclass}{o D(){} m +m}{{##4}}%
11261 \DeclareExpandableDocumentCommand{\InlineClass}{D(){} o m +m}{{##4}}%

```

Nullify math macros.

```

11262 \def\(\##1\){}%
11263 \def\[##1\]{}%
11264 \RenewDocumentCommand{\LWR@subsingle dollar}{s m m m}{}%

```

Nullify logos:

```

11265 \renewcommand*\{TeX\}{TeX}%
11266 \renewcommand*\{LaTeX\}{LaTeX}%
11267 \renewcommand*\{LaTeXe\}{LaTeX2e}%
11268 \renewcommand*\{LuaTeX\}{LuaTeX}%
11269 \renewcommand*\{LuaLaTeX\}{LuaLaTeX}%
11270 \renewcommand*\{XeTeX\}{XeTeX}%
11271 \renewcommand*\{XeLaTeX\}{XeLaTeX}%
11272 \renewcommand*\{ConTeXt\}{ConTeXt}%
11273 \renewcommand*\{BibTeX\}{BibTeX}%
11274 \renewcommand*\{MakeIndex\}{MakeIndex}%
11275 \renewcommand*\{AmS\}{AmS}%

```

```
11276 \renewcommand*\{\\MiKTeX}{MiKTeX}%
11277 \renewcommand*\{\\LyX}{LyX}%
```

Use the simpler form with `\texorpdfstring`:

```
11278 \def\texorpdfstring{\expandafter\@secondoftwo}%
11279 }
11280 \catcode`\$=3%
11281 \catcode`_=8%
```

`\FilenameNullify {<redefinitions>}`

Adds more nullifying definitions for filename generation.

```
11282 \newcommand*\{\\FilenameNullify}[1]{%
11283 \appto{\LWR@nullfonts}{#1}%
11284 }

11285 \end{warpHTML}
```

## 83 Math

### 83.1 Limitations

See [Math](#), section 8.7.

### 83.2 HTML alt tag names

Redefinable names for the `HTML alt` tags, for translation according to the reader's native language.

**for HTML & PRINT:** 11286 `\begin{warpall}`

`\AltTextOpen` The opening part of `HTML alt` tag for an image. The default is a left parenthesis.

**Default:** (

```
11287 \newcommand*\{\\AltTextOpen}{()
```

`\AltTextClose` The closing part of `HTML alt` tag for an image. The default is a right parenthesis.

**Default:** (

```
11288 \newcommand*\{\\AltTextClose}{)}
```

`\ImageAltText` The `HTML alt` tag for an image.

**Default:** `image`

```
11289 \newcommand*\{\\ImageAltText}{image}
```

\MathImageAltText The **HTML alt** tag for an SVG math image.

Default: "math image"

```
11290 \newcommand*{\MathImageAltText}[math image]{}
```

\LWR@ThisAltText The **HTML alt** tag for the next image. Cleared after use, and also after each `lateximage`, `\LWR@subsingle$`, and each use of `MATHJAX`.

```
11291 \newcommand*{\LWR@ThisAltText}{}{}
```

\ThisAltText {*text*}

Assigns the **HTML alt** tag for the next image generated by `lwarp`, such as a `lateximage`, `picture`, or `SVG` math.

```
11292 \newcommand*{\ThisAltText}[1]{%
11293 \renewcommand{\LWR@ThisAltText}{#1}%
11294 }
```

\PackageDiagramAltText Appended to the `lateximage` **HTML alt** tag for the images generated by many packages.

```
11295 \newcommand*{\PackageDiagramAltText}[diagram]{}
```

```
11296 \end{warpall}
```

### 83.3 Inline and display math

**for HTML output:** 11297 `\begin{warpHTML}`

Ctr \LWR@externalfilecnt Counter for the external files which are generated and then referenced from the **HTML**:

```
11298 \newcounter{\LWR@externalfilecnt}
```

Bool \LWR@indisplaymathimage True if processing display math for `SVG` output. Inside a `lateximage`, display math is only set to print-mode output if `\LWR@indisplaymathimage` is false. Used to avoid nullifying display math before it has been completed.

```
11299 \newbool{\LWR@indisplaymathimage}
```

Bool \LWR@insidemathcomment True while inside an **HTML comment** which is displaying a math environment. Used to undo the comment for a moment while creating a `\label`, so that the label's **HTML** tags will be seen by **HTML**.

```
11300 \newbool{\LWR@insidemathcomment}
11301 \boolfalse{\LWR@insidemathcomment}
```

Bool \LWR@xfakebold True if `xfakebold` `\setBold` is in use.

```
11302 \newbool{\LWR@xfakebold}
11303 \boolfalse{\LWR@xfakebold}
```

\LWR@orig@setBold Redefined by **lwarp-xfakebold**.

```
11304 \newcommand*{\LWR@orig@setBold}{}%
```

\LWR@orig@unsetBold Redefined by **lwarp-xfakebold**.

```
11305 \newcommand*{\LWR@orig@unsetBold}{}%
```

\LWR@applyxfakebold Redefined by **lwarp-xfakebold**.

```
11306 \newcommand*{\LWR@applyxfakebold}{}%
```

\LWR@setcurrentfont Sets the actual L<sup>A</sup>T<sub>E</sub>X font to that which was selected for HTML output. Ex: In HTML mode, \bfseries sets \LWR@f@series to “bf”. This sets the PDF output here for use inside a *lateximage*.

```
11307 \newcommand*{\LWR@setcurrentfont}{%
11308 \LWR@traceinfo{Using font family \LWR@f@family}%
11309 \nameuse{\LWR@print@\LWR@f@family family}%
11310 \LWR@traceinfo{Using font series \LWR@f@series}%
11311 \nameuse{\LWR@print@\LWR@f@series series}%
11312 \LWR@traceinfo{Using font shape \LWR@f@shape}%
11313 \nameuse{\LWR@print@\LWR@f@shape shape}%
11314 \LWR@traceinfo{Using font caps shape \LWR@f@shapecaps}%
11315 \nameuse{\LWR@print@\LWR@f@shapecaps shape}%
11316 }
```

\\$ Plain dollar signs appearing in the HTML output may be interpreted by MATHJAX to be math shifts. For a plain text dollar \\$, use an HTML entity to avoid it being interpreted by MATHJAX, unless are inside a *lateximage*, in which case it will not be seen by MATHJAX.

```
11317 \let\LWR@origtextdollar\$
11318
11319 \renewcommand*{\$}{%
11320 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
11321 {\LWR@origtextdollar}%
11322 {\HTMLunicode{00024}}%
11323 }
```

File lwarp\_baseline\_marker.png A marker to be used to help *pdfcrop* identify the inline math baseline and width. If either **graphicx** or **graphics** is loaded, this marker is placed at the lower left and lower right corners of the inline math. *pdfcrop* is then able to identify the width of the image, and also the height of an image such as a horizontal dash which does not otherwise touch the baseline.

A marker with alpha or opacity of 0% is not registered by *pdfcrop*, so the marker is a small square block of 1% alpha, which seems to work while still being effectively invisible in the final SVG image.

If **graphicx** is loaded, this marker is sized as a tiny 1 sp square. If **graphics** is loaded, this marker is used at its default size of around .25 pt. If neither **graphics** package is loaded, the marker is replaced by a 10 sp horizontal space, and there is no assistance for determining

baseline or width of the inline math image. The best results are obtained when using `graphicx`.

\LWR@addbaselinemarker Places a small marker in an SVG inline image. If `graphics` or `graphicx` are loaded, the marker is a mostly transparent image. If neither is loaded, no marker is used.

```
11324 \AtBeginDocument{
11325
11326 \ifpdf
11327 \newcommand*{\LWR@baselinename}{l warp_baseline_marker.png}
11328 \else
11329 \ifXeTeX
11330 \newcommand*{\LWR@baselinename}{l warp_baseline_marker.png}
11331 \else
11332 \newcommand*{\LWR@baselinename}{l warp_baseline_marker.eps}
11333 \fi
11334 \fi
11335
11336 \IfFileExists{\LWR@baselinename}{%
11337 {
11338 \@ifpackageloaded{graphicx}{
11339 \newcommand*{\LWR@addbaselinemarker}{%
11340 \LWR@originincludegraphics{\LWR@baselinename}%
11341 }
11342 }{
11343 \@ifpackageloaded{graphics}{
11344 \newcommand*{\LWR@addbaselinemarker}{%
11345 \LWR@originincludegraphics{\LWR@baselinename}%
11346 }
11347 }{
11348 \newcommand*{\LWR@addbaselinemarker}{%
11349 \global\booltrue{\LWR@warnbaselinemarker}%
11350 }
11351 \AtEndDocument{
11352 \ifbool{\LWR@warnbaselinemarker}{
11353 \PackageWarningNoLine{l warp}{%
11354 Load graphicx or graphics for improved\MessageBreak
11355 SVG math sizing and baselines%
11356 }
11357 }{}
11358 }
11359 }
11360 }
11361 }{ % l warp_baseline_marker.png or .eps is not present
11362 \newcommand*{\LWR@addbaselinemarker}{%
11363 \global\booltrue{\LWR@warnbaselinemarker}%
11364 }
11365 \AtEndDocument{
11366 \ifbool{\LWR@warnbaselinemarker}{
11367 \PackageWarningNoLine{l warp}{%
11368 File \LWR@baselinename\space is not installed\MessageBreak
11369 alongside the l warp-*.sty files, so\MessageBreak
11370 SVG math sizing and baselines may not be accurate}
11371 }{}
11372 }
```

```
11373 }
11374
11375 }% AtBeginDocument
```

**Bool LWR@warnbaselinemarker** True if the math baseline marker was ever called for, but **graphics** or **graphicx** were not loaded.

```
11376 \newbool{LWR@warnbaselinemarker}
11377 \boolefalse{LWR@warnbaselinemarker}
```

**Bool LWR@unknownmathsize** If Tikz or other objects are used inside math mode, the resulting image may exceed the TeX box, resulting in an incorrect measurement of the size of the resulting image. If this is so, the HTML styles for image size and depth will be neutralized.

```
11378 \newbool{LWR@unknownmathsize}
```

**\LWR@singledollarmeasure**  $\{\langle\text{math expression}\rangle\}$

Measures the size of the image of the math expression.

(In some circumstances SVG math is used even if MATHJAX is preferred.)

**SVG math:**  $\backslash LWR@origensuredmath$  is part of argument #4.

**SVG math \ensuremath:**  $\backslash LWR@origensuredmath$  is part of argument #4.

**SVG dynamic math:**  $\backslash LWR@origensuredmath$  is part of argument #4.

**MATHJAX:** Argument #4 is the contents of the math expression without  $\backslash LWR@origensuredmath$ .  
This case is handled above.

**MATHJAX \ensuremath:**  $\backslash LWR@origensuredmath$  is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without  $\backslash LWR@origensuredmath$ , so  $\backslash LWR@origensuredmath$  is added below.

**\ifmmode:** Included “just in case”.

Factored from  $\backslash LWR@subsingledollarsvg$ .

```
11379 \newcommand*{\LWR@singledollarmeasure}[1]{%
11380 \begingroup%
```

Temporarily disable formatting while measuring the image parameters:

```
11381 \LWR@restoreorigformatting%
11382 \RenewDocumentEnvironment{lateximage}{s o s o o d(){}{}% inside group
11383 \LWR@print@normalsize%
```

Temporarily set font for the HTML PDF output:

```
11384 \LWR@setcurrentfont%
```

`\textrimage{depth}` must be nested to avoid generating paragraph tags. *AMS* math modifies the `\text` macro such that `\addtocounter` does not always occur as expected. Lower-level code is used instead.

```
11385 \global\advance\c@LWR@textrimage{depth} 1\relax%
```

Typeset the math in a box. While doing so, some macros or environments may set `LWR@unknownmathsize`, in which case this will be used to cancel the `HTML` styles being generated here.

```
11386 \boolfalse{LWR@unknownmathsize}%
11387 \ifmmode%
11388 \global\sbox{\LWR@singledollarbox}{#1}%
11389 \else%
11390 \ifbool{LWR@dynamicmath}{%
11391 \ifbool{mathjax}{%
11392 \global\sbox{\LWR@singledollarbox}{%
11393 {\LWR@origensuredmath{#1}}%}
11394 }{%
11395 \global\sbox{\LWR@singledollarbox}{#1}%
11396 }%
11397 }{%
11398 \global\sbox{\LWR@singledollarbox}{#1}%
11399 }%
11400 \fi%
```

Add a small and almost transparent marker at the depth of the image.

A math minus sign has the same depth as a plus, even though it does not draw anything below the baseline. This means that `pdffcrop` would crop the image without depth. The marker below the baseline is seen by `pdffcrop` and preserves the depth.

```
11401 \global\sbox{\LWR@singledollarbox}{%
11402 \usebox{\LWR@singledollarbox}%
11403 \raisebox{-\dp\LWR@singledollarbox}{%
11404 \LWR@addbaselinemarker%
11405 }%
11406 }
```

More low-level code to undo the counter change.

```
11407 \global\advance\c@LWR@textrimage{-1}\relax% Due to AmS \text macro.
```

Measure the depth:

```
11408 \setlength{\LWR@singledollardepth}{%
11409 \LatexImageFontSize\dp\LWR@singledollarbox%
11410 }
```

Make the length a global change:

```
11411 \global\let\LWR@singledollardepth=\LWR@singledollardepth%
```

Likewise for width:

```

11412 \setlength{\LWR@singledollarwidth}{%
11413 \LateximageFontSize\wd\LWR@singledollarbox%
11414 }%
11415 \global\LWR@singledollarwidth=\LWR@singledollarwidth%

```

Likewise for total height:

```

11416 \setlength{\LWR@singledollarheight}{%
11417 \LateximageFontSize\ht\LWR@singledollarbox%
11418 }%
11419 \addtolength{\LWR@singledollarheight}{%
11420 \LateximageFontSize\dp\LWR@singledollarbox%
11421 }%
11422 \global\LWR@singledollarheight=\LWR@singledollarheight%
11423 \endgroup%
11424 }

```

\LWR@subsingledollarsvg \* {*<2: alt text>*} {*<3: add'l hashing>*} {*<4: math expression>*}

For inline math. Uses SVG math. The image is measured and adjusted to the baseline of the HTML output, and placed inside a `\Lateximage`.

(In some circumstances SVG math is used even if MATHJAX is preferred.)

Factored from \LWR@subsingledollar.

```
11425 \newcommand*{\LWR@subsingledollarsvg}[4]{%
```

Measure the depth, width, and height of the math image:

```
11426 \LWR@singledollarmeasure{#4}%
```

Set a style for the the height or width. The `em` unit is used so that the math scales according to the user's selected font size.

Start with the greater of the width or the height, biased towards the width:

```

11427 \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
11428 \def\LWR@singledollarstyle{%
11429 width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11430 }%
11431 }{%
11432 \def\LWR@singledollarstyle{%
11433 height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11434 }%
11435 }%

```

If a very narrow width, use the height.

```

11436 \ifdimless{\LWR@singledollarwidth}{.2em}{%
11437 \def\LWR@singledollarstyle{%
11438 height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11439 }%

```

```

11440 }%
11441 }%
11442 {}%

```

If very wide and short, use the width:

```

11443 \ifdimless{\LWR@singledollarheight}{.2em}%
11444 {%
11445 \def\LWR@singledollarstyle{%
11446 width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11447 }%
11448 }%
11449 {}%

```

If there is significant text depth, add the depth to the style.

```

11450 \ifdimgreater{\LWR@singledollardepth}{0.05ex}%
11451 \def\LWR@singledollardepthstyle{%
11452 \; % extra space
11453 \LWR@print@mbox{%
11454 vertical-align:-\LWR@convertto{em}{\the\LWR@singledollardepth} em%
11455 } % extra space
11456 }%
11457 {}%
11458 \def\LWR@singledollardepthstyle{}%
11459 }%

```

If using certain Tikz actions inside math, the resulting image may exceed the  $\text{\TeX}$  boundaries, so the `HTML size` styles may be incorrect, and must be neutralized.

```

11460 \ifbool{\LWR@unknownmathsize}{%
11461 \def\LWR@singledollarstyle{}%
11462 \def\LWR@singledollardepthstyle{}%
11463 }{}%

```

Create the `lateximage` using the alternate tag and the computed size and depth. The star causes `lateximage` to use an MD5 hash as the filename. When hashing, also include the current font and color in the hash.

```

11464 \ifbool{\LWR@dynamicmath}{%
11465 \LWR@traceinfo{subsingledollar: dynamic}%
11466 \begin{latextag}{\LWR@singledollarstyle \LWR@singledollardepthstyle}%
11467 [\MathImageAltText]% alt tag
11468 []% no add'l hashing
11469 [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11470 (math)% ARIA
11471 }% not dynamic math
11472 \LWR@traceinfo{subsingledollar: static}%
11473 \IfValueTF{\#1}{% #1 True
11474 \LWR@findcurrenttextcolor% sets \LWR@tempcolor

```

Support for `xfakebold`:

```

11475 \ifbool{\LWR@xfakebold}{%
11476 \def\LWR@tempone{Y}%

```

```

11477 {\def\LWR@tempone{N}}%
11478 \begin{lateximage}** use hashing
11479 [#2]% alt
11480 ** do not add open/closing braces
11481 [% add'l hashing
11482 #3%
11483 FM\LWR@f@family%
11484 SR\LWR@f@series%
11485 SH\LWR@f@shape%
11486 SHC\LWR@f@shapecaps%
11487 CL\LWR@tempcolor%
11488 FB\LWR@tempone% xfakebold
11489]%
11490 [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
11491 CSS
11492 (math)% ARIA
11493 }% #1 False
11494 \begin{lateximage}% no hashing
11495 [#2]%
11496 []% no add'l hashing
11497 [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
11498 CSS
11499 (math)% ARIA
11500 }%
11501 }% not dynamic math

```

Place small and almost transparent markers on the baseline at the left and right edges of the image. These markers are seen by *pdfcrop*, and force vertically-centered objects such as a dash to be raised off the baseline in the cropped image, and also force the total width and left/right margins to be correct. (Except that in some fonts a character may exceed the bounding box, and thus may appear wider than expected when converted to an image.)

```
11500 \LWR@addbaselinemarker%
```

Support for *xfakebold*:

```
11501 \LWR@applyxfakebold%
```

Typeset the contents:

```
11502 \usebox{\LWR@singledollarbox}%
```

The closing baseline marker:

```
11503 \LWR@addbaselinemarker%
```

```
11504 \end{lateximage}%
11505 %
11506 }
```

```
\LWR@subsingledollar * {\langle 2: alt text\rangle} {\langle 3: add'l hashing\rangle} {\langle 4: math expression\rangle}
```

For inline math. Uses MATHJAX, or for SVG math the image is measured and adjusted to the baseline of the HTML output, and placed inside a *lateximage*.

**SVG math:** \LWR@origensuredmath is part of argument #4.

**SVG math \ensuremath:** \LWR@origensuredmath is part of argument #4.

**SVG dynamic math:** \LWR@origensuredmath is part of argument #4.

**MATHJAX:** Argument #4 is the contents of the math expression without \LWR@origensuredmath.  
This case is handled above.

**MATHJAX \ensuremath:** \LWR@origensuredmath is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without  
\LWR@origensuredmath, so \LWR@origensuredmath is added below.

**image filename hashing** If starred, a hashed filename is used. If so, the hash is based on the alt tag and also the additional hashing argument.

This may be used to provide an expression with a simple alt tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated TeX expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is duplicated in the additional hashing argument.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple alt tag is still the same.

```

11507 \newlength{\LWR@singledollarwidth}
11508 \newlength{\LWR@singledollarheight}
11509 \newlength{\LWR@singledollardepth}
11510
11511 \newsavebox{\LWR@singledollarbox}
11512
11513 \NewDocumentCommand{\LWR@subsingledollar}{s m m m}{%
11514 \LWR@traceinfo{\LWR@subsingledollar}%
11515 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
11516 \%%
11517 \LWR@traceinfo{\LWR@subsingledollar: already in a lateximage}%
11518 #4% contents%
11519 }%
11520 \% not in a lateximage%
11521 \begingroup%

```

Support for **xfakebold**:

```
11522 \LWR@applyxfakebold%
```

MATHJAX cannot parse the often complicated TeX expressions which appear in the various uses of \ensuredmath. \ensuremath forces the alt tag to “(math image)”, as translated according to \MathImageAltText. If this is the case, force the use of a lateximage even if MATHJAX. Likewise for **siunitx** if **parse-numbers=false**.

If MATHJAX, or if formatting math for a word processor, and not \ensuredmath, and not a dynamic math expression, print the math expression:

```

11523 \ifboolexpr{%
11524 (
11525 bool{mathjax} or
11526 (bool{FormatWP} and bool{WPMarkMath})
11527) and
11528 (not test {
11529 \ifstrequal {\#2}{ from \ensuredmath
11530 {\AltTextOpen\MathImageAltText\AltTextClose}
11531 }
11532) and
11533 (not bool{LWR@dynamicmath})
11534 }%

```

For MATHJAX, print the math between \(\) and \(\):

```

11535 {%
11536 \LWR@traceinfo{\LWR@subsingle$ Mathjax}%
11537 {%
11538 \textbackslash{%
11539 {%

```

\ifmmode to avoid error about \ttfamily inside math mode in the case of nested math, ex. equation with tcolorbox with math.

```

11540 \ifmmode\else\print@ttfamily\fi%
11541 \LWR@HTMLsanitize{\#4}%
11542 }%
11543 \textbackslash{%
11544 }%
11545 }% mathjax

```

For SVG, print the math inside a `latextimage`, with an `<alt>` tag of the L<sup>A</sup>T<sub>E</sub>X code, and a css style to control the baseline adjustment.

```

11546 {%
11547 \LWR@traceinfo{%
11548 \LWR@subsingle$ NOT mathjax, or is ensuremath, or is dynamic%
11549 }%
11550 \LWR@subsingle$svg{\#1}{\#2}{\#3}{\#4}%
11551 }% not mathjax
11552 \endgroup%
11553 }% not in a latextimage

```

Clear the single-use alt text:

```

11554 \gdef\ThisAltText{}%
11555 \LWR@traceinfo{\LWR@subsingle$ done}%
11556 }%
11557 \LetLtxMacro{\LWR@orig$}{%
11558 \LetLtxMacro{\LWR@second$}{\balance{editor syntax highlighting}}%

```

```

11559 \LetLtxMacro{\LWR@origopenparen}(
11560 \LetLtxMacro{\LWR@origcloseparen})
11561 \LetLtxMacro{\LWR@origopenbracket}[
11562 \LetLtxMacro{\LWR@origclosebracket}]

```

\$ Redefine the dollar sign to place math inside a `lateximage`, or use MATHJAX:  
\$\$

```

11563 \begingroup
11564 \catcode`\$=\active%
11565 \protected\gdef${\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

Used by `chemformula` to escape single-dollar math:

```
11566 \protected\gdef\newsingledollar{\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%
```

`\LWR@doubledollar` Redefine the double dollar sign to place math inside a `lateximage`, or use MATHJAX:

```
11567 \protected\gdef\newdoubledollar{$#1$}{%
```

If MATHJAX or formatting for a word processor, print the L<sup>A</sup>T<sub>E</sub>X expression:

```
11568 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }{%
```

For MATHJAX, print the math between `\[` and `\]`:

```

11569 {
11570
11571 \IfSubStr{\detokenize\expandafter{\#1}}{\detokenize{note}}{%

```

The equation is printed to the PDF output inside HTML comment tags. This allows labels and footnotes to be accepted and processed. The `math` environment is selected here, and `\LWR@hidelatexequation` will use the original print-mode meaning of `math`.

```

11572 \LWR@hidelatexequation{math}{#1}%
11573 \InLineClass{hidden}{\LWR@syncnotenumbers}%
11574 \textbackslash[%
11575 {\LWR@print@ttfamily\LWR@HTMLsanitize{#1}}%
11576 \textbackslash]%
11577 \InLineClass{hidden}{\LWR@syncnotenames}%
11578 }{%
11579 \textbackslash[%
11580 {\LWR@print@ttfamily\LWR@HTMLsanitize{#1}}%
11581 \textbackslash]%
11582 }%
11583
11584 }% mathjax

```

For SVG, print the math inside a `lateximage`, with an `<alt>` tag of the L<sup>A</sup>T<sub>E</sub>X code:

```

11585 {%
11586 \begin{BlockClass}{displaymath}%
11587 \LWR@newautoidanchor%

```

```

11588 \booltrue{LWR@indisplaymathimage}%
11589 \begin{lateximage}%
11590 [%
11591 \textbackslash{}[] % extra space
11592 \LWR@HTMLsanitize{\#1} % extra space
11593 \textbackslash{}[]}%
11594]%
11595 *% do not add open/closing braces
11596 (math)% ARIA

```

Support for `xfakebold`:

```

11597 \LWR@applyxfakebold%
11598 \LWR@origdollar\LWR@origdollar#1\LWR@origdollar\LWR@origdollar%
11599 \end{lateximage}%
11600 \end{BlockClass}%
11601 }% not mathjax

```

Clear the single-use alt text:

```

11602 \gdef\LWR@ThisAltText{}%
11603 }%
11604 \protected\gdef\LWR@singledollar#1$%
11605 \ifbool{mathjax}{%
11606 \LWR@subsingledollar*%
11607 {%
11608 \textbackslash{}%
11609 \LWR@HTMLsanitize{\#1} % extra space
11610 \textbackslash{}%
11611 }%
11612 {singledollar}% add'l hashing
11613 {\#1}% contents
11614 }% not mathjax
11615 \LWR@subsingledollar*%
11616 {%
11617 \textbackslash{}%
11618 \LWR@HTMLsanitize{\#1} % extra space
11619 \textbackslash{}%
11620 }%
11621 {singledollar}% add'l hashing
11622 {\LWR@origensuredmath{\#1}}% contents
11623 }% not mathjax

```

Clear the single-use alt text:

```

11624 \gdef\LWR@ThisAltText{}%
11625 }%

```

\( Redefine to the above dollar macros.  
\[

```

11626 \AtBeginDocument{
11627 \protected\gdef\(#1\){$#1$}
11628 \protected\gdef\[#1]{###1##}
11629 }
11630
11631 \endgroup% active $

11632 \AtBeginDocument{
11633 \LetLtxMacro{\LWR@openbracketnormal}{[
11634 \LetLtxMacro{\LWR@closebracketnormal}{]}
11635 }

```

\@ensuredmath {*<expression>*}

If MATHJAX, a `lateximage` is used, since `\ensuremath` is often used for complex `TEX` expressions which MATHJAX may not render. If SVG math, a hashed file is used with a simple `alt` tag, but additional hashing provided by the contents.

```

11636 \LetLtxMacro{\LWR@origensuredmath}{\@ensuredmath}
11637
11638 \renewcommand{\@ensuredmath}[1]{%
11639 \ifbool{mathjax}{%
11640 \LWR@subsingle dollar*\{\AltTextOpen\MathImageAltText\AltTextClose\}%
11641 {%
11642 \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}%
11643 }%
11644 {%
11645 \relax%
11646 \LWR@origensuredmath{\#1}%
11647 }%
11648 }{%
11649 \ifmmode%
11650 \LWR@origensuredmath{\#1}%
11651 \else%

```

If already inside a `lateximage` in math mode, continue as-is.

```

11649 \ifmmode%
11650 \LWR@origensuredmath{\#1}%
11651 \else%

```

Create an inline math `lateximage` with a simple `alt` tag and additional hashing according to the contents.

```

11652 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
11653 \LWR@origensuredmath{\#1}%
11654 {%
11655 \LWR@subsingle dollar*{%
11656 \AltTextOpen\MathImageAltText\AltTextClose\}%
11657 \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}{%
11658 \LWR@origensuredmath{\#1}}%
11659 }%
11660 \fi%
11661 }%

```

Clear the single-use `alt` text:

---

```
11662 \gdef\LWR@ThisAltText{}%
11663 }
```

Remember then remove the old `math` and `displaymath` environments:

```
11664 \let\LWR@orig@math\math
11665 \let\LWR@orig@endmath\endmath
11666
11667 \let\LWR@orig@displaymath\displaymath
11668 \let\LWR@orig@enddisplaymath\enddisplaymath
11669
11670 \let\math\relax
11671 \let\endmath\relax
11672
11673 \let\displaymath\relax
11674 \let\enddisplaymath\relax
```

**Env** `math` Set math mode then typeset the body of what was between the begin/end. See the `environ` package for `\BODY`.

```
11675 \NewEnviron{math}{\expandafter\(\BODY\)}
```

**Env** `LWR@displaymathnormal` Set math mode then typeset the body of what was between the begin/end. See the `environ` package for `\BODY`.

```
11676 \NewEnviron{LWR@displaymathnormal}{\expandafter[\BODY]\ignoretrue}
```

Set the default `displaymath` to the normal version:

```
11677 \LetLtxMacro\displaymath\LWR@displaymathnormal%
11678 \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%
```

**Env** `LWR@displaymathother` A version of `displaymath` which can handle complicated objects, but does not supply `MATHJAX` or `HTML` alt tags.

```
11679 \newenvironment{LWR@displaymathother}%
11680 {%
11681 \begin{BlockClass}{displaymath}%
11682 \LWR@newautoidanchor%
11683 \booltrue{\LWR@indisplaymathimage}%
11684 \begin{lateximage}[\MathImageAltText](math)% [alt](ARIA)%
11685 \LWR@origdollar\LWR@origdollar%
11686 }%
11687 {%
11688 \LWR@origdollar\LWR@origdollar%
11689 \end{lateximage}%
11690 \end{BlockClass}%
11691 }
```

**Env** `LWR@equationother` A version of `displaymath` which can handle complicated objects, but does not supply `MATHJAX` or `HTML` alt tags.

```

11692 \newenvironment{LWR@equationother}
11693 {%
11694 \begin{BlockClass}{displaymathnumbered}%
11695 \LWR@newautoidanchor%
11696 \booltrue{\LWR@indisplaymathimage}%
11697 \begin{lateximage}[\MathImageAltText](math)% [alt](ARIA)%
11698 \LWR@orig@equation%
11699 }
11700 {%
11701 \LWR@orig@endequation%
11702 \end{lateximage}%
11703 \end{BlockClass}%
11704 }

```

## 83.4 MATHJAX support

Ctr LWR@nextequation Used to add one to compute the next equation number.

```
11705 \newcounter{LWR@nextequation}
```

Determining how to set MATHJAX section and equation numbers. Adjusts for various kinds of \theequation to determine \theMathJaxsection and \theMathJaxequation.

```

11706 \newcommand\LWR@article@theequation{\@arabic\c@equation}
11707
11708 \newcommand\LWR@book@theequation
11709 {\ifnum \c@chapter>\z@ \thechapter.\fi \@arabic\c@equation}
11710
11711
11712 \newcommand\LWR@chapter@theequation{\thechapter.\arabic{equation}}
11713 \newcommand\LWR@section@theequation{\thesection.\arabic{equation}}
11714 \newcommand\LWR@subsection@theequation{\thesubsection.\arabic{equation}}
11715
11716 \AtBeginDocument{
11717 % default per article class:
11718 \newcommand*\LWR@mathjaxsubequations[0]{}
11719 \newcommand*\LWR@mathjaxsection[0]{}
11720 \newcommand*\LWR@mathjaxequation[0]{\arabic{equation}}
11721
11722 \ifdef\streq{\theequation}{\LWR@article@theequation}
11723 {}%
11724 \ifdef\streq{\theequation}{\LWR@book@theequation}%
11725 \renewcommand*\LWR@mathjaxsection[0]{\ifnum \c@chapter>\z@ \thechapter.\fi}
11726 {}%
11727 \ifdef\streq{\theequation}{\LWR@subsection@theequation}%
11728 \renewcommand*\LWR@mathjaxsection[0]{\thesubsection{}}
11729 {}%
11730 \ifdef\streq{\theequation}{\LWR@section@theequation}%
11731 \renewcommand*\LWR@mathjaxsection[0]{\thesection{}}
11732 {}%
11733 \ifdef\streq{\theequation}{\LWR@chapter@theequation}%
11734 \renewcommand*\LWR@mathjaxsection[0]{\thechapter{}}
11735 }% unknown format
11736 \PackageWarningNoLine{lwarf}

```

```

11737 {%
11738 Unknown equation tag format for \protect\theequation.\MessageBreak
11739 Article-style equation numbering will be used%
11740 }
11741 }}}} }
11742 }
```

\LWR@syncmathjax Sets the MATHJAX equation format and number for the following equations.

These MATHJAX commands are printed inside “ $\langle$ ” and “ $\rangle$ ” characters. They are printed to HTML output, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```
11743 \newcommand*{\LWR@syncmathjax}{%
```

Tell MATHJAX that the next equation number is the current L<sup>A</sup>T<sub>E</sub>X equation number.

Before each equation, l warp inserts into the HTML code:

```
\seteqnumber{subequations?}{section}{number}
```

**subequations?** is 0 usually, 1 if inside amsmath subequations.

**section** is a string printed as-is, or empty.

**number** is auto-incremented by MATHJAX between equations.

Place the MATHJAX command inside “ $\langle$ ” and “ $\rangle$ ” characters, to be printed to HTML, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```

11744 \LWR@stopars%
11745 \InLineClass{hidden}%
11746 \textbackslash{%
11747 \textbackslash{}seteqnumber{%
11748 \{\theMathJaxsubequations\}%
11749 \{\theMathJaxsection\}%
11750 \{\theMathJaxequation\}%
11751 \textbackslash{%
11752 }%
11753 \LWR@startpars%
11754 }
```

\LWR@hidelatexequation {⟨environment⟩} {⟨contents⟩}

Creates the L<sup>A</sup>T<sub>E</sub>X version of the equation inside an HTML comment.

```
11755 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%
```

Stop HTML paragraph handling and open an HTML comment:

```

11756 \LWR@stopars
11757 \LWR@htmlopencomment
11758
```

Start the  $\text{\LaTeX}$  math environment inside the `HTML` comment:

```
11759 \begingroup
11760 \@nameuse{LWR@orig@#1}
```

While in the math environment, restore various commands to their  $\text{\LaTeX}$  meanings.

```
11761 \LWR@restoreorigformatting
11762 \booltrue{LWR@insidemathcomment}
```

See `\LWR@htmlmathlabel` in section 83.7.1.

Print the contents of the equation:

```
11763 #2
```

End the  $\text{\LaTeX}$  math environment inside the `HTML` comment:

```
11764 \@nameuse{LWR@orig@end#1}
11765 \endgroup
11766
```

Close the `HTML` comment and resume `HTML` paragraph handling:

```
11767 \LWR@htmclosecomment
11768 \boolfalse{LWR@insidemathcomment}
11769 \LWR@startpars
11770 }
```

`\LWR@addmathjax {<environment>} {<contents>}`

Given the name of a math environment and its contents, create a `MATHJAX` instance. The contents are printed to `HTML` output, not interpreted by  $\text{\LaTeX}$ .

```
11771 \NewDocumentCommand{\LWR@addmathjax}{m +m}{%
```

Enclose the `MATHJAX` environment inside printed “`\(`” and “`\)`” characters.

```
11772 \LWR@origtilde\LWR@orignewline
```

Print the environment name and contents, sanitizing for `HTML` special characters.

```
11773 {%
11774 \LWR@print@ttfamily%
11775 \textbackslash{}begin\{\#1\}
11776 \LWR@orignewline%
11777 \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\#2}}%
11778 \LWR@orignewline%
11779 \textbackslash{}end\{\#1\}
11780 }%
11781 \LWR@orignewline
11782 }
```

### 83.5 Equation environment

Remember existing equation environment, after redefined by `amsmath`, if loaded.

```
11783 \AtBeginDocument{
11784 \let\LWR@orig@equation\equation
11785 \let\LWR@orig@endequation\endequation
11786 \csletcs{\LWR@orig@equation*}{equation*}
11787 \csletcs{\LWR@orig@endequation*}{endequation*}
11788 }
```

```
\LWR@doequation {\langle env contents \rangle} {\langle env name \rangle}
```

For SVG math output, the contents are typeset using the original equation inside a `lateximage`, along with an `<alt>` tag containing a detokenized copy of the `LATEX` source for the math.

For MATHJAX output, the contents are typeset in an original equation environment placed inside a `HTML` comment, with special processing for `\labels`. The contents are also printed to the `HTML` output for processing by the MATHJAX script.

```
11789 \newcommand*{\LWR@doequation}[2]{%
11790 }
```

If `mathjax` or `FormatWP`, print the `LATEX` expression:

```
11791 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
```

MATHJAX output:

```
11792 {
```

Print commands to synchronize MATHJAX's equation number and format to the current `LATEX` chapter/section and equation number:

```
11793 \LWR@syncmathjax%
```

Print the `LATEX` math inside an `HTML` comment:

```
11794 \LWR@hidelatexequation{\#2}{\#1}
11795 }
```

SVG output: Create the `lateximage` along with an `HTML` `<alt>` tag having an equation number, the `LATEX` equation environment commands, and the contents of the environment's `\BODY`.

```
11796 {%
```

Begin the `lateximage` with an `<alt>` tag containing the math source:

```
11797 \ifstreq{\#2}{equation*}{%
11798 \begin{BlockClass}{displaymath} %
11799 }{%
```

```

11800 \begin{BlockClass}{displaymathnumbered}%
11801 }%
11802 \LWR@newautoidanchor%
11803 \booltrue{\LWR@indisplaymathimage}%
11804 \begin{lateximage}[%
11805 \ifstreq{\#2}{equation*}{%
11806 \ifdefequal{\LWR@equationtag}{\theequation}{%
11807 % no tag was given
11808 }{%
11809 (\LWR@equationtag) % tag was given
11810 }%
11811 }{%
11812 (\LWR@equationtag) % automatic numbering
11813 }%
11814 \textbackslash{begin}\{\#2\} % extra space
11815 \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\#1}} % extra space
11816 \textbackslash{end}\{\#2\}%
11817]*(math)% alt tag, ARIA

```

Support for `xfakebold`:

```
11818 \LWR@applyxfakebold%
```

Create the actual L<sup>A</sup>T<sub>E</sub>X-formatted equation inside the `lateximage` using the contents of the environment.

```

11819 \nameuse{\LWR@orig@\#2}%
11820 #1% contents collected by \collect@body
11821 \nameuse{\LWR@orig@end\#2}%
11822 \end{lateximage}%
11823 \end{BlockClass}%
11824 }% not mathjax

```

Clear the single-use alt text:

```

11825 \gdef\LWR@ThisAltText{}%
11826 }
```

After the environment, if MATHJAX, print the math to the HTML output for MATHJAX processing. If a footnote is used, sync the footnote counter before, then unsync after for non-equation environments, as defined next.

```

11827 \newcommand*{\LWR@doendequation}[1]{%
11828 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }{%
11829 {%
11830 \IfSubStr{\detokenize\expandafter{\BODY}}{\detokenize{note}}{%
11831 \InlineClass{hidden}{\LWR@syncnotenumbers}%
11832 \LWR@addmathjax{\#1}{\BODY}%
11833 \InlineClass{hidden}{\LWR@syncnotenames}%
11834 }{%
11835 \LWR@addmathjax{\#1}{\BODY}%
11836 }%
11837 }{%
11838 }%
11839 }
```

Clear the single-use alt text:

```
11839 \gdef\LWR@ThisAltText{}%
11840 }
```

The following are used to synchronize footnote marks and related to MATHJAX if `*note*` is used inside the MATHJAX expression. The counter is read from L<sup>A</sup>T<sub>E</sub>X then defined into MATHJAX for use during the following equation. After the equation, the MATHJAX value is returned to the text from `\footnotename`. Other notes may be added by appending to `\LWR@syncnotenumbers` and `\LWR@syncnotenames`.

`\LWR@synconenotenumber {<MATHJAX variable>} {<mark>}`

```
11841 \newcommand*{\LWR@synconenotenumber}[2]{%
11842 \textbackslash%
11843 \textbackslash{}def\textbackslash{}#1\{#2\}%
11844 \textbackslash%
11845 }
```

`\LWR@syncnotenumbers` Assignments to make.

```
11846 \newcommand*{\LWR@syncnotenumbers}{\LWR@synconenotenumber{\LWRfootnote}{\thefootnote}}
```

`\LWR@synconenotename {<MATHJAX variable>} {<text>}`

```
11847 \newcommand*{\LWR@synconenotename}[2]{%
11848 \textbackslash%
11849 \textbackslash{}def\textbackslash{}#1name\{#2\}%
11850 \textbackslash%
11851 }
```

`\LWR@syncnotenames` Assignments to make.

```
11852 \newcommand*{\LWR@syncnotenames}{\LWR@synconenotename{\LWRfootnote}{\footnotename}}
```

Remove existing equation environment:

```
11853 \AtBeginDocument{%
11854 \let\equation\relax
11855 \let\endequation\relax
11856 \csletcs{equation*}{\relax}
11857 \csletcs{endequation*}{\relax}
11858 }
```

`Env` `equation` The new equation environment is created with `\NewEnviron` (from the `environ` package), which stores the contents of its environment in a macro called `\BODY`.

```
11859 \AtBeginDocument{%
11860 \NewEnviron{equation}{%
11861 {\LWR@doequation{\BODY}{equation}}%
```

```

11862 [\LWR@doendequation{equation}]
11863
11864 \LetLtxMacro{\LWR@equationnormal}{\equation}
11865 \LetLtxMacro{\endLWR@equationnormal}{\endequation}
11866 }% AtBeginDocument

Env equation*
11867 \AtBeginDocument{
11868 \NewEnviron{equation*}%
11869 {\LWR@doequation{\BODY}{equation*}}%
11870 [\LWR@doendequation{equation*}]
11871
11872 \csletcs{\LWR@equationnormalstar}{equation*}
11873 \csletcs{\LWR@endequationnormalstar}{endequation*}
11874 }% AtBeginDocument

```

Remember the “less” version of `equation`, which uses MATHJAX and `alt` tags, but does not support complicated contents such as some Tikz expressions.

```

11875 \AtBeginDocument{
11876 \LetLtxMacro{\LWR@equationless}{\equation}
11877 \LetLtxMacro{\endLWR@equationless}{\endequation}
11878 \csletcs{\LWR@equationlessstar}{equation*}
11879 \csletcs{\LWR@endequationlessstar}{endequation*}
11880 }

```

### 83.6 \displaymathnormal and \displaymathother

`\displaymathnormal` By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML for MATHJAX to interpret, and SVG display math environments render their contents as SVG images and use their contents as the `alt` tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated Tikz pictures, compilation will fail.

`\displaymathother` MATHJAX unsupported complicated `alt` tag When selecting `\displaymathother`, it is assumed that the contents are more complicated than “pure” math. An example is an elaborate Tikz picture, which will not render in MATHJAX and will not make sense as an HTML `alt` tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML `alt` tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as Tikz pictures are more likely to compile successfully.

`\displaymathnormal` simple math objects Use when display math environments have simple math which is to sent to MATHJAX or included in HTML `alt` tags.

```

11881 \newcommand*{\displaymathnormal}{%
11882 \ifbool{\LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
11883 \LetLtxMacro{[\LWR@openbracketnormal}%
11884 \LetLtxMacro{]\LWR@closebracketnormal}%
11885 \LetLtxMacro{\displaymath}{\LWR@displaymathnormal}%

```

---

```

11886 \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%
11887 \LetLtxMacro\equation\LWR@equationnormal%
11888 \LetLtxMacro\endequation\endLWR@equationnormal%
11889 \csletcs{equation*}{LWR@equationnormalstar}%
11890 \csletcs{endequation*}{LWR@endequationnormalstar}%
11891 }
```

**\displaymathother** Use when display math environments have complicated objects which will not work with **complicated math objects** MATHJAX or should not be included in HTML alt tags. Complicated contents are more likely to compile correctly.

```

11892 \newcommand*\displaymathother{%
11893 \boolfalse{mathjax}%
11894 \LetLtxMacro\displaymath\LWR@displaymathother%
11895 \LetLtxMacro\enddisplaymath\endLWR@displaymathother%
11896 \LetLtxMacro\[\LWR@displaymathother%
11897 \LetLtxMacro\]\endLWR@displaymathother%
11898 \LetLtxMacro\equation\LWR@equationother%
11899 \LetLtxMacro\endequation\endLWR@equationother%
11900 \csletcs{equation*}{displaymath}%
11901 \csletcs{endequation*}{enddisplaymath}%
11902 }
```

```
11903 \end{warpHTML}
```

**for PRINT output:** 11904 \begin{warpprint}

Print-mode versions:

```

11905 \newcommand*\displaymathnormal{}%
11906 \newcommand*\displaymathother{}%
```

```
11907 \end{warpprint}
```

**for HTML output:** 11908 \begin{warpHTML}

## 83.7 AMS Math environments

### 83.7.1 Support macros

**Bool LWR@amsmultiline** True if processing a multiline environment.

To compensate for multiline-specific code, LWR@amsmultiline is used to add extra horizontal space in \LWR@htmlmathlabel if is used in an **amsmath** environment which is not a multiline environment and not an equation.

```

11909 \newbool{LWR@amsmultiline}
11910 \boolfalse{LWR@amsmultiline}
```

\LWR@beginhideamsmath Starts hiding L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment.

```

11911 \newcommand*{\LWR@beginhideamsmath}{
11912 \LWR@stoppars
11913 \LWR@origtilde\LWR@orignewline
11914 \LWR@htmlopencomment
11915
11916 \begingroup
11917 \LWR@restoreorigformatting
11918 \booltrue{\LWR@insidemathcomment}
11919 }

```

\LWR@endhideamsmath Ends hiding L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment.

```

11920 \newcommand*{\LWR@endhideamsmath}{
11921 \endgroup
11922
11923 \LWR@htmclosecomment
11924 \boolfalse{\LWR@insidemathcomment}
11925 \LWR@orignewline
11926 \LWR@startpars
11927 }

```

### 83.7.2 Environment patches

The **amsmath** environments already collect their contents in `\@envbody` for further processing. `eqnarray` is not an ***AMS*** package, and thus requires special handling.

For **svg** math: Each environment is encapsulated inside a `\teximage` environment, along with a special optional argument of `\LWR@amsmathbody` or `\LWR@amsmathbodynumbered` telling `\teximage` to use as the HTML `<alt>` tag the environment's contents which were automatically captured by the ***AMS*** environment.

For **MATHJAX**: Each environment is syched with L<sup>A</sup>T<sub>E</sub>X's equation numbers, typeset with L<sup>A</sup>T<sub>E</sub>X inside an HTML comment, then printed to HTML output for MATHJAX to process.

**Env** `eqnarray` This environment is not an ***AMS*** environment and thus its body is not automatically captured, so the `environ` package is used to capture the environment into `\BODY`.

```

11928 \let\LWR@origeqnarray\eqnarray
11929 \let\LWR@origendeqnarray\endeqnarray

```

To remember whether the starred environment was used, and thus whether to number the equations:

```

11930 \newbool{\LWR@numbereqnarray}
11931 \booltrue{\LWR@numbereqnarray}

```

Common code used by `eqnarray` and `Beqnarray` (from `fancybox`):

```
11932 \newcommand{\LWR@eqnarrayfactor}{%
```

If `mathjax` or `FormatWP`, print the L<sup>A</sup>T<sub>E</sub>X expression:

---

```
11933 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
11934 {%
```

If MATHJAX, the environment contents (the `\BODY`) are executed in a HTML comment to trigger the correct equation number increment (if not starred), then are included verbatim in the output for MATHJAX to interpret:

```
11935 \LWR@syncmathjax%
11936 \boolfalse{LWR@amsmultiline}%
11937 \ifbool{LWR@numbereqnarray}%
11938 {%
```

If numbering the equations, execute a copy inside an HTML comment block:

```
11939 \LWR@beginhideamsmath%
11940 \LWR@origeqnarray%
11941 \BODY%
11942 \LWR@origendeqnarray%
11943 \LWR@endhideamsmath%
```

Then print the (sanitized) contents to the output for MATHJAX to interpret:

```
11944 \LWR@addmathjax{eqnarray}{\BODY}%
11945 }%
11946 {%
 \not LWR@numbereqnarray
```

If not numbering equations, just create the contents for MATHJAX:

```
11947 \LWR@addmathjax{eqnarray*}{\BODY}%
11948 }%
 \not LWR@numbereqnarray
11949 }%
 mathjax
11950 {%
 \not mathjax
11951 \ifbool{LWR@numbereqnarray}%
11952 {%
```

For numbered SVG equations, first create a `lateximage` with an `alt` attribute containing sanitized copy of the source code:

```
11953 \begin{BlockClass}{displaymathnumbered}%
11954 \LWR@newautoidanchor%
11955 \booltrue{LWR@indisplaymathimage}%
11956 \begin{lateximage}[(\LWR@startingequationtag\textendash\LWR@equationtag)%
11957 \LWR@addmathjax{eqnarray}{\BODY}]*(\math)%
```

Support for `xfakebold`:

```
11958 \LWR@applyxfakebold%
```

Create the image contents using an actual eqnarray:

```
11959 \LWR@origeqnarray%
11960 \BODY%
11961 \LWR@origendeqnarray%
11962 \end{lateximage}%
```

```
11963 \end{BlockClass}%
11964 }%
11965 { \% not LWR@numbereqnarray
```

If not numbered, do the same, but an extra \nonumber seems to be required:

```
11966 \begin{BlockClass}{displaymath}%
11967 \LWR@newauto{danchor}%
11968 \booltrue{\LWR@indisplaymathimage}%
11969 \begin{lateximage}[\LWR@addmathjax{eqnarray*}{\BODY}]*(math)%
```

## Support for xfakebold:

```
11970 \LWR@applyxfakebold%
11971 \def\@eqncr{\nonumber\@seqncr}
11972 \csuse{\LWR@origeqnarray}%
11973 \BODY%
11974 \nonumber\csuse{\LWR@origendeqnarray}%
11975 \end{lateximage}%
11976 \end{BlockClass}%
11977 }% \LWR@numbereqnarray
11978 }% not mathjax
```

Default to number equations in the future:

11979 \booltrue{LWR@numbereqnarray}%

Clear the single-use alt text:

```
11980 \gdef\LWR@ThisAltText{}%
11981 }
```

`eqnarray` itself is made with a blank line before and after to force it to be on its own line:

```
11982 \RenewEnviron{eqnarray}{%
11983 \LWR@eqnarrayfactor
11984 }
11985 \bgroup
11986 \let\item\relax
11987 }
```

The starred version is patched to turn off the numbering:

```
11988 \csgpreto{eqnarray*}{\boolfalse{LWR@numbereqnarray}}
```

  

```
11989 \end{warpHTML}
```

84 Lateximages

## 84.1 Description

**Env** `lateximage` A `lateximage` is a piece of the document which is typeset in  $\text{\LaTeX}$  then included in the `HTML` output as an image. This is used for math if `SVG` math is chosen, and also for the `picture`, `tikzpicture`, and other environments.

Before typesetting the `lateximage` a large number of formatting, graphics, and symbols-related macros are temporarily restored to their print-mode meaning by `\LWR@restoreorigformatting`. (See section 81.)

A `lateximage` is typeset on its own `PDF` page inside an `HTML` comment which starts on the preceding page and ends on following page, and instructions are written to `lateximage.txt` for `lwarfmk` to extract the `lateximage` from the page of the `PDF` file then generate an accompanying `.svg` file image file. Meanwhile, instructions to show this image are placed into the `HTML` file after the comment.

An `HTML <span>` is created to hold both the `HTML` comment, which will have the `pdftotext` conversion, and also the link to the final `.svg` image.

A  $\text{\LaTeX}$  label is used to remember which `PDF` page has the image. A label is used because footnotes, endnotes, and pagenotes may cause the image to appear at a later time. The label is declared along with the image, and so it correctly remembers where the image finally ended up.

**HTML alt tag** The `HTML alt` tag is set to the  $\text{\LaTeX}$  source for `SVG` math, some chemistry expressions, and perhaps some other expressions which make sense for text copy/paste. In some other cases, the `alt` tag is set according to the package name.

When creating an `SVG` math image, its `HTML alt` tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the `alt` tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This `alt` expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “`math image`”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following `SVG` math images.

For many packages, the output is placed inside a `lateximage` with an `HTML alt` tag set to the package name followed by `\PackageDiagramAltText`. For example:

```
(-xy- diagram)
```

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “`diagram`”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

**SVG image font size** For the `lateximage` environment, the size of the math and text used in the `SVG` image may be adjusted by setting `\LateximageFontSizeName` to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{\normalsize}
```

For inline SVG math, font size is instead controlled by `\LateximageFontSize`, which defaults to:

```
\newcommand*\LateximageFontSize{.75}
```

## 84.2 Support counters and macros

**for HTML output:** 11990 `\begin{warpHTML}`

Ctr `LWR@lateximagenumber` Sequence the images.

```
11991 \newcounter{LWR@lateximagenumber}
11992 \setcounter{LWR@lateximagenumber}{0}
```

Ctr `LWR@Lateximagedepth` Do not create `\lateximage` inside of `\lateximage`.

```
11993 \newcounter{LWR@Lateximagedepth}
11994 \setcounter{LWR@Lateximagedepth}{0}
```

A few utility macros to write special characters:

```
11995 \edef\LWR@hashmark{\string#} % for use in \write
11996 \edef\LWR@percent{\@percentchar} % for use in \write
```

Ctr `LWR@LIpage` Used to reference the PDF page number of a `lateximage` to be written into `<project>-images.txt`.

```
11997 \newcounter{LWR@LIpage}
11998 \end{warpHTML}
```

## 84.3 Font size

**for HTML & PRINT:** 11999 `\begin{warpall}`

`\LateximageFontSizeName` Declares how large to write text in `\lateximages`. The .svg file text size should blend well with the surrounding HTML text size.

 **no backslash** *Do not include the leading backslash in the name.*

```
12000 \newcommand*\LateximageFontSizeName{normalsize}
```

`\LateximageFontSize` Declares how large to scale inline SVG math images. The .svg file text size should blend well with the surrounding HTML text size. The default is 1, but it may be redefined as needed depending on the HTML font.

```
12001 \newcommand*\LateximageFontSize{1}
12002 \end{warpall}
```

## 84.4 Equation numbers

**for HTML output:** 12003 \begin{warpHTML}

Ctr LWR@startingequation For use with `\teximage` and multi-line numbered equations. Remembers the next equation number so that it may be printed in the alt tag.

```
12004 \newcounter{LWR@startingequation}
12005
12006 \@ifundefined{chapter}
12007 {
12008 \renewcommand{\theLWR@startingequation}{%
12009 \arabic{LWR@startingequation}%
12010 }
12011 }
12012 {%
12013 \chapter{%
12014 \renewcommand{\theLWR@startingequation}{%
12015 \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}.}{}}%
12016 \arabic{LWR@startingequation}%
12017 }
```

Bool LWR@isstartingequation True for the first equation tag, false for later tags in the same environment.

```
12018 \newbool{LWR@isstartingequation}
```

\LWR@startingequationtag Prints the starting equation number or tag.

```
12019 \let\LWR@startingequationtag\theLWR@startingequation
```

\LWR@equationtag Prints the ending equation number or tag.

This is reset by `\teximage`, may be temporarily overwritten by `\tag` calling `\LWR@remembertag`.

```
12020 \newcommand*{\LWR@equationtag}{}%
```

Only if SVG math, patch `\tag` after packages have loaded, in case someone else modified `\tag`.

```
12021 \AtBeginDocument{%
12022 \ifbool{mathjax}{}{%
12023 \ifbool{mathjax}{}{not mathjax}}
```

\LWR@remembertag `{<tag>}`

For use inside the math environments while using SVG math. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```
12024 \NewDocumentCommand{\LWR@remembertag}{m}{%
12025 \ifbool{LWR@isstartingequation}{}{%
12026 \global\boolfalse{LWR@isstartingequation}}
```

```

12028 \xdef\LWR@startingequationtag{\#1}%
12029 }{ }%
12030 \xdef\LWR@equationtag{\#1}%
12031 }{ }%

12032 }% not mathjax
12033 }% AtBeginDocument

```

## 84.5 HTML alt tags

\LWR@amsmathbody {*envname*} For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `<alt>` tag.

```

12034 \newcommand*{\LWR@amsmathbody}[1]
12035 {%
12036 \textbackslash\begin{\#1} % extra space
12037 \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\the\@envbody}}%
12038 \textbackslash\end{\#1}%
12039 }

```

\LWR@amsmathbodynumbered {*envname*} For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `alt` tag, prefixed by the equation numbers.

```

12040 \newcommand*{\LWR@amsmathbodynumbered}[1]
12041 {%
12042 \ifnumcomp{\value{\LWR@startingequation}}{=}{\value{equation}}{%
12043 {(\LWR@equationtag)}%
12044 {(\LWR@startingequationtag\textendash\LWR@equationtag)} % extra space
12045 \LWR@amsmathbody{\#1} % extra space
12046 }

```

## 84.6 lateximage environment

\LWR@lateximage@oneimageb {{*1: alt text*}} {{*2: filename*}} {{*3: css style*}} {{*4: ARIA role*}} Creates the image for the `lateximage`.

```

12047 \newcommand{\LWR@lateximage@oneimageb}[4]{%
12048 \LWR@subinlineimage{\#1}{lateximage}%
12049 {%
12050 \LWR@print@mbox{%
12051 \LWR@ImagesDirectory\OSPathSymbol%
12052 #2%
12053 }%
12054 }{\#3}{\#4}%
12055 }

```

\LWR@lateximage@oneimage {{*1: alt text*}} {{*2: filename*}} {{*3: css style*}} {{*4: delimit?*}} {{*5: ARIA role*}}

Creates an image for the `lateximage`, whose `alt` text depends on the circumstances.

```

12056 \newcommand{\LWR@lateximage@oneimage}[5]{%
12057 \ifdefvoid{\LWR@ThisAltText}{%
12058 \IfBooleanTF{#4}{%
12059 \LWR@lateximage@oneimageb{#1}{#2}{#3}{#5}%
12060 }{%
12061 \LWR@lateximage@oneimageb%
12062 {\AltTextOpen#1\AltTextClose}%
12063 {#2}{#3}{#5}%
12064 }%
12065 }{%
12066 \LWR@lateximage@oneimageb%
12067 {\AltTextOpen\LWR@ThisAltText\AltTextClose}%
12068 {#2}{#3}{#5}%
12069 }%
12070 }

```

Env  `lateximage * [<2: <alt> tag] * [<4: add'l hashing>] [<5: css style>] (<6: ARIA role>)`

Typesets the contents and then renders the result as an SVG file. Star #1 causes the image to be hashed for reuse. Star #3 causes the alt tag to not include \AltTextOpen and \AltTextClose, for use with math expressions.

The optional <alt> tag is included in the HTML code for use with copy/paste.

**image filename hashing** If starred, a hashed filename is used. If so, the hash is based on the alt tag and also the additional hashing argument.

This may be used to provide an expression with a simple alt tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated TeX expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is duplicated in the additional hashing argument.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple alt tag is still the same.

File `*_html.aux` A new label is placed into the file \*\_html.aux:

```
\newlabel{\LWR@lateximage-<BaseJobname>-<number>}{{<x>}{<y>}}
```

This is used to find the image in the PDF file, according to its name.

File `*-images.txt` A list of images to generate is created in <jobname>-images.txt. Each line has three pipe-delimited fields, containing the PDF page number from <jobname>.html.pdf, where the image is located, a boolean indicating whether the image is hashed, and the filename of the image. The last line has “end” in each field, and is used to detect an incomplete compile.

```

12071 \catcode`\$=\active%
12072
12073 \NewDocumentEnvironment{lateximage}{s 0{\ImageAltText} s 0{} 0{} D(){}}

```

```

12074 {%
12075 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
12076 \LWR@traceinfo{lateximage: entering depth is \arabic{\LWR@lateximagedepth}}%

```

Nested lateximages remain one large lateximage:

```
12077 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
```

If nesting inside an already-existing lateximage, simply record one more level. *AMS* packages redefine `\addtocounter` to do nothing if inside a `\text`, so lower-level *TeX* macros are used for tracking nested lateximages.

```

12078 {%
12079 % \addtocounter{\LWR@lateximagedepth}{1}%
12080 \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
12081 }%

```

Otherwise, this is the outer-most lateximage:

```
12082 {% start of outer-most lateximage
```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```

12083 \LWR@traceinfo{lateximage: starting outer-most lateximage}%
12084 \setcounter{\LWR@startingequation}{\value{equation}}%
12085 \addtocounter{\LWR@startingequation}{1}%
12086 \booltrue{\LWR@isstartingequation}%
12087 \let\LWR@startingequationtag\the\LWR@startingequation%

```

The default equation tag, unless overwritten by `\tag`:

```
12088 \let\LWR@equationtag\theequation%
```

Starting a new lateximage:

```

12089 \addtocounter{\LWR@lateximagenumber}{1}%
12090 \LWR@traceinfo{lateximage: \LWR@lateximagenumber is \arabic{\LWR@lateximagenumber}}%

```

While inside a lateximage, locally do not use mathjax:

```
12091 \boolfalse{mathjax}%
```

Be sure that are doing a paragraph:

```
12092 \LWR@ensuredoingapar%
```

Next file:

```

12093 \addtocounter{\LWR@externalfilecnt}{1}%
12094 \LWR@traceinfo{lateximage: \LWR@externalfilecnt is \arabic{\LWR@externalfilecnt}}%

```

Figure out what the next page number will be. `\setcounterpageref` assigns `\LWR@LIPage` to the page number for the reference `LWR@lateximage-BaseJobname-XXX`:

```

12095 \setcounterpageref{LWR@LIpage}{%
12096 LWR@lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}%
12097 }%
12098 \LWR@traceinfo{lateximage: LWR@LIpage is \arabic{LWR@LIpage}}%

```

Create an HTML span which will hold the comment which contains the *pdftotext* translation of the image's page, and also will hold the link to the .svg file:

```

12099 \LWR@htmlltag{span\LWR@indentHTML%
12100 id=\textquotedbl{}%
12101 lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}%
12102 \textquotedbl{}LWR@indentHTML%
12103 class=\textquotedbl{}lateximagesource\textquotedbl{}LWR@orignewline
12104 }%

```

Write instructions to the <ImagesDirectory>.txt file:

```

12105 \LWR@traceinfo{lateximage: about to write to \BaseJobname-images.txt}%
12106 \IfBooleanTF{#1}{ starred
12107 }{ hash

```

Compute and save the hashed file name for later use:

```

12108 \ifdefvoid{\LWR@ThisAltText}{%
12109 \IfBooleanTF{#3}{%
12110 \edef\LWR@hashedname{%
12111 \LWR@mdfive{\detokenize\expandafter{#2}-!-#4}%
12112 }%
12113 }{%
12114 \edef\LWR@hashedname{%
12115 \LWR@mdfive{\detokenize\expandafter{\AltTextOpen#2\AltTextClose}-!-#4}%
12116 }%
12117 }%
12118 }{%
12119 \edef\LWR@hashedname{%
12120 \LWR@mdfive{\detokenize\expandafter{\AltTextOpen\LWR@ThisAltText\AltTextClose}-!-#4}%
12121 }%
12122 }%
12123 \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%

```

Write the page, hashing, and hashed name:

```

12124 \immediate\write\LWR@lateximagesfile{%
12125 |\arabic{LWR@LIpage}|true|\LWR@hashedname|%
12126 }%
12127 }% hash
12128 { no hash

```

No hash, so write the page, no hashing, and the image number:

```

12129 \LWR@traceinfo{lateximage: hash false}%
12130 \immediate\write\LWR@lateximagesfile{%
12131 |\arabic{LWR@LIpage}|false|\LWR@ImagesName\arabic{LWR@externalfilecnt}|%
12132 }%
12133 }% no hash

```

Place an open comment tag. This will hide any traces of the `lateximage` PDF page which were picked up by `pdftotext`.

```
12134 \LWR@traceinfo{lateximage: about to create open comment}%
12135 \LWR@htmlopencomment%
```

One level deeper. At this outer-most `lateximage`, it is known that this is not being used inside an  $\mathcal{AMS}$  `\text`, since the outer-most level will never be in math mode.

```
12136 \addtocounter{\LWR@lateximagedepth}{1}%
```

Start the new PDF page:

```
12137 \LWR@traceinfo{lateximage: about to create a new page}%
12138 \LWR@maybe@orignewpage%
```

If the current page is larger, typeset the image in a “standard” width page and font size:

```
12139 \LWR@traceinfo{lateximage: about to create minipage}%
12140 \ifdimless{\linewidth}{6in}{%
12141 \LWR@print@minipage{\linewidth}%
12142 }{%
12143 \LWR@print@minipage{6in}%
12144 }%
12145 \nameuse{\LWR@print@\LateximageFontSizeName}%
```

Temporarily restore formatting to its PDF definitions: Do not produce HTML tags for `\hspace`, etc. inside a `lateximage`.

```
12146 \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
12147 \LWR@restoreorigformatting%
```

Use full-page footnotes instead of minipage footnotes. These become HTML footnotes.

```
12148 \def\mpfn{footnote}%
12149 \def\thempfn{\thefootnote}%
12150 \LetLtxMacro\footnotetext{\LWR@footnotetext}%
```

Create the `\LWR@lateximage<number>` label:

```
12151 \LWR@traceinfo{lateximage: about to create label}%
12152 \LWR@orig@label{\LWR@lateximage-\BaseJobname-\arabic{\LWR@lateximagenumber}}%
12153 \LWR@traceinfo{lateximage: finished creating the label}%
```

Adjust the rule color to match HTML:

```
12154 \ifdefvoid{\LWR@ruleHTMLcolor}{}{%
12155 \LWR@print@arrayrulecolor[HTML]{\LWR@ruleHTMLcolor}%
12156 }%
```

Enable print-mode math functions:

```
12157 \LetLtxMacro$\LWR@origdollar%
12158 \catcode`\$=3% math shift
```

```

12159 \LetLtxMacro{(\LWR@origopenparen%
12160 \LetLtxMacro{)\LWR@origcloseparen%
```

Only enable print-mode display math if are not already inside display math:

```

12161 \ifbool{\LWR@indisplaymathimage}{ }{ not in display math
12162 \LetLtxMacro{[\LWR@origopenbracket%
12163 \LetLtxMacro{]\LWR@origclosebracket%
12164 \let\equation\LWR@orig@equation%
12165 \let\endequation\LWR@orig@endequation%
12166 \csletcs{equation*}{\LWR@orig@equation*}%
12167 \csletcs{endequation*}{\LWR@orig@endequation*}%
12168 }{ not in display math
```

For chemformula:

```

12169 \LetLtxMacro{\LWR@newsingledollar$%
12170 \LetLtxMacro{\LWR@newsingledollar$% syntax highlighting
12171 }% end of outer-most lateximage
12172 \LWR@traceinfo{lateximage: finished start of environment}%
12173 }% end of \begin{lateximage}
```

**\end{lateximage}** When the lateximage environment closes:

```

12174 { % start of \end{lateximage}
12175 \LWR@traceinfo{lateximage: starting end of lateximage}%
```

Nested more than one deep?

```

12176 \LWR@traceinfo{lateximage: internal depth was \arabic{\LWR@lateximagedepth}}%
12177 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{1}%
```

If nesting inside an already existing lateximage, simply record one less level. Uses a lower-level  $\text{\TeX}$  macro due to  $\mathcal{AM}\mathcal{S}$  \text{change of}  $\text{\addtocounter}$ .

```

12178 {%
12179 \LWR@traceinfo{lateximage: unnesting}%
12180 \global\advance\c@LWR@lateximagedepth -1\relax%
12181 }%
```

If this is the outer-most lateximage:

```

12182 { % end of outer-most lateximage
```

Finish the lateximage minipage and start a new PDF page:

```

12183 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
12184 \endLWR@print@minipage%
12185 \LWR@maybe@orignewpage%
```

Close the HTML comment which encapsulated any traces of the lateximage picked up by  $\text{pdftotext}$ :

```

12186 \LWR@print@vspace*{.5\baselineskip}%
12187 \LWR@htmlclosecomment%
12188 \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}%

```

Create a link to the lateximage, allowing its natural height:

```

12189 \IfBooleanTF{#1}{ starred
12190 {%
12191 \LWR@lateximage@oneimage{#2}{\LWR@hashedname}{#5}{#3}{#6}%
12192 }%
12193 {%
12194 \LWR@lateximage@oneimage{#2}{\LWR@ImagesName\theLWR@externalfilecnt}{#5}{#3}{#6}%
12195 }%

```

Be sure that are doing a paragraph:

```
12196 \LWR@ensuredoingapar%
```

Close the `HTML` span which has the `pdftotext` comment and also the link to the `.svg` image:

```

12197 \LWR@htmlltag{/span}%
12198 \ifbool{HTMLDebugComments}{%
12199 \LWR@htmlcomment{End of lateximage}%
12200 }%

```

Undo one lateximage level. This is not inside an `\text`, so regular `\addtocounter` may be used here.

```
12201 \addtocounter{\LWR@lateximagedepth}{-1}%
```

Clear the single-use alt text:

```

12202 \gdef\LWR@ThisAltText{}%
12203 }% end of outer-most lateximage
12204 \LWR@traceinfo{lateximage: exiting depth is \arabic{\LWR@lateximagedepth}}%
12205 \LWR@traceinfo{lateximage: done}%
12206 }%
12207 \catcode`\$=3% math shift
12208 \end{warpHTML}

```

**for PRINT output:** 12209 `\begin{warpprint}`

Env `lateximage` \* [`<alt> tag`] \* [`<add'l hashing>`] [`<css style>`]

`varwidth` is used to create a box of the natural width of its contents.

```

12210 \NewDocumentEnvironment{lateximage}{s o s o o d()}
12211 {\begin{varwidth}[b]{\linewidth}}
12212 {\end{varwidth}}
12213 \end{warpprint}

```

## 85 center, flushleft, flushright

**for HTML output:** 12214 \begin{warpHTML}

Env **center** Replace center functionality with css tags. In a <span>, these macros are nullified, but extra % are used to remove spurious spaces here as well.

```
12215 \newenvironment*{\LWR@HTML@center}
12216 {%
12217 \LWR@forcenewpage%
12218 \ifbool{FormatWP}{%
12219 {\BlockClass[\LWR@print@mbox{text-align:center}]{center}}%
12220 {\BlockClass{center}}%}
12221 }
12222 {\endBlockClass}
12223
12224 \LWR@formatedenv{center}
```

Env **flushright**

```
12225 \newenvironment*{\LWR@HTML@flushright}
12226 {%
12227 \LWR@forcenewpage%
12228 \ifbool{FormatWP}{%
12229 {\BlockClass[\LWR@print@mbox{text-align:right}]{flushright}}%
12230 {\BlockClass{flushright}}%}
12231 }
12232 {\endBlockClass}
12233
12234 \LWR@formatedenv{flushright}
```

Env **flushleft**

```
12235 \newenvironment*{\LWR@HTML@flushleft}
12236 {%
12237 \LWR@forcenewpage%
12238 \ifbool{FormatWP}{%
12239 {\BlockClass[\LWR@print@mbox{text-align:left}]{flushleft}}%
12240 {\BlockClass{flushleft}}%}
12241 }
12242 {\endBlockClass}
12243
12244 \LWR@formatedenv{flushleft}
```

\centering, \raggedleft, and \raggedright usually have no effect on the HTML output, but they may be used to compare with the next token to identify their use at the start of a float. See \LWR@floatalignment.

\centering

```
12245 \newcommand*{\LWR@HTML@centering}{%
```

```

12246 \ifbool{HTMLDebugComments}{%
12247 \LWR@htmlcomment{centering}%
12248 }{}%
12249 }
12250 \LWR@formatted{centering}

\raggedleft

12251 \newcommand*{\LWR@HTML@raggedleft}{%
12252 \ifbool{HTMLDebugComments}{%
12253 \LWR@htmlcomment{raggedleft}%
12254 }{}%
12255 }
12256 \LWR@formatted{raggedleft}

\raggedright

12257 \newcommand*{\LWR@HTML@raggedright}{%
12258 \ifbool{HTMLDebugComments}{%
12259 \LWR@htmlcomment{raggedright}%
12260 }{}%
12261 }
12262 \LWR@formatted{raggedright}

\leftline {\langle text\rangle}

12263 \renewcommand{\leftline}[1]{\begin{flushleft}#1\end{flushleft}}

\centerline {\langle text\rangle}

12264 \renewcommand{\centerline}[1]{\begin{center}#1\end{center}>

\rightline {\langle text\rangle}

12265 \renewcommand{\rightline}[1]{\begin{flushright}#1\end{flushright}>

12266 \end{warpHTML}}

```

## 86 Preloaded packages

**for HTML output:** 12267 \begin{warpHTML}

If the given package was loaded before or by `lwarp`, load the `lwarp` version as well.

```

\LWR@PreloadedPackage {\langle packagename\rangle}

12268 \newcommand*{\LWR@PreloadedPackage}[1]{%
12269 \@ifpackageloaded{#1}{%
12270 {%

```

---

```

12271 \AtBeginDocument{
12272 \LWR@origRequirePackage{lwarp-\#1}%
12273 }
12274 }%
12275 {}%
12276 }

```

If **inputrc** was loaded before **lwarp**, as is usually done, explicitly load the lwarp patches now:

```
12277 \LWR@PreloadedPackage{inputrc}
```

If **textcomp** was loaded before **lwarp**, perhaps as part of the font-related packages, explicitly load the lwarp patches now:

```
12278 \LWR@PreloadedPackage{textcomp}
```

If **xunicode** was loaded before **lwarp**, perhaps as part of the font-related packages, explicitly load the lwarp patches now:

```
12279 \LWR@PreloadedPackage{xunicode}
```

If **graphics** or **graphicx** were loaded before **lwarp**, perhaps by **xunicode**, explicitly load the lwarp patches now:

```

12280 \LWR@PreloadedPackage{graphics}
12281 \LWR@PreloadedPackage{graphicx}

```

**scalefnt** may have been preloaded by **babel**

```
12282 \LWR@PreloadedPackage{scalefnt}
```

**fontaxes** must be preloaded so that **lwarp** may patch it for **HTML**.

```
12283 \LWR@PreloadedPackage{fontaxes}
```

Various font packages which may be loaded before **lwarp**:

```

12284 \LWR@PreloadedPackage{cmbright}
12285 \LWR@PreloadedPackage{fourier}
12286 \LWR@PreloadedPackage{kpfonts}
12287 \LWR@PreloadedPackage{kpfonts-otf}
12288 \LWR@PreloadedPackage{libertinust1math}
12289 \LWR@PreloadedPackage{pxfonts}
12290 \LWR@PreloadedPackage{txfonts}
12291 \LWR@PreloadedPackage{txgreeks}
12292 \LWR@PreloadedPackage{newpxmath}
12293 \LWR@PreloadedPackage{newtxmath}
12294 \LWR@PreloadedPackage{newtxsf}
12295 \LWR@PreloadedPackage{mathalpha}
12296 \LWR@PreloadedPackage{unicode-math}

```

**nfssext-cfr** may be preloaded by **cfm-lm** or related font packages.

---

12297 \LWR@PreloadedPackage{nfssext-cfr}

**ulem** may be preloaded by **ctex**, **ctexart**, and related classes.

12298 \LWR@PreloadedPackage{ulem}

12299 \LWR@PreloadedPackage{xetexko}

**geometry** is preloaded by **l warp**, and perhaps by various classes.

12300 \LWR@PreloadedPackage{geometry}

**plex** is preloaded by some CJK classes.

12301 \LWR@PreloadedPackage{plex}

**stfloats** is preloaded by **ltj\*** classes.

12302 \LWR@PreloadedPackage{stfloats}

**lltjext** is preloaded by **ltj\*** classes.

12303 \LWR@PreloadedPackage{lltjext}

**luatexko** must be loaded before **l warp**.

12304 \LWR@PreloadedPackage{luatexko}

12305 \end{warpHTML}

## 87 siunitx

Pkg **siunitx** The **l warp** core passes a few options to **siunitx**.

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

⚠ **math mode required** Some units will require that the expression be placed inside math mode.

⚠ **tabular** Tabular S columns are rendered as simple c columns, and tabular s columns are not supported. These may be replaced by c columns with each cell contained in \num or \si.

⚠ **MathJax** For math mode with SVG display, the original **siunitx** code is used while generating the SVG image. For text mode, **l warp** uses an emulation which provides a very effective HTML interpretation of **siunitx**. For math expressions while using MATHJAX, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. Complicated parsing such as for \ang is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

Document modifications required for MATHJAX:

- custom units**
- Custom units may be added with `\CustomizeMathJax`. See the `l warp-siunitx` code for examples.

- ⚠ unit spacing**
- Units work better using `~` between units instead of using periods.
- ⚠ \square, \cubic**
- To square or cube compound units, enclose the following compound units in braces:  
`\cubic{\centi\meter}`
- Single units do not require braces.

Also see [MATHJAX option](#), section 8.7.4.

**for HTML output:** 12306 `\begin{warpHTML}`

Options for `siunitx`:

```

12307 \newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}
12308 \newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}
12309 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLunicode{2032}}
12310 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLunicode{2033}}
12311 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\HTMLunicode{210F}}}}
12312
12313 \appto{\LWR@restoreorigformatting}{%
12314 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^\circ}\!C}}%
12315 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^\circ}}}%
12316 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{^{\prime}}}}%
12317 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{^{\prime\prime}}}}%
12318 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}}%
12319 }
12320
12321 \PassOptionsToPackage{
12322 detect-mode=true,
12323 per-mode=symbol,% fraction is not seen by pdftotext
12324 text-celsius = {\LWR@siunitx@textcelsius},
12325 text-degree = {\LWR@siunitx@textdegree},
12326 text-arcminute = {\LWR@siunitx@textprime},
12327 text-arcsecond = {\LWR@siunitx@textdblprime},
12328 }{siunitx}
12329 \end{warpHTML}

```

## 88 Graphics print-mode modifications

### 88.1 General limitations

- ⚠ scale** Avoid using the `\includegraphics scale` option. Change:

`\includegraphics[scale=<xx>]{...}`

to:

`\includegraphics[width=<yy>\linewidth]{...}`

**\includegraphics file formats** For \includegraphics with .pdf or .eps files, the user must provide a .pdf or .eps image file for use in print mode, and also a .svg, .png, or .jpg version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, l warp will automatically choose the .pdf or .eps format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a .pdf or .eps image is referred to with its file extension, the extension will be changed to .svg for HTML:

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

Prog pdftocairo To convert a PDF image to SVG, use the utility *pdftocairo*:

**PDF to SVG**

```
Enter ⇒ pdftocairo -svg filename.pdf
```

Prog l warpmk pdftosvg For a large number of images, use *l warpmk*:

```
Enter ⇒ l warpmk pdftosvg *.pdf (or a list of filenames)
```

Prog l warpmk epstopdf For EPS images converted to PDF using the package *epstopdf*, use

**epstopdf package**

```
Enter ⇒ l warpmk pdftosvg *.PDF
```

to convert to SVG images.

**DVI L<sup>A</sup>T<sub>E</sub>X** When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

```
Enter ⇒ l warpmk epstopdf *.eps (or a list of filenames)
```

```
Enter ⇒ l warpmk pdftosvg *.pdf (or a list of filenames)
```

**PNG and JPG** For PNG or JPG while using *pdflatex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

**GIF** GIF files may be used for HTML, but another format must also be provided for print output.

**file extension priorities** If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

### ⚠ graphics vs. graphicx

#### ⚠ viewport

#### ⚠ viewport units

If using the older **graphics** syntax, use both optional arguments for \includegraphics. A single optional parameter is interpreted as the newer **graphicx** syntax. Note that viewports are not supported by l warp – the entire image will be shown.

For \includegraphics, avoid px and % units for width and height, or enclose them inside warpHTML environments. For font-proportional image sizes, use ex or em. For fixed-sized images, use cm, mm, in, pt, or pc. Use the keys width=.5\linewidth, or similar for \textwidth or \textheight to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the scale option, since it is not well supported by HTML browsers.

**options** \includegraphics accepts width and height, origin, rotate and scale, plus new class and alt keys.

**HTML class** With `HTML` output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the `HTML` output will include that class for the image. The class is ignored for print output.

**HTML alt tags** Likewise, the `\includegraphics alt` key adds an `HTML alt` tag to an image, and is ignored for print output. If not assigned, each image is given an `alt` tag according to `\ImageAltText`.

**\rotatebox** `\rotatebox` accepts the optional `origin` key.

**⚠ browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The `css3` standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike `LATEX`, so expect some ugly results for scaling and rotating.

## 88.2 Print-mode modifications

**for PRINT output:** For print output, accept and then discard the new `class` key:

```
12330 \begin{warpprint}
12331 \define@key{Gin}{class}{}
12332 \define@key{Gin}{alt}{}
```

Print-mode additions for the `overpic` package. See section 450 for the `HTML` version.

```
12333 \AtBeginDocument{
12334 \@ifpackageloaded{overpic}{
12335 \newcommand*\overpicfontsize{12}
12336 \newcommand*\overpicfontskip{14}
12337 }{}}
12338 }
12339 \end{warpprint}
```

## 89 xcolor boxes

**Pkg xcolor** A few new definitions are provided for enhanced `HTML` colored boxes, and `\fcolorbox` is slightly modified. Print-mode version are also provided.

Print-mode versions of new `xcolor` defintions. These are defined inside `warpall` because they are also used for `HTML` while inside a `ltximage`. They are defined `\AtBeginDocument` so that the `xcolor` originals may first be loaded and saved for reuse.

The framed versions are modified to allow a background color of `none`, in which case only the frame is drawn, allowing the background page color to show.

**for HTML & PRINT:** 12340 `\begin{warpall}`

After `xparse` may have been loaded ...

```
12341 \AtBeginDocument{
```

... and *only* if `xcolor` was loaded:

```
12342 \@ifpackageloaded{xcolor}{
12343 \LWR@traceinfo{patching xcolor}}
```

The print version:

`\colorboxBlock` `\colorboxBlock` is the same as `\colorbox`:

```
12344 \LetLtxMacro\colorboxBlock\colorbox
```

The original definition is reused by the new versions:

```
12345 \LetLtxMacro\LWR@orig@print\fcolorbox\fcolorbox
```

`\fcolorbox` [`\langle framemode\rangle`] [`\langle framecolor\rangle`] [`\langle boxmodel\rangle`] [`\langle boxcolor\rangle`] [`\langle text\rangle`]

In print mode, `\fcolorbox` is modified to accept a background color of none.

(`\fcolorbox` is particular about its optional arguments, thus the elaborate combinations of `\ifthenelse`.)

```
12346 \newsavebox{\LWR@colorminipagebox}
12347
12348 \NewDocumentCommand{\LWR@print\fcolorbox}{o m o m +m}{%
12349 \LWR@traceinfo{\LWR@print\fcolorbox #2 #4} %
```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
12350 \begin{lrbox}{\LWR@colorminipagebox} %
12351 #5%
12352 \end{lrbox} %
```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a `\fcolorbox`.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```
12353 \ifstreq{\#4}{none}{%
12354 #4 none
12355 \LWR@traceinfo{background is none} %
12356 % scope the \colorlet
12357 \colorlet{\LWR@currentcolor}{.} %
12358 \color{\#2} %
12359 \fbox{ %
12360 \color{\LWR@currentcolor} %
12361 \usebox{\LWR@colorminipagebox} %
12362 } % fbox
12363 } % colorlet
12364 } % #4 none
12365 % #4 not none
12366 \LWR@traceinfo{background not none} %
12367 \IfValueTF{\#1}{ %
```

```

12368 {%
12369 \IfValueTF{#3}{%
12370 {\LWR@orig@print@fcolorbox[#1]{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}}%
12371 {\LWR@orig@print@fcolorbox[#1]{#2}{#4}{\usebox{\LWR@colorminipagebox}}}}%
12372 }%
12373 {%
12374 \IfValueTF{#3}{%
12375 {\LWR@orig@print@fcolorbox[#2]{#3}{#4}{\usebox{\LWR@colorminipagebox}}}}%
12376 {\LWR@orig@print@fcolorbox[#2]{#4}{\usebox{\LWR@colorminipagebox}}}}%
12377 }%
12378 }%
12379 \LWR@traceinfo{\LWR@print@fcolorbox done}%
12380 }%
12381 \renewrobustcmd*\fcolorbox{\LWR@print@fcolorbox}%

```

\fcolorboxBlock [⟨framemode⟩] {⟨framecolor⟩} [⟨boxmodel⟩] {⟨boxcolor⟩} {⟨text⟩}

In print mode, \fcolorboxBlock is the same as \fcolorbox.

```

12382 \newcommand*\LWR@print@fcolorboxBlock{\LWR@print@fcolorbox}%
12383 \newrobustcmd*\fcolorboxBlock{\LWR@print@fcolorboxBlock}%

```

**Env** **fcolorminipage** [⟨1:framemode⟩] {⟨2:framecolor⟩} [⟨3:boxmodel⟩] {⟨4:boxcolor⟩} [⟨5:align⟩] [⟨6:height⟩] [⟨7:inner-align⟩] {⟨8:width⟩}

In print mode, becomes a \fcolorbox containing a minipage:

```

12384 \NewDocumentEnvironment{\LWR@print@fcolorminipage}{o m o m O{c} O{} o m}%
12385 {%
12386 \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%

```

Pre-load the contents into an LR box so that they can be used inside a \fcolorbox:

```
12387 \begin{lrbox}{\LWR@colorminipagebox}%
```

If inner alignment is not given, use the outer alignment instead:

```

12388 \IfValueTF{#7}{%
12389 {\begin{minipage}[#5][#6][#7]{#8}}%
12390 {\begin{minipage}[#5][#6][#5]{#8}}%
12391 }%
12392 {%
12393 \end{minipage}}%
12394 \end{lrbox}%
12395 \LWR@traceinfo{*** starting end fcolorminipage #1 #2 #3 #4 #8}%

```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a \fcolorbox.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```

12396 \ifstrequal{#4}{none}%
12397 {%
12398 {%
12399 \colorlet{LWR@currentcolor}{.}%
12400 \color{#2}%
12401 \fbox{%
12402 \color{LWR@currentcolor}%
12403 \usebox{\LWR@colorminipagebox}%
12404 }%
12405 }%
12406 }%
12407 {%
12408 \IfValueTF{#1}{%
12409 {%
12410 \IfValueTF{#3}{%
12411 {\LWR@orig@print@fcolorbox[#1]{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
12412 {\LWR@orig@print@fcolorbox[#1]{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
12413 }%
12414 {%
12415 \IfValueTF{#3}{%
12416 {\LWR@orig@print@fcolorbox[#2]{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
12417 {\LWR@orig@print@fcolorbox[#2]{#4}{\usebox{\LWR@colorminipagebox}}}%
12418 }%
12419 }%
12420 }%
12421 }%
12422 \NewDocumentEnvironment{fcolorminipage}{}%
12423 {\LWR@print@fcolorminipage}%
12424 {\endLWR@print@fcolorminipage}%
12425 \LWR@traceinfo{xcolor patches done}%
12426 }%
12427 }%
12428 \end{warpall}

```

## 90 chemmacros environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during `HTML` output. These environments are provided here in print mode, and in the `chemmacros` code in `HTML` mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

**for PRINT output:** 12429 `\begin{warpprint}`

```

12430 \AtBeginDocument{%
12431 \@ifpackageloaded{chemmacros}{%

```

```
12432 \DeclareDocumentEnvironment{polymerdelims}{}
12433 {}{}
```

**Env** `redoxreaction` {⟨space above⟩} {⟨space below⟩}

For print output, extra space is include above and below the image, and a `\textrimage` is not necessary. This extra space must be enforced, even inside a float, so zero-width rules are used.

For the `HTML` version, see section [190.4](#).

```
12434 \DeclareDocumentEnvironment{redoxreaction}{m m}
12435 {\rule{0pt}{#1}}{\rule[-#2]{0pt}{#2}}

12436 }{}% chemmacros
12437 }% AtBeginDocument

12438 \end{warpprint}
```

## 91 cleveref

**loading order** `cleveref` and `lwarp-cleveref` with its associated macro patches are automatically preloaded at the end of the preamble via `\AtEndPreamble` and `\AfterEndPreamble`. This is done because the `HTML` conversion requires `cleveref`. The user's document may not require `cleveref`, thus the user may never explicitly load it, so during `HTML` output `lwarp` loads it last. If the user's document preamble uses `cleveref` options, or functions such as `\crefname`, then `cleveref` may be loaded in the user's preamble near the end, and `lwarp`'s additional loading of `cleveref` will have no effect.

`\AtEndPreamble` forces `cleveref` to be loaded last, if it has not yet been loaded by the user.

**for HTML output:**

```
12439 \begin{warpHTML}
12440
12441 \AtEndPreamble{
12442 \RequirePackage{cleveref}
12443 }
12444
12445 \end{warpHTML}
```

## 92 Preexisting label and reference definitions

Remember and patch some label-related definitions. These will be further encased and patched by other packages later.

`\label` and `\pageref` do NOT change their behavior according to print or `HTML` output, and thus do not use the `\LWR@formatted` system.

**for HTML output:**

```
12446 \begin{warpHTML}
12447
12448 \LetLtxMacro{\LWR@orig@\label}{\label}% includes memoir, before cleveref
12449 \LetLtxMacro{\label}{\LWR@new@\label}
```

```

12450
12451 \LetLtxMacro{\LWR@orig}{\pageref{pageref}}
12452 \LetLtxMacro{\pageref}{\LWR@new@pageref}
12453
12454 \end{warpHTML}
```

## 93 picture environment

**Env** `picture` The `picture` environment is enclosed inside a `\lateximage`.  
**for HTML output:** 12455 `\begin{warpHTML}`

```

Env picture

12456 \BeforeBeginEnvironment{picture}{\begin{lateximage}[picture]}
12457
12458 \AfterEndEnvironment{picture}{\end{lateximage}}
```

12459 `\end{warpHTML}`

## 94 Minipages and Boxes

A css flexbox is used for minipages and parboxes, allowing external and internal vertical positioning.

- ⚠ inline** A line of text with an inline `minipage` or `\parbox` will have the `minipage` or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made `inline-block`.
- placement** `minipages` and `\parboxes` will be placed side-by-side in `HTML` unless you place a `\newline` between them.
- side-by-side** Side-by-side `minipages` may be separated by `\quad`, `\quad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a `center` environment, the result is similar in print and `HTML`. Paragraph tags are suppressed between side-by-side `minipages` and these spacing commands, but not at the start or end of the paragraph.
- ⚠ minipage in a span** There is limited support for `minipages` inside an `HTML <span>`. An `HTML <div>` cannot appear inside a `<span>`. While in a `<span>`, `minipages`, and `\parboxes`, and any enclosed lists have limited `HTML` tags, resulting in an “`inline`” format, without markup except for `HTML` breaks. Use `\newline` or `\par` for an `HTML` break.
- ⚠ minipage size** When using `minipage`, `\parbox`, and `fminipage`, a virtual  $6 \times 9$  inch text area is used for `\ linewidth`, `\ textwidth`, and `\ textheight`, both for sizing the `minipage`, and also for its contents.
- if width is `\ linewidth`** If a `minipage` or `\parbox` is assigned a width of exactly `\ linewidth`, in `HTML` it is automatically given no `HTML` width, thus allowed to fill the line as needed, similar to how it appears in print output.

**full-width if HTML** A new macro `\minipagefullwidth` requests that, during HTML output, the next single `minipage` or `\parbox` be generated without an HTML `width` attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version's width makes no sense in HTML.

- ⚠ **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every `minipage` or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell `lwarp` to honor the specified widths of all following `minipages` and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell `lwarp` to ignore the specified widths.
- ⚠ **multicol** Inside a `multicols`, `\linewidth` is divided by the specified number of columns.
- ⚠ **text alignment** Nested `minipages` adopt their parent's text alignment in HTML, whereas in regular L<sup>A</sup>T<sub>E</sub>X PDF output they do not. Use a `flushleft` or similar environment in the child `minipage` to force a text alignment.

**for HTML output:** 12460 `\begin{warpHTML}`

## 94.1 Computed lengths

Len `\LWR@minipagewidth` Used to convert the width into printable units.

12461 `\newlength{\LWR@minipagewidth}`

Len `\LWR@minipageheight` Used to convert the height into printable units.

12462 `\newlength{\LWR@minipageheight}`

## 94.2 Virtual page size

Ctr `\LWR@virtualpagedepth` Used to only reset the line width at the outermost `minipage`.

12463 `\newcounter{\LWR@virtualpagedepth}`  
12464 `\setcounter{\LWR@virtualpagedepth}{0}`

Env `\LWR@setvirtualpage * [⟨columns⟩]`

If not nesting a `minipage`, adjust `\linewidth`, `\textwidth`, and `\textheight` for a virtual  $6 \times 9$  page, and start on a new PDF page to help prevent page overflows.

If starred, force a new page in the PDF before generating more HTML. This may be done to reduce the chance of page overflow when starting a new `minipage`.

The optional number of columns defaults to 1.

```
12465 \NewDocumentEnvironment{\LWR@setvirtualpage}{s 0{1}}{%
12466 \ifnumequal{\value{\LWR@virtualpagedepth}}{0}{%
12467 \IfBooleanT{#1}{\LWR@maybe@orignewpage}%
12468 \settowidth{\linewidth}{6in/#2}%
12469 \settowidth{\textwidth}{6in}%
12470 }{%
12471 \LWR@setvirtualpage*{#1}%
12472 }%
12473 }
```

---

```

12470 \setlength{\textheight}{9in}%
12471 }{ }%
12472 \addtocounter{LWR@virtualpagedepth}{1}%
12473 }
12474 {\addtocounter{LWR@virtualpagedepth}{-1}}

```

### 94.3 Footnote handling

Also see section 60 for other forms of footnotes. Minipage footnotes are gathered in section 60.5, and then placed into the document in section 94.4.

### 94.4 Minipage handling

**Bool LWR@minipagefullwidth** Should the next minipage have no HTML width?

```

12475 \newbool{LWR@minipagefullwidth}
12476 \boolearn{LWR@minipagefullwidth}

```

**Bool LWR@forceminipagefullwidth** Should the next minipage have no HTML width? Used to force full width for all minipages in an environment such as `tabular` or `multicols`, where the actual width depends on the browser width. Controlled by `\useminipagewidths` and `\ignoreminipagewidths`.

```

12477 \newbool{LWR@forceminipagefullwidth}
12478 \boolearn{LWR@forceminipagefullwidth}

```

**\minipagefullwidth** Requests that the next minipage have no width tag in HTML:

**for HTML output:** 12479 `\newcommand*{\minipagefullwidth}{\global\boolearn{LWR@minipagefullwidth}}`

**\UseMinipageWidths** Locally requests that minipage widths be honored.

```

12480 \newcommand*{\UseMinipageWidths}{\boolearn{LWR@forceminipagefullwidth}}

```

**\IgnoreMinipageWidths** Locally requests that minipage widths be ignored.

```

12481 \newcommand*{\IgnoreMinipageWidths}{\boolearn{LWR@forceminipagefullwidth}}
12482 \end{warpHTML}

```

**for PRINT output:** 12483 `\begin{warpprint}`  
 12484 `\newcommand*{\minipagefullwidth}{}{}`  
 12485 `\newcommand*{\UseMinipageWidths}{}{}`  
 12486 `\newcommand*{\IgnoreMinipageWidths}{}{}`  
 12487 `\end{warpprint}`

**for HTML output:** 12488 `\begin{warpHTML}`

**Bool LWR@minipagethispar** Has a minipage been seen this paragraph? If true, prevents paragraph tags around hori-

zontal space between minipages.

```
12489 \newbool{LWR@minipagethispar}
12490 \boolefalse{LWR@minipagethispar}
```

Env `minipage` [*vert position*] [*height*] [*inner vert position*] {*width*}

The vertical positions may be 'c', 't', or 'b'. The inner position may also be 's'.

When using `\linewidth`, `\textwidth`, or `\textheight`, these are scaled proportionally to a 6×9 inch text area.

```
12491 \NewDocumentEnvironment{LWR@HTML@sub@minipage}{m m m m}
12492 {%
12493 \LWR@traceinfo{minipage}%

```

Start an environment, in which width and height is computed based on a virtual page size instead of the extra-large PDF page used during `HTML` tag generation.

```
12494 \begin{LWR@setvirtualpage}*%
```

Save the requested width now that `\linewidth`, etc. are adjusted to virtual size.

```
12495 \setlength{\LWR@minipagewidth}{#4}%
12496 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
12497 \addtolength{\LWR@minipagewidth}{3em}%
12498 }{%
12499 \LWR@traceinfo{computed width is \LWR@printlength{\LWR@minipagewidth}}%
```

Compute height:

```
12500 \setlength{\LWR@minipageheight}{\textheight}%
12501 \ifblank{#2}{%
 \setlength{\LWR@minipageheight}{#2}%
}
```

`LTEX` wants to start a paragraph for the virtual minipage, then start a paragraph again for the contents of the minipage, so cancel the paragraph tag handling until the minipage has begun.

```
12502 \ifbool{FormatWP}{\newline}{%
12503 \LWR@stoppars%
```

If `FormatWP`, add a text frame:

```
12504 \ifbool{FormatWP}{%
12505
12506 \addtocounter{LWR@thisautoidWP}{1}%
12507 \LWR@htmltag{%
12508 div id=\textquotedbl%
12509 \LWR@print@mbox{autoidWP-\arabic{LWR@thisautoidWP}}%
12510 \textquotedbl\ % space
12511 class=\textquotedbl{}wpminipage\textquotedbl%
12512 }%
12513
12514 }%
```

Create the <div> tag with optional alignment style:

```

12515 \LWR@traceinfo{minipage: creating div class}%
12516 \LWR@htmntag{div class=\textquotedbl{}minipage\textquotedbl\ style=\textquotedbl{%
12517 \ifthenelse{\equal{\#1}{t}}{\LWR@print@mbox{vertical-align:bottom} ; }{}%
12518 \ifthenelse{\equal{\#1}{c}}{\LWR@print@mbox{vertical-align:middle} ; }{}%
12519 \ifthenelse{\equal{\#1}{b}}{\LWR@print@mbox{vertical-align:top} ; }{}%
12520 \ifthenelse{\equal{\#3}{t}}{\LWR@print@mbox{justify-content:flex-start} ; }{}%
12521 \ifthenelse{\equal{\#3}{c}}{\LWR@print@mbox{justify-content:center} ; }{}%
12522 \ifthenelse{\equal{\#3}{b}}{\LWR@print@mbox{justify-content:flex-end} ; }{}%
12523 \ifthenelse{\equal{\#3}{s}}{\LWR@print@mbox{justify-content:space-between} ; }{}%

```

Print the width and optional height styles:

```

12524 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth}}%
12525 \ifbool{\LWR@minipagefullwidth}%
12526 {\global\boolfalse{\LWR@minipagefullwidth}}%
12527 {%
12528 \ifbool{\LWR@forceminipagefullwidth}%
12529 {}%
12530 {%
12531 \ifdim\width=\LWR@minipagewidth\%
12532 {}%
12533 \width=\LWR@printlength{\LWR@minipagewidth} ; }%
12534 }%
12535 }%
12536 \LWR@traceinfo{minipage: about to print the height}%
12537 \ifblank{\height}{\height=\LWR@printlength{\LWR@minipageheight} ; }%
12538 \textquotedbl%
12539 }%

```

Finish with an empty line to start the contents on a new line.

```

12540
12541 % The preceding empty line is required.

```

Set the user-accessible line and text width and height values inside the virtual minipage. These do not affect the actual size of the PDF output, but are used by any reference to \linewidth, etc. inside the virtual minipage being created here. \LWR@minipagewidth was the original then padded by 3em, which is restored here. This is done instead of settings back to #4, in case #4 was \linewidth, which was changed to 6in above.

```

12542 \ifnum\value{\LWR@virtualpagedepth}=1{%
12543 \addtolength{\LWR@minipagewidth}{-3em}%
12544 }%
12545 \setlength{\linewidth}{\LWR@minipagewidth}%

```

\raggedright cancels hyphenation, which will be done by HTML instead.

```

12546 \LWR@print@raggedright%

```

```

12547 \LWR@newautopagelabel{page}%

```

Set minipage footnotes:

```
12548 \def\@mpfn{mpfootnote}%
12549 \def\thempfn{\thempfootnote}\c@mpfootnote\z@%
12550 \let\@footnotetext\@mpfootnotetext%
```

Resume paragraph tag handling for the contents of the minipage:

```
12551 \LWR@startpars%
12552 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12553 === begin minipage ===
12555 }{%
12556 \LWR@traceinfo{minipage: finished starting the minipage}%
12558 }% finished \minipage
12559 { \% \endminipage
```

Print pending minipage footnotes:

```
12560 \LWR@printpendingmpfootnotes%
```

End the environment with closing tag:

```
12561 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12562 === end minipage ===
12564 }{%
12565 \LWR@stoppars%
12566 \ifbool{FormatWP}{%
12567 \LWR@htmlelementend{div}%
12569 }{%
12570 \LWR@htmldivclassend{minipage}%
12571 }{%
12572 \end{LWR@setvirtualpage}%
12573 \LWR@htmldivclassend{minipage}%
12574 }{%
12575 \end{LWR@startpars}%
12576 \ifbool{FormatWP}{\newline}{%
12577 }
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
12578 \global\booltrue{LWR@minipagethispar}%
12579 \LWR@traceinfo{LWR@minipage: done}%
12580 }
12581
12582 \NewDocumentEnvironment{LWR@HTML@minipage}{O{t} O{} O{t} m}
12583 {\LWR@HTML@sub@minipage{\#1}{\#2}{\#3}{\#4}}
12584 {\endLWR@HTML@sub@minipage}
12585
12586 \LWR@formattedenv{minipage}
```

## 94.5 \parbox, \mbox, \makebox, \framebox, \fbox, \raisebox

**for HTML output:**

```
\parbox [⟨pos⟩] [⟨height⟩] [⟨inner-pos⟩] {⟨width⟩} {⟨text⟩}
```

A parbox uses the minipage code:

```
12587 \NewDocumentCommand{\LWR@HTML@parbox}{O{t} O{} O{t} m +m}
12588 {
12589 \LWR@traceinfo{parbox of width #4}%
12590 \begin{minipage}[#1][#2][#3]{#4}%
12591 #5
12592 \end{minipage}%
12593 }
12594
12595 \LWR@formatted{parbox}
```

\mbox {⟨text⟩} Nullified for HTML.

```
12596 \newcommand*{\LWR@HTML@mbox}[1]{{#1}}
12597
12598 \LWR@formatted{mbox}
```

\LWR@@makebox@paren {⟨width⟩} , {⟨height⟩}

Adds to the style in \LWR@temptwo.

```
12599 \NewDocumentCommand{\LWR@@makebox@paren}{m m}{%
12600 \IfValueTF{#2}{%
12601 \setlength{\LWR@tempwidth}{#1\unitlength}%
12602 \setlength{\LWR@tempheight}{#2\unitlength}%
12603 \appto{\LWR@temptwo}{%
12604 \LWR@print@mbox{width:\LWR@printlength{\LWR@tempwidth}} ; % space
12605 \LWR@print@mbox{height:\LWR@printlength{\LWR@tempheight}} ; % space
12606 }%
12607 }{%
12608 \PackageError{lwarp}{%
12609 {(width,height) is missing a comma ',' character}%
12610 {\protect\makebox\space and \protect\framebox\space accept
12611 a size in the format (width,height).}%
12612 }%
12613 }
```

\LWR@@makebox@align {⟨alignment character⟩}

Adds to the style in \LWR@temptwo.

```
12614 \newcommand*{\LWR@@makebox@align}[1]{%
12615 \def\LWR@align{center}%
12616 \ifstrequal{#1}{l}{\def\LWR@align{left}}{}%
12617 \ifstrequal{#1}{r}{\def\LWR@align{right}}{}%
12618 \ifstrequal{#1}{s}{\def\LWR@align{justify}}{}%
12619 \appto{\LWR@temptwo}{%
```

```

12620 \LWR@print@mbox{text-align:\LWR@align} ; %
12621 }%
12622 }

\makebox (<width,height>) [<width>] [<pos>] {<text>}

12623 \NewDocumentCommand{\LWR@HTML@makebox}{>{\SplitArgument{1}{,}}d() o o +m}{%

```

Build the style depending on arguments:

```

12624 \begin{\LWR@setvirtualpage}%
12625 \def\LWR@temptwo{}%
12626 \IfValueT{\#1}{%
12627 {%
12628 (\width,\height) ..
12629 \LWR@@makebox@paren \#1%
12630 \IfValueT{\#2}{%
12631 {%
12632 (\width,\height) [posn]
12633 \LWR@@makebox@align{\#2}%
12634 }%
12635 }%
12636 {%
12637 [\width]
12638 \IfValueT{\#2}{ [\width]}
12639 {%
12640 \setlength{\LWR@tempwidth}{\#2}%
12641 \ifdimgreater{\LWR@tempwidth}{0pt}{%
12642 \appto{\LWR@temptwo}{%
12643 width:\LWR@printlength{\LWR@tempwidth} ; % space
12644 }%
12645 }%
12646 {%
12647 [\width] [posn]
12648 \LWR@@makebox@align{\#3}%
12649 }%
12650 \InlineClass[%
12651 \LWR@print@mbox{display:inline-block} ; %
12652 \LWR@temptwo%
12653]%
12654 {makebox}%
12655 {\#4}%
12656 }%
12657 }%
12658 \end{\LWR@setvirtualpage}%
12659 }
```

\framebox (<width,height>) [<width>] [<pos>] {<text>}

```

12658 \NewDocumentCommand{\LWR@HTML@framebox}{d() o o +m}{%
12659 \fbox{\makebox{\#1}{\#2}{\#3}{\#4}}%
12660 }
12661
12662 \LWR@formatted{framebox}
```

\LWR@forceminwidth {<length>}

Sets `\LWR@atleastonept` to be at least 1pt.

```
12663 \newlength{\LWR@atleastonept}
12664
12665 \newcommand*{\LWR@forceminwidth}[1]{%
12666 \setlength{\LWR@atleastonept}{#1}%
12667 \ifthenelse{%
12668 \lengthtest{\LWR@atleastonept>0pt}\AND%
12669 \lengthtest{\LWR@atleastonept<1pt}%
12670 }%
12671 {\setlength{\LWR@atleastonept}{1pt}}%
12672 {}%
12673 }
```

`\LWR@fboxstyle` Prints the HTML attributes for a black border and padding.

`\LWR@forceminwidth` must be used first in order to set the border width.

```
12674 \newcommand*{\LWR@fboxstyle}{%
12675 \LWR@findcurrenttextcolor%
12676 \LWR@traceinfo{\LWR@fboxstyle B}%
12677 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@origpound\LWR@tempcolor ; %
12678 padding:\LWR@printlength{\fboxsep} ; %
12679 color:\LWR@origpound\LWR@tempcolor%
12680 }
```

`\fbox {<text>}`

Creates a framed inline span enclosing the text.

Create a new HTML version, but don't use it until after `xcolor` may have loaded:

```
12681 \newcommand{\LWR@HTML@fbox}[1]{%
12682 \LWR@traceinfo{HTML_fbox}%
12683 \LWR@forceminwidth{\fboxrule}%
12684 \LWR@traceinfo{HTML_fbox_B}%
12685 \InlineClass[%
12686 \LWR@print@mbox{display:inline-block} ; %
12687 \LWR@fboxstyle%
12688]{\fbox}{#1}%
12689 \LWR@traceinfo{HTML_fbox: done}%
12690 }
```

`xcolor` \lets things to `\fbox` when it is loaded, and this must remain even for HTML output while in a `lateximage`, so `\fbox` is not modified until `\AtBeginDocument`:

```
12691 \AtBeginDocument{\LWR@formatted{fbox}}
```

`\fboxBlock {<text>}` Creates a framed HTML `<div>` of the text.

First, a print-mode version. This is newly defined for print mode, so it is defined inside `warpall`.

**for HTML & PRINT:** 12692 `\end{warpHTML}`

---

```

12693 \begin{warpall}
12694 \let\fboxBlock\fbox
12695 \end{warpall}
12696
12697 \begin{warpHTML}
```

**for HTML output:** Next, an HTML version:

```

12698 \newcommand{\LWR@HTML\fboxBlock}[1]{%
12699 \LWR@forceminwidth\fboxrule}%
12700 \LWR@stoppars%
12701 \begin{BlockClass}[%
12702 \LWR@fboxstyle%
12703]\fboxBlock}
12704 #1
12705 \end{BlockClass}
12706 \LWR@startpars%
12707 }
12708
12709 \LWR@formatted\fboxBlock}
12710
12711 \end{warpHTML}
```

**Env** `fminipage` [*align*] [*height*] [*align*] {*width*}

Creates a framed HTML `<div>` around its contents.

**for HTML & PRINT:** Print version:

```

12712 \begin{warpall}
12713
12714 \newsavebox{\LWR@fminipagebox}
12715
12716 \NewDocumentEnvironment{\LWR@print\fminipage}{O{t} o O{t} m}
12717 {%
```

An outer minipage will be used for vertical alignment. An inner minipage will be framed with `\fbox`.

If the optional inner alignment is not given, use the outer instead:

```

12718 \IfValueTF{#3}%
12719 {\def\LWR@thisalign{#3}}
12720 {\def\LWR@thisalign{#1}}%
```

Form the outer minipage depending on whether a height was given. Make the outer minipage larger to compensate for the frame.

```

12721 \IfValueTF{#2}%
12722 {\minipage[#1][#2+2\fboxsep+2\fboxrule][\LWR@thisalign]{#4+2\fboxsep+2\fboxrule}}%
12723 {\minipage[#1]{#4+2\fboxsep+2\fboxrule}}%
```

Capture the contents of the environment:

```
12724 \begin{lrbox}{\LWR@fminipagebox}%
```

Nest the contents inside an inner minipage of the desired size:

```
12725 \IfValueT{#2}%
12726 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
12727 {\minipage[#1]{#4}}%
12728 }
12729 {%
```

Close the inner minipage and the LR box with the contents:

```
12730 \endminipage%
12731 \end{lrbox}%
```

Create a frame around the contents of the environment:

```
12732 \fbox{\usebox{\LWR@fminipagebox}}%
```

The entire thing is placed inside the outer minipage:

```
12733 \endminipage%
12734 }
12735
12736 \LetLtxMacro\fminipage\LWR@print@fminipage
12737 \LetLtxMacro\endfminipage\endLWR@print@fminipage
12738 % \newenvironment{fminipage}{\LWR@print@fminipage}{\endLWR@print@fminipage}
12739
12740 \end{warpall}
```

HTML version:

**for HTML output:**

```
12741 \begin{warpHTML}
12742
12743 \NewDocumentEnvironment{\LWR@HTML@fminipage}{O{t} o O{t} m}
12744 {%
12745 \LWR@traceinfo{fminipage #1 #2 #3 #4}}%
```

Locally change to the virtual page size before processing the requested sizes:

```
12746 \begin{LWR@setvirtualpage}%
12747 \setlength{\LWR@tempwidth}{#4}%
12748 \IfValueT{#2}{\setlength{\LWR@tempheight}{#2}}%
```

Use a rule of at least one pixel in width:

```
12749 \LWR@forceminwidth{\fboxrule}%
```

```
12750 \LWR@stopars%
```

```
12751 \begin{BlockClass}[%]
12752 \LWR@fboxstyle ; %
12753 \IfValueT{#2}{height:\LWR@printlength{\LWR@tempheight} ; }%
12754 \ifbool{\LWR@minipagefullwidth}%
12755 {\global\boolfalse{\LWR@minipagefullwidth}}%
12756 {%
```

```

12757 \ifbool{LWR@forceminipagefullwidth}%
12758 {}%
12759 {%
12760 \ifdimequal{\LWR@tempwidth}{\linewidth}%
12761 {}%
12762 {\width:\LWR@printlength{\LWR@tempwidth} ; }%
12763 }%
12764 }%
12765]{fminipage}%
12766 }%
12767 {%
12768 \end{BlockClass}%
12769 \end{LWR@setvirtualpage}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

12770 \global\booltrue{LWR@minipagethispar}%
12771 \LWR@traceinfo{fminipage done}%
12772 }%
12773 \LWR@formattedenv{fminipage}%
12774 \raisebox{<raiselen>}[<height>][<depth>]{<text>}%
12775 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%
12776 #4%
12777 }%
12778 \LWR@formatted{raisebox}%
12779 \end{warpHTML}%

```

## 95 Direct formatting

- ⚠ **\bfseries, etc.** `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.
- ⚠ **HTML special chars** &, <, and > have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.
- program listings** For program listings, the `listings` package is supported, and its `literate` option is used to convert &, <, and > to proper HTML entities.
- verbatim** The various `verbatim`-related environments do not convert &, <, and >, so care must be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

For high-level block and inline custom css classes, see section [52.10](#).

**for HTML & PRINT:** 12781 `\begin{warpall}`

**Bool FixSmallCaps** User may set FixSmallCaps to true if small caps are being incorrectly rendered as all caps.

```
12782 \newbool{FixSmallCaps}
12783 \boolefalse{FixSmallCaps}

12784 \end{warpall}
```

**for HTML output:** 12785 \begin{warpHTML}

```
\emph {<text>}

12786 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%
12787 {%
12788 \LWR@HTML@itshape%
12789 \LWR@htmlspan{em}{#1}%
12790 }%
12791 }
12792
12793 \LWR@formatted{emph}
```

```
\textmd {<text>}

12794 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%
12795 {%
12796 \LWR@HTML@mdseries%
12797 \InlineClass{font-weight:normal}{textmd}{#1}%
12798 }%
12799 }
12800
12801 \LWR@formatted{textmd}
```

```
\textbf {<text>}

12802 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%
12803 {%
12804 \LWR@HTML@bfseries%
12805 \LWR@htmlspan{b}{#1}%
12806 }%
12807 }
12808
12809 \LWR@formatted{textbf}
```

\texteb {<text>} From nfssext-cfr.

```
12810 \DeclareRobustCommand{\LWR@HTML@texteb}[1]{%
12811 {%
12812 \LWR@HTML@ebweight%
12813 \InlineClass{texteb}{#1}%
12814 }%
12815 }
12816
12817 \LWR@formatted{texteb}
```

```
\textlg {<text>} From nfssext-cfr.
```

```
12818 \DeclareRobustCommand{\LWR@HTML@textlg}[1]{%
12819 {%
12820 \LWR@HTML@lgweight%
12821 \InlineClass{textlg}{#1}%
12822 }%
12823 }
12824
12825 \LWR@formatted{textlg}
```

```
\textrm {<text>}
```

```
12826 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%
12827 {%
12828 \LWR@HTML@rmfamily%
12829 \InlineClass{font-family:serif}{textrm}{#1}%
12830 }%
12831 }
12832
12833 \LWR@formatted{textrm}
```

```
\textsf {<text>}
```

```
12834 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%
12835 {%
12836 \LWR@HTML@sffamily%
12837 \InlineClass{font-family:sans}{textsf}{#1}%
12838 }%
12839 }
12840
12841 \LWR@formatted{textsf}
```

```
\texttt {<text>}
```

```
12842 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%
12843 {%
12844 \LWR@HTML@ttfamily%
12845 \LWR@htmlspan{kbd}{#1}%
12846 }%
12847 }
12848
12849 \LWR@formatted{texttt}
```

```
\textup {<text>}
```

```
12850 \DeclareRobustCommand{\LWR@HTML@textup}[1]{%
12851 {%
12852 \LWR@HTML@upshape%
12853 \InlineClass{font-style:normal}{textup}{#1}%
12854 }%
12855 }
12856
12857 \LWR@formatted{textup}
```

```
\textit {⟨text⟩}

12858 \DeclareRobustCommand{\LWR@HTML@textit}[1]{%
12859 {%
12860 \LWR@HTML@itshape%
12861 \LWR@htmlspan{i}{#1}%
12862 }%
12863 }
12864
12865 \LWR@formatted{textit}

\textsc {⟨text⟩}

12866 \DeclareRobustCommand{\LWR@HTML@textsc}[1]{%
12867 {%
12868 \LWR@HTML@scshape%
12869 \InlineClass{textsc}{#1}%
12870 }%
12871 }
12872
12873 \LWR@formatted{textsc}

\textulc {⟨text⟩} From fontaxes.

12874 \DeclareRobustCommand{\LWR@HTML@textulc}[1]{%
12875 {%
12876 \LWR@HTML@ulcshape%
12877 \InlineClass{textulc}{#1}%
12878 }%
12879 }
12880
12881 \LWR@formatted{textulc}

\textsi {⟨text⟩}

12882 @ifundefined{textsi}%
12883 \LetLtxMacro{\LWR@print@textsi}{\LWR@print@textsc}
12884 }{%
12885
12886 \DeclareRobustCommand{\LWR@HTML@textsi}[1]{%
12887 {%
12888 \LWR@HTML@sishape%
12889 \textsc{\textit{#1}}%
12890 % \InlineClass(
12891 % font-style: italic;
12892 % font-variant: small-caps ;
12893 % font-variant-numeric: oldstyle-nums ;
12894 %){textsi}{#1}%
12895 }%
12896 }
12897
12898 \LWR@formatted{textsi}
```

```
\textsl {<text>}
```

```
12899 \DeclareRobustCommand{\LWR@HTML@textsl}[1]{%
12900 {%
12901 \slshape%
12902 \InlineClass{font-style:oblique}{textsl}{#1}%
12903 }%
12904 }
12905
12906 \LWR@formatted{textsl}
```

```
\textssc {<text>}
```

```
12907 \newrobustcmd{\LWR@HTML@textssc}[1]{\textsc{#1}}
12908 \LWR@formatted{textssc}
```

```
\textnormal {<text>}
```

```
12909 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{\textmd{\textrm{\textup{#1}}}}
12910
12911 \LWR@formatted{textnormal}
```

```
12912 \FilenameNullify{%
12913 \LetLtxMacro{\emph}{\firstofone}%
12914 \LetLtxMacro{\textmd}{\firstofone}%
12915 \LetLtxMacro{\textbf}{\firstofone}%
12916 \LetLtxMacro{\texteb}{\firstofone}%
12917 \LetLtxMacro{\textlg}{\firstofone}%
12918 \LetLtxMacro{\textrm}{\firstofone}%
12919 \LetLtxMacro{\textsf}{\firstofone}%
12920 \LetLtxMacro{\texttt}{\firstofone}%
12921 \LetLtxMacro{\textup}{\firstofone}%
12922 \LetLtxMacro{\textit}{\firstofone}%
12923 \LetLtxMacro{\textsc}{\firstofone}%
12924 \LetLtxMacro{\textulc}{\firstofone}%
12925 \LetLtxMacro{\textsi}{\firstofone}%
12926 \LetLtxMacro{\textsl}{\firstofone}%
12927 \LetLtxMacro{\textssc}{\firstofone}%
12928 \LetLtxMacro{\textnormal}{\firstofone}%
12929 }
```

Remembers the current font family, series, and shape. **fontaxes** support is integrated here.

```
12930 \newcommand*{\LWR@f@family}{rm}
12931 \newcommand*{\LWR@f@series}{md}
12932 \newcommand*{\LWR@f@shape}{up}
12933 \newcommand*{\LWR@f@shapecaps}{ulc}
```

```
\LWR@textcurrentfont {<text>}
```

Prints the text with the current font choices. Avoids nesting repeated font selections.

```
12934 \newcounter{LWR@textcurrentfontdepth}
```

```

12935 \setcounter{LWR@textcurrentfontdepth}{0}
12936
12937 \newcommand*{\LWR@textcurrentfont}[1]{%
12938 \ifnumcomp{\value{LWR@textcurrentfontdepth}}{>}{0}{%
12939 {%
12940 \addtocounter{LWR@textcurrentfontdepth}{1}%
12941 #1%
12942 \addtocounter{LWR@textcurrentfontdepth}{-1}%
12943 }%
12944 {%
12945 \addtocounter{LWR@textcurrentfontdepth}{1}%
12946 \InlineClass{%
12947 text\LWR@f@family\LWR@origtilde{}%
12948 text\LWR@f@series\LWR@origtilde{}%
12949 text\LWR@f@shape\LWR@origtilde{}%
12950 text\LWR@f@shapecaps%
12951 }%
12952 {#1}%
12953 \addtocounter{LWR@textcurrentfontdepth}{-1}%
12954 }%
12955 }

```

Env `LWR@blocktextcurrentfont` Prints the contents with the current font choices.

```

12956 \newenvironment*{\LWR@blocktextcurrentfont}{%
12957 \LWR@stoppars%
12958 \BlockClass{%
12959 text\LWR@f@family\LWR@origtilde{}%
12960 text\LWR@f@series\LWR@origtilde{}%
12961 text\LWR@f@shape\LWR@origtilde{}%
12962 text\LWR@f@shapecaps%
12963 }%
12964 }{\endBlockClass\LWR@startpars}

```

### \mdseries

```

12965 \newrobustcmd*{\LWR@HTML@mdseries}{%
12966 \LWR@print@mdseries%
12967 \renewcommand*{\LWR@f@series}{md}%
12968 }
12969 \LWR@formatted{mdseries}

```

### \bfseries

```

12970 \newrobustcmd*{\LWR@HTML@bfseries}{%
12971 \LWR@print@bfseries%
12972 \renewcommand*{\LWR@f@series}{bf}%
12973 }
12974 \LWR@formatted{bfseries}

```

`\ebweight` From `nfssext-cfr`.

```

12975 \newrobustcmd*{\LWR@HTML@ebweight}{%
12976 \LWR@print@ebweight%
12977 \renewcommand*{\LWR@f@series}{eb}%
12978 }
12979 \LWR@formatted{ebweight}
```

\lgweight From nfssext-cfr.

```

12980 \newrobustcmd*{\LWR@HTML@lgweight}{%
12981 \LWR@print@lgweight%
12982 \renewcommand*{\LWR@f@series}{lg}%
12983 }
12984 \LWR@formatted{lgweight}
```

\rmfamily

```

12985 \newrobustcmd*{\LWR@HTML@rmfamily}{%
12986 \LWR@print@rmfamily%
12987 \renewcommand*{\LWR@f@family}{rm}%
12988 }
12989 \LWR@formatted{rmfamily}
```

\sffamily

```

12990 \newrobustcmd*{\LWR@HTML@sffamily}{%
12991 \LWR@print@sffamily%
12992 \renewcommand*{\LWR@f@family}{sf}%
12993 }
12994 \LWR@formatted{sffamily}
```

\ttfamily

```

12995 \newrobustcmd*{\LWR@HTML@ttfamily}{%
12996 \LWR@print@ttfamily%
12997 \renewcommand*{\LWR@f@family}{tt}%
12998 }
12999 \LWR@formatted{ttfamily}
```

The following use \AtBeginDocument due to the L<sup>A</sup>T<sub>E</sub>X core \reinstall@nfss@defs, which redefines these \AtBeginDocument. See **texdoc source2e**.

\upshape

```

13000 \newrobustcmd*{\LWR@HTML@upshape}{%
13001 \LWR@print@upshape%
13002 \renewcommand*{\LWR@f@shape}{up}%
13003 }
13004 \AtBeginDocument{\LWR@formatted{upshape}}
```

\itshape

---

```

13005 \newrobustcmd*{\LWR@HTML@itshape}{%
13006 \LWR@print@itshape%
13007 \renewcommand*{\LWR@f@shape}{it}%
13008 }
13009 \AtBeginDocument{\LWR@formatted{itshape}}
```

\scshape Note: \LWR@print@scshape is not used here since some fonts, such as `erewhon`, copy/paste as all-caps.

```

13010 \newrobustcmd*{\LWR@HTML@scshape}{%
13011 \ifbool{FixSmallCaps}{}{%
13012 \LWR@print@scshape%
13013 }%
13014 \renewcommand*{\LWR@f@shapecaps}{sc}%
13015 }
13016 \AtBeginDocument{\LWR@formatted{scshape}}
```

\ulcshape From `fontaxes`.

```

13017 \@ifundefined{ulcshape}{%
13018 \LetLtxMacro\ulcshape\upshape
13019 }{%
13020 \newrobustcmd*{\LWR@HTML@ulcshape}{%
13021 \LWR@print@ulcshape%
13022 \renewcommand*{\LWR@f@shapecaps}{ulc}%
13023 }
13024 \AtBeginDocument{\LWR@formatted{ulcshape}}
```

\sishape

```

13025 \@ifundefined{sishape}{%
13026 \LetLtxMacro\sishape\scshape
13027 }{%
13028 \newrobustcmd*{\LWR@HTML@sishape}{%
13029 \ifbool{FixSmallCaps}{}{%
13030 \LWR@print@sishape%
13031 }%
13032 \renewcommand*{\LWR@f@shape}{it}%
13033 \renewcommand*{\LWR@f@shapecaps}{sc}%
13034 }
13035 \AtBeginDocument{\LWR@formatted{sishape}}
```

\slshape

```

13036 \newrobustcmd*{\LWR@HTML@slshape}{%
13037 \LWR@print@slshape%
13038 \renewcommand*{\LWR@f@shape}{sl}%
13039 }
13040 \AtBeginDocument{\LWR@formatted{slshape}}
```

\sscshape

```
13041 \newrobustcmd{\LWR@HTML@sscshape}{\LWR@HTML@scshape}
13042 \AtBeginDocument{\LWR@formatted{sscshape}}

13043 \newrobustcmd*{\LWR@HTML@normalfont}{\rmfamily\mdseries\upshape\ulcshape}
13044 \LWR@formatted{normalfont}
```

```
13045 \FilenameNullify{%
13046 \LetLtxMacro\rmfamily\@empty%
13047 \LetLtxMacro\sffamily\@empty%
13048 \LetLtxMacro\ttfamily\@empty%
13049 \LetLtxMacro\bfseries\@empty%
13050 \LetLtxMacro\ebweight\@empty%
13051 \LetLtxMacro\lgweight\@empty%
13052 \LetLtxMacro\mdseries\@empty%
13053 \LetLtxMacro\upshape\@empty%
13054 \LetLtxMacro\slshape\@empty%
13055 \LetLtxMacro\sisshape\@empty%
13056 \LetLtxMacro\scshape\@empty%
13057 \LetLtxMacro\itshape\@empty%
13058 \LetLtxMacro\ulcshape\@empty%
13059 \LetLtxMacro\sscshape\@empty%
13060 \LetLtxMacro\normalfont\@empty%
13061 }
```

\sp {<text>}

For `siunitx`. Must work in math mode.

```
13062 \renewcommand{\sp}[1]{\text{^{#1}}}{}}
```

\sb {<text>}

For `siunitx`. Must work in math mode.

```
13063 \renewcommand{\sb}[1]{\text{_{#1}}}{}}
```

\textsuperscript {<text>}

```
13064 \newrobustcmd{\LWR@HTML@textsuperscript}{\LWR@htmlspan{sup}{#1}}
13065 \LWR@formatted{textsuperscript}
```

\@textsuperscript {<text>}

```
13066 \newcommand{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
13067 \LWR@formatted{@textsuperscript}
```

\textsubscript{<text>}

13068 \newrobustcmd{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}  
13069 \LWR@formatted{textsubscript}

---

\@textsubscript {*text*}

13070 \newcommand{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}  
 13071 \LWR@formatted{@textsubscript}

\up {*text*} Prints superscript.

This is \let at the beginning of the document in case some other package has changed the definition.

13072 \AtBeginDocument{\let\up\textsuperscript}

\fup {*text*} Prints superscript.

Supports **fmtcount** package.

This is \let at the beginning of the document in case some other package has changed the definition.

13073 \AtBeginDocument{\let\fup\textsuperscript}

\underline {*text*}

13074 \renewcommand{\underline}[1]{%  
 13075 \InlineClass%  
 13076 (text-decoration:underline; text-decoration-skip: auto)%  
 13077 {\underline}{#1}%  
 13078 }

\LWR@overline {*text*}

13079 \newcommand{\LWR@overline}[1]{%  
 13080 \InlineClass%  
 13081 (text-decoration:overline; text-decoration-skip: auto)%  
 13082 {\overline}{#1}%  
 13083 }

\LWR@currenttextcolor The color to use for text and \rule, defaulting to black:

13084 \newcommand\*{\LWR@currenttextcolor}{black}

\LWR@tempcolor The color converted to HTML colorspace.

\LWR@tempcolortwo

13085 \newcommand\*{\LWR@tempcolor}{}  
 13086 \newcommand\*{\LWR@tempcolortwo}{}  
 13087 \newcommand\*{\LWR@findcurrenttextcolor}{}%

13088 \renewcommand{\LWR@tempcolor}{000000}%  
 13089 }

\LWR@findcurrenttextcolor Sets \LWR@tempcolor to the current color.

\LWR@textcurrentcolor {*text*} Like \textcolor but uses the current \color instead.

```
13090 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%
13091 \renewcommand*{\LWR@currenttextcolor}{black}%
13092 #1%
13093 }

13094 \end{warpHTML}
```

**for PRINT output:** 13095 \begin{warpprint}

\LWR@textcurrentfont {*text*}

Prints the text with the current font choices.

```
13096 \newcommand*{\LWR@textcurrentfont}[1]{#1}
```

Env LWR@blocktextcurrentfont Prints the contents with the current font choices.

```
13097 \newenvironment*{\LWR@blocktextcurrentfont}{}{}
```

\FilenameNullify {*macros to nullify*}

```
13098 \newcommand*{\FilenameNullify}[1]{}{}
```

```
13099 \end{warpprint}
```

## 96 Skips, spaces, font sizes

**for HTML output:** 13100 \begin{warpHTML}

\, and \thinspace may be redefined by other packages, so are redefined \AtBeginDocument here.

Direct-formatting space commands become HTML entities:

```
13101 \AtBeginDocument{%
13102 \renewrobustcmd*{\,}{\HTMLUnicode{202f}} % HTML thin non-breakable space
13103 \renewrobustcmd*{\thinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
13104 \renewrobustcmd*{\negthinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
13105 \renewrobustcmd*{\~}{\HTMLEntity{nbsp}}
13106 \renewrobustcmd*{\textellipsis}{\HTMLUnicode{2026}}
13107 \renewrobustcmd*{\vdots}{\HTMLUnicode{22EE}}
13108 }
```

Direct-formatting font sizes are remembered for future use:

```
13109 \newcommand*{\LWR@font@size}{\normalsize}
13110
```

```
13111 \newrobustcmd*{\LWR@HTML@normalsize}{\renewcommand*{\LWR@font@size}{normalsize}}
13112 \LWR@formatted{normalsize}
13113
13114 \newrobustcmd*{\LWR@HTML@small}{\renewcommand*{\LWR@font@size}{small}}
13115 \LWR@formatted{small}
13116
13117 \newrobustcmd*{\LWR@HTML@footnotesize}{\renewcommand*{\LWR@font@size}{footnotesize}}
13118 \LWR@formatted{footnotesize}
13119
13120 \newrobustcmd*{\LWR@HTML@scriptsize}{\renewcommand*{\LWR@font@size}{scriptsize}}
13121 \LWR@formatted{scriptsize}
13122
13123 \newrobustcmd*{\LWR@HTML@tiny}{\renewcommand*{\LWR@font@size}{tiny}}
13124 \LWR@formatted{tiny}
13125
13126 \newrobustcmd*{\LWR@HTML@large}{\renewcommand*{\LWR@font@size}{large}}
13127 \LWR@formatted{large}
13128
13129 \newrobustcmd*{\LWR@HTML@Large}{\renewcommand*{\LWR@font@size}{Large}}
13130 \LWR@formatted{Large}
13131
13132 \newrobustcmd*{\LWR@HTML@LARGE}{\renewcommand*{\LWR@font@size}{LARGE}}
13133 \LWR@formatted{LARGE}
13134
13135 \newrobustcmd*{\LWR@HTML@huge}{\renewcommand*{\LWR@font@size}{huge}}
13136 \LWR@formatted{huge}
13137
13138 \newrobustcmd*{\LWR@HTML@Huge}{\renewcommand*{\LWR@font@size}{Huge}}
13139 \LWR@formatted{Huge}

13140 \DeclareDocumentCommand{\onecolumn}{}{%
13141
13142 \DeclareDocumentCommand{\twocolumn}{O{}}{%
13143
13144 #1
13145
13146 } }

\hfill

13147 \newcommand*{\LWR@HTML@hfill}{\qquad}
13148 \LWR@formatted{hfill}

\hrulefill

13149 \newcommand*{\LWR@HTML@hrulefill}{%
13150 \ifbool{LWR@doingapar}{%
13151 {\rule{1in}{1pt}}%
13152 {%
13153 \LWR@findcurrenttextcolor%
13154 \ifdefstring{\LWR@tempcolor}{000000}{%
13155 {%
13156 \begin{BlockClass}{hrule}%
13157 \end{BlockClass}%
13158 }%
13159 }%
13160 }%
13161 }%
```

```

13158 }%
13159 {%
13160 \begin{BlockClass}[%
13161 border-top: 1px solid \LWR@origpound\LWR@tempcolor % space
13162]{hrule}%
13163 \end{BlockClass}%
13164 }%
13165 }%
13166 }%
13167 \LWR@formatted{hrulefill}

\dotfill

13168 \newcommand*{\LWR@HTML@dotfill}{\dots}
13169 \LWR@formatted{dotfill}

\newpage

13170 \renewcommand*{\newpage}{%
13171
13172 }

\newline Uses the HTML
 element.

13173 \newrobustcmd*{\LWR@newlinebr}{\unskip\LWR@htmltag{br /}\LWR@orignewline}%
13174 \LetLtxMacro{\newline}{\LWR@newlinebr}

\\ Redefined to \LWR@endofline or \LWR@tabularendofline.

\LWR@endofline * [<len>]
\\ is assigned to \LWR@endofline at \LWR@LwarpStart.

Inside tabular, \\ is temporarily changed to \LWR@tabularendofline.

13175 \LetLtxMacro{\LWR@origendofline}%
13176 \NewDocumentCommand{\LWR@endofline}{s O{0pt}}%
13177 {%
13178 \newline%

13179 \setlength{\LWR@templengthone}{#2}%
13180 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{}%
13181 }

\LWR@minipagestartpars Minipages are often placed side-by-side inside figures, with a bit of horizontal space to
separate them. Since HTML does not allow a <div> to be inside a p, paragraphs must be
turned off during the generation of the minipage, then turned on after the minipage is
complete. When this occurs between side-by-side minipages, l warp correctly suppresses
the paragraph tags between the minipages, unless some other text is between the minipages.
Such text forms its own paragraph, resulting in text after a minipage to be on its own
line. Since people often place small horizontal space between minipages, it is desirable to
\hspace
\enskip
\quad
\qquad

```

maintain this space if possible. `lwarp` tries to do this by remembering that a minipage has been seen, in which case paragraph tags are suppressed around `\hspace`, `\enskip`, `\quad`, and `\qquad` until the end of the paragraph, when the closing `p` tag is created.

When a minipage is seen, the boolean `LWR@minipagethispar` is set, telling the following horizontal whitespace commands to try to suppress their surrounding paragraph tags. `LWR@minipagethispar` is cleared at the next end of paragraph, when the HTML paragraph closing tag is generated.

Placed just before `\hspace`, `\quad`, or `\qquad`'s HTML output.

```
13182 \newcommand*{\LWR@minipagestartpars}{%
13183 \ifbool{LWR@minipagethispar}{\LWR@startpars}{}%
13184 }
```

`\LWR@minipagestopars` Placed just after `\hspace`, `\quad`, or `\qquad`'s HTML output.

```
13185 \newcommand*{\LWR@minipagestopars}{%
13186 \ifbool{LWR@minipagethispar}{\LWR@stopars}{}%
13187 }
```

`\quad` Handles special minipage & horizontal space interactions. Uses 2003 EM SPACE to pass validation.

```
13188 \renewrobustcmd*{\quad}{%
13189 \LWR@minipagestopars%
13190 \HTMLunicode{2003}%
13191 \LWR@minipagestartpars%
13192 }
```

`\qquad` Handles special minipage & horizontal space interactions.

```
13193 \renewrobustcmd*{\qquad}{\quad\quad}
```

`\enskip` Handles special minipage & horizontal space interactions.

```
13194 \renewrobustcmd*{\enskip}{%
13195 \LWR@minipagestopars%
13196 \HTMLunicode{2002}%
13197 \LWR@minipagestartpars%
13198 }
```

`\Len \LWR@tempwidth` Used to compute span width, height, raise for `\hspace` and `\rule`:

```
Len \LWR@tempheight 13199 \newlength{\LWR@tempwidth}
Len \LWR@tempraise 13200 \newlength{\LWR@tempheight}
 13201 \newlength{\LWR@tempraise}
```

`\LWR@select@html@\hspace * {\langle length \rangle} * {\langle length \rangle}`

`\hspace` Handles special minipage & horizontal space interactions.

Prints a span of a given width. Ignores the optional star.

`\hspace{\fill}` is converted to `\hspace{2em}`, equal to `\quad\quad`.

```
13202 \newcommand{\LWR@select@html@hspace}{%
13203 \RenewDocumentCommand{\hspace}{s m}{%
13204 \setlength{\LWR@tempwidth}{##2}}}
```

If \fill, change to \quad:

```
13205 \ifnum\gluestretchorder\LWR@tempwidth>0%
13206 \setlength{\LWR@tempwidth}{2em}%
13207 \fi%
```

Only if the width is greater than zero:

13208 \ifdimcomp{\LWR@tempwidth}{>}{0pt}{%

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

13209 \LWR@minipagestoppars%

Support the HTML thin wrappable space:

```
13210 \ifdim\tempwidth{=.16667em}%
13211 {%
13212 \HTMLunicode{2009}% thin breakable space
13213 }%
```

Print the span with the converted width. Not rounded.

```
13214 {%
13215 \LWR@htmltagc{%
13216 span style=\textquotedbl{}width:\LWR@printlength{\LWR@tempwidth}; % extra space
13217 display:inline-block\textquotedbl%
13218 }%
```

If formatting for a word processor, approximate with a number of \quads, in case a span of a given width is not supported:

```
13219 \ifbool{FormatWP}{%
13220 \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13221 \whiledo{\lengthtest{\LWR@templengthone}>1em}{%
13222 \quad%
13223 \addtolength{\LWR@templengthone}{-1em}%
13224 }%
13225 }
```

If NOT formatting for a word processor, include an empty comment to avoid an empty span:

13226            { \LWR@htmlcomment{} } %

Close the span:

```
13227 \LWR@htmltagc{/span}%
13228 }%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
13229 \LWR@minipagestartpars%
13230 }{ }% width greater than 0
13231 }%
13232 }
```

\LWR@select@html@nohspac  
  \hspace

Used to disable \hspace while creating description \items.

```
13233 \newcommand{\LWR@select@html@nohspac}{%
13234 \RenewDocumentCommand{\hspace}{s m}{ }%
13235 }
```

\LWR@select@print@hspac

```
13236 \newcommand*{\LWR@select@print@hspac}{%
13237 \renewrobustcmd\hspace{\ifstar\hspace\@hspacerc\hspace}%
13238 }
```

\hspace \* {*length*}

Handles special minipage & horizontal space interactions.

```
13239 \LWR@select@html@hspac
```

\LWR@vspace \* {*length*} Nullified vspace.

```
13240 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}
13241
13242 \LWR@formatted{vspace}
```

\linebreak [*num*]     Inserts an HTML br tag.

```
13243 \renewcommand*{\linebreak}[1][]{\newline}
```

\nolinebreak [*num*]

```
13244 \renewcommand*{\nolinebreak}[1]{}{}
```

\pagebreak [*num*]     Starts a new paragraph.

```
13245 \renewcommand*{\pagebreak}[1][]{%
13246
13247 }
```

```
\nopagebreak [⟨num⟩]

13248 \renewcommand*{\nopagebreak}[1][]{}}

\enlargethispage * {⟨len⟩}

13249 \RenewDocumentCommand{\enlargethispage}{s m}{}}

\clearpage
\cleardoublepage

13250 \renewcommand*{\clearpage}{}}
13251 \renewcommand*{\cleardoublepage}{}}
```

**\rule** [⟨raise⟩] {⟨width⟩} {⟨height⟩}

Handles special minipage & horizontal space interactions.

Creates a span of a given width and height. Ignores the optional star.

\fill is zero-width, so \hspace{\fill} is ignored.

```
13252 \newcommand*{\LWR@HTML@rule}[3][]{}%
```

The width is copied into a temporary TEX length, from which comparisons and conversions may be made:

```
13253 \setlength{\LWR@tempwidth}{#2}%
```

If it's zero-width then skip the entire rule:

```
13254 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}%
13255 {}% zero- width
13256 {}% non-zero width
```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```
13257 \ifthenelse{%
13258 \lengthtest{\LWR@tempwidth>0pt}\AND%
13259 \lengthtest{\LWR@tempwidth<1pt}%
13260 }%
13261 {\setlength{\LWR@tempwidth}{1pt}}%
13262 {}%
```

Likewise with height:

```
13263 \setlength{\LWR@tempheight}{#3}%
13264 \ifthenelse{%
13265 \lengthtest{\LWR@tempheight>0pt}\AND%
13266 \lengthtest{\LWR@tempheight<1pt}%
13267 }%
13268 {\setlength{\LWR@tempheight}{1pt}}%
13269 {}%
```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```
13270 \LWR@minipagestoppars%
```

Print the span with the converted width and height. The width and height are NOT rounded, since a height of less than 1pt is quite common in L<sup>A</sup>T<sub>E</sub>X code.

```
13271 \LWR@findcurrenttextcolor%
13272 \LWR@htmntagc{%
13273 span\LWR@indentHTML%
13274 style=\textquotedbl%
```

The HTML background color is used to draw the filled rule according to the L<sup>A</sup>T<sub>E</sub>X foreground color set by \textcolor.

```
13275 \ifbool{FormatWP}{}{background:\LWR@currenttextcolor ; }%
```

The width and height are printed, converted to PT:

```
13276 width:\LWR@printlength{\LWR@tempwidth} ; %
13277 height:\LWR@printlength{\LWR@tempheight} ; %
```

The raise height is converted to a css transform. The \*2 raise multiplier is to approximately match HTML output's X height. Conversion to a L<sup>A</sup>T<sub>E</sub>X length allows a typical L<sup>A</sup>T<sub>E</sub>X expression to be used as an argument for the raise, whereas printing the raise argument directly to HTML output without conversion to a L<sup>A</sup>T<sub>E</sub>X length limits the allowable syntax. To do: A superior method would compute a ratio of L<sup>A</sup>T<sub>E</sub>X ex height, then print that to HTML with an ex unit.

```
13278 \ifblank{#1}%
13279 {}%
13280 {%
13281 \setlength{\LWR@tempraise}{0pt-#1}%
13282 \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
13283 \LWR@indentHTML%
13284 -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13285 \LWR@indentHTML%
13286 -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13287 \LWR@indentHTML%
13288 transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13289 \LWR@indentHTML%
13290 }%
```

Display inline-block to place the span inline with the text:

```
13291 display:inline-block;\textquotedbl\LWR@orignewline%
13292 }%
```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```
13293 \ifbool{FormatWP}{%
13294 \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13295 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
```

```

13296 _{}%
13297 \addtolength{\LWR@templengthone}{-1em}%
13298 }%
13299 }%

```

If NOT formatting for a word processor, add a comment to avoid an empty <span>:

```
13300 {\LWR@htmlcomment{}%}
```

Close the span:

```
13301 \LWR@htmlltagc{/span}%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

13302 \LWR@minipagestartpars%
13303 }% non-zero width
13304 }
13305
13306 \LWR@formatted{rule}

13307 \end{warpHTML}

```

## 97 \phantomsection

**for HTML output:** 13308 \begin{warpHTML}

\LWR@phantomsection Emulate the `\hyperref` `\phantomsection` command, often used to insert the bibliography into the table of contents. Ignores `\ForceHTMLTOC`.

```

13309 \newrobustcmd*{\LWR@phantomsection}{%
13310 \begingroup%
13311 \boolfalse{\LWR@forcinghtmltoc}%
13312 \section*{}%
13313 \endgroup%
13314 }

13315 \end{warpHTML}

```

## 98 \LaTeX and other logos

Logos for HTML and print modes:

Some of these logos may be redefined in a later package, so after loading other packages, and at the beginning of the document, their definitions are finally set by `\LWR@formatted`.

For css conversions, see:

<http://edward.oconnor.cx/2007/08/tex-poshlet>

<http://nitens.org/taraborelli/texlogo>  
and the spacing described in the **metafont** package documentation.

```

for HTML & PRINT: 13316 \begin{warpall}
13317 \newbool{LWR@warnXe}
13318 \boolfalse{LWR@warnXe}
13319
13320 \newrobustcmd*{\Xe}
13321 {%
13322 X\hspace{-.1667em}\raisebox{-.5ex}{E}%
13323 \global\booltrue{LWR@warnXe}%
13324 }
13325
13326 \AtBeginDocument{
13327 \@ifpackageloaded{graphics}{
13328 \@ifpackageloaded{metalogo}{}{
13329 \renewrobustcmd*{\Xe}
13330 {X\hspace{-.1667em}\raisebox{-.5ex}{\reflectbox{E}}}}
13331 }
13332 }{%
13333 }
13334
13335 \AtEndDocument{
13336 \ifbool{LWR@warnXe}%
13337 \PackageWarningNoLine{lwarp}{Load graphicx or graphics
13338 for improved XeTeX logo}
13339 }{%
13340 }
13341
13342 \providerobustcmd*{\XeTeX}{\mbox{\Xe\hspace{-.125em}\TeX}}
13343 \providerobustcmd*{\XeLaTeX}{\mbox{\Xe\hspace{-.125em}\LaTeX}}
13344 \providerobustcmd*{\Ams}{%
13345 \leavevmode\hbox{$\mathcal A\kern-.2em\lower.376ex$}
13346 \hbox{$\mathcal M$}\kern-.2em\mathcal S$}%
13347 }
13348 \newrobustcmd*{\LyX}{\textsf{LyX}}
13349 \providerobustcmd*{\LuaTeX}{\mbox{\Lua\TeX}}
13350 \providerobustcmd*{\LuaLaTeX}{\mbox{\Lua\LaTeX}}
13351 \providerobustcmd*{\BibTeX}{\mbox{B\textsc{it}\TeX}}
13352 \providerobustcmd*{\MakeIndex}{\mbox{\textit{\MakeIndex}}}
13353 \providerobustcmd*{\ConTeXt}{\mbox{Con\TeX{}t}}
13354 \providerobustcmd*{\MiKTeX}{\mbox{MiK\TeX}}
13355 \end{warpall}

```

**for HTML output:** 13356 \begin{warpHTML}

The print-mode versions of the following may be changed by **metalogo**, so their print formatting is recorded \AtBeginDocument.

\TeX \TeX

`latexlogo` is a css class used to properly typeset the E and A in `\TeX` and friends.

`latexlogofont` is a css class used to select the font for the rest of the logo in L<sup>A</sup>T<sub>E</sub>X, L<sup>A</sup>U<sub>A</sub>T<sub>E</sub>X, ConTeXt, etc.

```

13357 \newrobustcmd*\{LWR@HTML@TeX}
13358 {%
13359 \InLineClass{latexlogofont}%
13360 {%
13361 \InLineClass{latexlogo}%
13362 {%
13363 T%
13364 \InLineClass{latexlogosub}{e}%
13365 X%
13366 }%
13367 }%
13368 }
13369 \AtBeginDocument{\LWR@formatted{TeX}}% may have been patched by metalogo

```

\LaTeX\ L<sup>A</sup>T<sub>E</sub>X, L<sup>A</sup>T<sub>E</sub>X 2<sub>E</sub>  
\LaTeXe

```

13370 \newrobustcmd*\{LWR@HTML@LaTeX}
13371 {%
13372 \InLineClass{latexlogofont}%
13373 {%
13374 \InLineClass{latexlogo}%
13375 {%
13376 L%
13377 \InLineClass{latexlogosup}{a}%
13378 T%
13379 \InLineClass{latexlogosub}{e}%
13380 X%
13381 }%
13382 }%
13383 }
13384 \AtBeginDocument{\LWR@formatted{LaTeX}}% may have been patched by metalogo
13385
13386
13387
13388 \newrobustcmd*\{LWR@HTML@LaTeXe}
13389 {%
13390 \LaTeX%
13391 \InLineClass{latexlogofont}{%
13392 \InLineClass{latexlogotwoe}{%
13393 2%
13394 \InLineClass{latexlogotwoesub}{\HTMLUnicode{03B5}}%
13395 }%
13396 }%
13397 }
13398 \AtBeginDocument{\LWR@formatted{LaTeXe}}% may have been patched by metalogo

```

\LuaTeX\ L<sup>A</sup>U<sub>A</sub>T<sub>E</sub>X, L<sup>A</sup>U<sub>A</sub>T<sub>E</sub>X  
\LuaLaTeX

```

13399 \newrobustcmd*\{LWR@HTML@LuaTeX}{\InLineClass{latexlogofont}{Lua}\TeX}
13400 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo
13401

```

---

```
13402 \newrobustcmd*{\LWR@HTML@LuaLaTeX}{\InlineClass{latexlogofont}{Lua}\LaTeX}
13403 \AtBeginDocument{\LWR@formatted{LuaLaTeX}}% may have been patched by metalogo
```

\XeTeX X<sub>E</sub>T<sub>E</sub>X, X<sub>E</sub>L<sub>A</sub>T<sub>E</sub>X  
 \XeLaTeX  
 xetexlogo is a css class which aligns the backwards E in X<sub>E</sub>T<sub>E</sub>X and spaces T<sub>E</sub>X appropriately.  
 xelatexlogo is a css class which aligns the backwards E in X<sub>E</sub>L<sub>A</sub>T<sub>E</sub>X and spaces L<sub>A</sub>T<sub>E</sub>X appropriately.

```
13404 \newrobustcmd*{\LWR@HTML@Xe}
13405 {%
13406 X%
13407 \InlineClass{xelatexlogosub}{\HTMLunicode{18e}}%
13408 }
13409 \AtBeginDocument{\LWR@formatted{Xe}}% may have been patched by metalogo
13410
13411 \newrobustcmd*{\LWR@HTML@XeTeX}{\InlineClass{xelatexlogo}{\Xe}\TeX}
13412 \AtBeginDocument{\LWR@formatted{XeTeX}}% may have been patched by metalogo
13413
13414 \newrobustcmd*{\LWR@HTML@XeLaTeX}{\InlineClass{xelatexlogo}{\Xe}\LaTeX}
13415 \AtBeginDocument{\LWR@formatted{XeLaTeX}}% may have been patched by metalogo
```

\ConTeXt ConTeXt

```
13416 \newrobustcmd*{\LWR@HTML@ConTeXt}{%
13417 \InlineClass{latexlogofont}{Con}\TeX{}%
13418 \InlineClass{latexlogofont}{t}%
13419 }
13420 \LWR@formatted{ConTeXt}
```

\BibTeX BIBT<sub>E</sub>X, *MakeIndex*  
 \MakeIndex  
 13421 \newrobustcmd\*{\LWR@HTML@BibTeX}{%
 13422 {\InlineClass{latexlogofont}{B\textsc{ib}}}\TeX}
 13423 \LWR@formatted{BibTeX}
 13424
 13425 \newrobustcmd\*{\LWR@HTML@MakeIndex}{%
 13426 {\InlineClass{latexlogofont}{\textit{MakeIndex}}}}
 13427 \LWR@formatted{MakeIndex}

\AmS A<sub>M</sub>S

amslogo is a css class used for the A<sub>M</sub>S logo.

```
13428 \AtBeginDocument{%
13429 \newrobustcmd*{\LWR@HTML@AmS}{%
13430 {%
13431 \InlineClass{amslogo}{%
13432 \textit{%
13433 A%
13434 \InlineClass{latexlogosub}{M}}%
13435 }}
```

```

13435 $%
13436 }%
13437 }%
13438 }%
13439 \LWR@formatted{AmS}%
13440 }

\MiKTeX MiKTEX

13441 \newrobustcmd*{\LWR@HTML@MiKTeX}{\InlineClass{latexlogofont}{MiK}\TeX}%
13442 \LWR@formatted{MiKTeX}

\LyX LyX

lyxlogo is a css class used for the LyX logo.

13443 \newrobustcmd*{\LWR@HTML@LyX}{\InlineClass{lyxlogo}{LyX}}%
13444 \LWR@formatted{LyX}

13445 \end{warpHTML}

```

## 99 Starting and stopping l warp

**for HTML output:** 13446 \begin{warpHTML}

```

\LWR@LwarpStart Automatically sets up the HTML-related actions for the start and end of the document.
\LWR@LwarpEnd
13447 \AfterEndPreamble{\LWR@LwarpStart}
13448 \AtEndDocument{\LWR@LwarpEnd}

13449 \end{warpHTML}

```

## 100 Loading everyshi patches

everyshi is emulated by the L<sub>A</sub>T<sub>E</sub>X core, so its patches are loaded here. \AtBeginDocument is used in case an older verison of L<sub>A</sub>T<sub>E</sub>X is used.

**for HTML output:** 13450 \begin{warpHTML}
13451 \AtBeginDocument{
13452 \@ifpackageloaded{everyshi}{
13453 \RequirePackage{l warp-everyshi}
13454 }{%
13455 }
13456 \end{warpHTML}

## 101 Loading **textcomp** patches

**textcomp** has now been integrated into the L<sup>A</sup>T<sub>E</sub>X core, so its patches are loaded now.

**for HTML output:** 13457 \begin{warpHTML}  
13458 \RequirePackage{l warp-textcomp}  
13459 \end{warpHTML}

## 102 Loading **amsmath**, **amsthm** patches, **centernot**

**amsmath**, **amsthm**, and **centernot** may have been preloaded, such as by **newtx**, so their patches are loaded now.

**for HTML output:** 13460 \begin{warpHTML}  
13461 \@ifpackageloaded{amsthm}{  
13462 \RequirePackage{l warp-amsthm}  
13463 }{}  
  
13464 \@ifpackageloaded{amsmath}{  
13465 \RequirePackage{l warp-amsmath}  
13466 }{}

**amsthm** may load **centernot**, so **centernot** must be checked second.

13467 \@ifpackageloaded{centernot}{  
13468 \RequirePackage{l warp-centernot}  
13469 }{}  
13470 \end{warpHTML}

## 103 Loading KOMA-SCRIPT class patches

Load patches to **koma-script**.

**for HTML output:** 13471 \begin{warpHTML}  
  
13472 \@ifclassloaded{scrbook}{\RequirePackage{l warp-patch-komascript}}{}  
13473 \@ifclassloaded{scrartcl}{\RequirePackage{l warp-patch-komascript}}{}  
13474 \@ifclassloaded{scrreprt}{\RequirePackage{l warp-patch-komascript}}{}  
  
13475 \end{warpHTML}

## 104 Loading MEMOIR class patches

Load patches to **memoir**.

**for HTML & PRINT:** 13476 \begin{warpprint}

```
13477 \@ifclassloaded{memoir}{\LWR@origRequirePackage{xcolor}}{}{}
13478 \end{warpprint}
```

**for HTML output:** 13479 \begin{warpHTML}  
13480 \@ifclassloaded{memoir}{\RequirePackage{lwarp-patch-memoir}}{}{}  
13481 \end{warpHTML}

## 105 ut\* class patches

Load patches to `uj*` and `ut*` classes, as well as `ltj*` classes.

**for HTML output:** 13482 \begin{warpHTML}  
  
13483 \newcommand\*{\LWR@patchujtclasses}{  
  
uj/t does not use \partname  
  
13484 \def\@partnameformat{}  
  
13485 \def\@partcntformat##1{  
13486 \prepartname%  
13487 \csname the##1\endcsname%  
13488 \postpartname%  
13489 \quad%  
13490 }  
13491 \ifundefined{chapter}{}{  
13492 \def\@chapcntformat##1{  
13493 \prechaptername%  
13494 \csname the##1\endcsname%  
13495 \postchaptername%  
13496 \quad%  
13497 }  
13498 }  
13499 \renewcommand\*{\LWR@printchaptername}{}  
  
Use decimal points instead of centered dots:  
  
13500 \renewcommand{\thepart}{\@Roman\c@part}  
13501 \ifundefined{chapter}{  
13502 \renewcommand{\thesection}{\@arabic\c@section}  
13503 }{  
13504 \renewcommand{\thechapter}{\@arabic\c@chapter}  
13505 \renewcommand{\thesection}{\thechapter.\@arabic\c@section}  
13506 }  
13507 \renewcommand{\thesubsection}{\thesection.\@arabic\c@subsection}  
13508 \renewcommand{\thesubsubsection}{  
13509 \thesubsection.\@arabic\c@subsubsection}  
13510 \renewcommand{\theparagraph}{  
13511 \thesubsubsection.\@arabic\c@paragraph}  
13512 \renewcommand{\thesubparagraph}{  
13513 \theparagraph.\@arabic\c@subparagraph}  
13514 \ifundefined{chapter}{

```

13515 \renewcommand{\thefigure}{\@arabic\c@figure}
13516 \renewcommand{\thetable}{\@arabic\c@table}
13517 }{
13518 \renewcommand{\thefigure}{%
13519 \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@figure}
13520 \renewcommand{\thetable}{%
13521 \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@table}
13522 }
13523 }
13524
13525 \@ifclassloaded{ujarticle}{\LWR@patchujtclasses}{}
13526 \@ifclassloaded{ujbook}{\LWR@patchujtclasses}{}
13527 \@ifclassloaded{ujreport}{\LWR@patchujtclasses}{}
13528 \@ifclassloaded{utarticle}{\LWR@patchujtclasses}{}
13529 \@ifclassloaded{utbook}{\LWR@patchujtclasses}{}
13530 \@ifclassloaded{utreport}{\LWR@patchujtclasses}{}
13531 \@ifclassloaded{ltjarticle}{\LWR@patchujtclasses}{}
13532 \@ifclassloaded{ltjbook}{\LWR@patchujtclasses}{}
13533 \@ifclassloaded{ltjreport}{\LWR@patchujtclasses}{}
13534 \@ifclassloaded{ltjsarticle}{\LWR@patchujtclasses}{}
13535 \@ifclassloaded{ltjsbook}{\LWR@patchujtclasses}{}
13536 \@ifclassloaded{ltjsreport}{\LWR@patchujtclasses}{}
13537 \@ifclassloaded{ltjskiyou}{\LWR@patchujtclasses}{}
13538 \@ifclassloaded{ltjspf}{\LWR@patchujtclasses}{}
13539 \@ifclassloaded{ltjarticle}{\LWR@patchujtclasses}{}
13540 \@ifclassloaded{ltjtbook}{\LWR@patchujtclasses}{}
13541 \@ifclassloaded{ltjreport}{\LWR@patchujtclasses}{}

13542 \end{warpHTML}

```

## 106 C<sub>T</sub>E<sub>X</sub> patches

Patches for `ctex` and related classes, which are loaded before `lwarp`.

All C<sub>T</sub>E<sub>X</sub> classes and the `ctex` package seem to load `ctexpatch`, so its presence is used to decide whether to have `lwarp` patch C<sub>T</sub>E<sub>X</sub>.

**for HTML output:** 13543 \begin{warpHTML}

\AtBeginDocument in case the user set `FileSectionNames` in the preamble.

```

13544 \AtBeginDocument{
13545 \@ifpackageloaded{ctexpatch}{%
13546 \def\@partcntformat#1{%
13547 \LWR@isolate{\CTEX@partname}~%
13548 \CTEX@part@aftername%
13549 }%
13550
13551 \def\@partnameformat{}%
13552
13553 \def\@chapcntformat#1{%
13554 \LWR@isolate{\CTEX@chaptername}~%
13555 \CTEX@chapter@aftername%

```

```

13556 }%
13557
13558 \renewcommand*\LWR@printchaptername{}%
13559 }{%
13560 }

13561 \end{warpHTML}

```

## 107 kotexutf patches

Patch for `kotexutf`, which is loaded before `l warp`.

`kotexutf`'s `\@setref` was conflicting with `l warp`'s cross references.

**for HTML output:** 13562 `\begin{warpHTML}`

If `kotexutf`'s version of `\@setref` is detected, it is reverted to the original.

```

13563 \AtBeginDocument{%
13564 \@ifpackageloaded{kotexutf}{%
13565 \def\LWR@kotexutf@setref#1#2#3{%
13566 \@setref@dhucs@orig{#1}{#2}{#3}%
13567 \ifx#1\relax\else
13568 \bgroup
13569 \dhucs@make@CJKchar@null
13570 \edef\@temp{\expandafter#2#1}\global\josatoks\expandafter{\@temp}%
13571 \egroup
13572 \fi%
13573 }%
13574
13575 \ifdefequal{\@setref}{\LWR@kotexutf@setref}{%
13576 \let\@setref\@setref@dhucs@orig
13577 }{}%
13578 }{}%
13579 }

13580 \end{warpHTML}

```

## 108 babel and polyglossia warnings

`l warp` prints a message instructing the user how to avoid the following error.

(These are not `\PackageWarnings` because there may not be a problem.)

`l warp` uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . __hook begindocument
```

To test compatibility, add

---

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using `l warp`.

**for HTML output:**

```

13581 \begin{warpHTML}
13582 \AtBeginDocument{
13583
13584 \@ifpackageloaded{polyglossia}{
13585 \PackageWarningNoLine{l warp}
13586 {%
13587 Polyglossia has been loaded. L warp also uses cleveref.\MessageBreak
13588 See the cleveref documentation regarding\MessageBreak
13589 polyglossia support. Some languages are not supported%
13590 }
13591 \typeout{---}
13592 \typeout{Package l warp:}
13593 \typeout{If the error}
13594 \typeout{\space\space'`! Undefined control sequence.
13595 \space ... \space \protect__hook begindocument`}
13596 \typeout{occurs here, use the polyglossia macro:}
13597 \typeout{\space\space\protect\setmainlanguage\protect{...}\protect}}
13598 \typeout{---}
13599 }
13600 \@ifpackageloaded{babel}{
13601 \PackageWarningNoLine{l warp}
13602 {%
13603 Babel has been loaded. L warp also uses cleveref.\MessageBreak
13604 See the cleveref documentation regarding\MessageBreak
13605 babel support. Some languages are not supported%
13606 }
13607 {}}
13608 }
13609
13610 }
13611 \end{warpHTML}
```

## 109 MATHJAX warnings

```
\LWR@mathjaxwarn {\langle packagename\rangle} {\langle More text.\rangle}
```

To be done `\AtBeginDocument`.

```

13612 \newcommand*{\LWR@mathjaxwarn}[2]{%
13613 \@ifpackageloaded{l warp-\#1}{%
```

```
13614 \ifblank{#2}{%
13615 \PackageWarningNoLine{l warp}
13616 {%
13617 L warp provides emulation for MathJax when used\MessageBreak
13618 with the #1 package%
13619 }
13620 }{%
13621 \PackageWarningNoLine{l warp}
13622 {%
13623 L warp provides emulation for MathJax when used\MessageBreak
13624 with the #1 package.\MessageBreak
13625 #2%
13626 }
13627 }%
13628 }{%
13629 }
13630
13631 % \begin{macro}{\LWR@nomathjaxwarn} \marg{packagename} \marg{More text.}
13632 %
13633 % To be done \cs{AtBeginDocument}.
13634 %
13635 % \changes{v0.894}{2020/12/22}{Warn if using packages not supported by \brand{MathJax}.}
13636 % \changes{v0.895}{2021/01/08}{Improved \brand{MathJax} warning.}
13637 % \begin{macrocode}
13638 \newcommand*{\LWR@nomathjaxwarn}[2]{%
13639 \@ifpackageloaded{l warp-#1}{%
13640 \ifblank{#2}{%
13641 \PackageWarningNoLine{l warp}
13642 {%
13643 L warp does not provide MathJax support for #1.\MessageBreak
13644 Use SVG math by removing the L warp mathjax option%
13645 }
13646 }{%
13647 \PackageWarningNoLine{l warp}
13648 {%
13649 L warp does not provide MathJax support for #1.\MessageBreak
13650 #2%
13651 }
13652 }%
13653 }{%
13654 }
13655 \newcommand*{\LWR@forceSVGmessage}[1]{%
13656 SVG math output may be enabled for select math\MessageBreak
13657 expressions to preserve #1 visual\MessageBreak
13658 features for those particular expressions.\MessageBreak
13659 Before the chosen inline math, use \protect\inlinemathother\MessageBreak
13660 to begin using SVG math, and \protect\inlinemathnormal\MessageBreak
13661 afterward to resume using MathJax math.\MessageBreak
13662 Before display math, use \protect\displaymathother\MessageBreak
13663 to begin using SVG math, and use \protect\displaymathnormal\MessageBreak
13664 after to resume using MathJax for the following math.\MessageBreak
13665 Or, use SVG math for all expressions by removing\MessageBreak
```

---

```
13666 the mathjax option for the lwarf package%
13667 }
```

If MATHJAX is being used, issue a warning for certain packages.

```
13668 \AtBeginDocument{
13669 \ifbool{mathjax}{
13670 \LWR@nomathjaxwarn{aligned-overset}{}
13671 \LWR@nomathjaxwarn{amscdx}{}
13672 {\LWR@forceSVGmessage{amscdx}}
13673 \LWR@mathjaxwarn{arydshln}{}
13674 {In a math array, do not use the optional argument\MessageBreak
13675 for \protect\cdashline.\space\space
13676 Furthermore, \protect\cline\space is not\MessageBreak
13677 supported by MathJax}
13678 \LWR@nomathjaxwarn{autoaligne}{}
13679 \LWR@mathjaxwarn{autonum}{}
13680 {MathJax does not support equation+.\MessageBreak
13681 You may use the warpprint and warpHTML\MessageBreak
13682 environments to isolate the package load\MessageBreak
13683 and the equation+ environments}
13684 \LWR@mathjaxwarn{bigdelim}{}
13685 {Delimiters appear only of the first line}
13686 \LWR@nomathjaxwarn{boldtensors}{}
13687 \LWR@mathjaxwarn{booktabs}{}
13688 {\protect\cmidrule\space is not displayed}
13689 \LWR@mathjaxwarn{breqn}{}
13690 {Each environment becomes an SVG image}
13691 \LWR@mathjaxwarn{colortbl}{}
13692 {Colors are ignored in MathJax.\MessageBreak
13693 (Text mode tabular does support colortbl.)\MessageBreak
13694 \LWR@forceSVGmessage{colortbl}}
13695 \LWR@mathjaxwarn{delarray}{}
13696 {\LWR@forceSVGmessage{delarray}}
13697 \LWR@nomathjaxwarn{gauss}{}
13698 {\LWR@forceSVGmessage{gauss}}
13699 \LWR@mathjaxwarn{hhline}{}
13700 {A simple \protect\hline\space is used}
13701 \LWR@mathjaxwarn{isomath}{}
13702 {Some of the symbol font macros such as \protect\mathsf{fb}\fit\MessageBreak
13703 do not use a sans font because MathJax does not yet\MessageBreak
13704 have sans Greek. Tensors may look like vectors%}
13705 }
13706 \LWR@nomathjaxwarn{jkmath}{}
13707 {\LWR@forceSVGmessage{jkmath}}
13708 \LWR@mathjaxwarn{libertinust1math}{}
13709 {Some of the symbol font macros such as \protect\mathsf{fb}\fit\MessageBreak
13710 do not use a sans font because MathJax does not yet\MessageBreak
13711 have sans Greek. Tensors may look like vectors%}
13712 }
13713 \LWR@mathjaxwarn{mathtools}{}
13714 {See the Lwarf manual regarding the disallowspaces\MessageBreak
13715 and showonlyrefs options, the alignat environment,\MessageBreak
13716 and \protect\DeclarePairedDelimiter\space and related%}
13717 }
```

```
13718 \LWR@mathjaxwarn{mathspec}
13719 {Double quotes are removed, even inside \protect{text}}
13720 \LWR@mathjaxwarn{multirow}
13721 {Multirow works as expected in text mode, but\MessageBreak
13722 limited emulation is provided for MathJax math.\MessageBreak
13723 \protect\multirow\space ignores all arguments except\MessageBreak
13724 the text}
13725 \LWR@mathjaxwarn{nicematrix}
13726 {Keys/values are ignored in MathJax.\MessageBreak
13727 \protect\cdots, etc. do not span multiple cells.\MessageBreak
13728 AutoNiceMatrix, etc. are not supported for MathJax.\MessageBreak
13729 \LWR@forceSVGmessage{nicematrix}%
13730 }
13731 \LWR@nomathjaxwarn{pb-diagram}
13732 {\LWR@forceSVGmessage{pb-diagram}}
13733 % \LWR@mathjaxwarn{physics}
13734 % {The third-party extension is not used.\MessageBreak
13735 % {The MathJax v3 extension is used.\MessageBreak
13736 % See the Lwarp manual for details}
13737 \LWR@nomathjaxwarn{tensind}{}
13738 \LWR@mathjaxwarn{unicode-math}
13739 {Do not use embedded Unicode characters.\MessageBreak
13740 (Not all characters are encoded correctly.)\MessageBreak
13741 Some symbol fonts are not supported by MathJax,\MessageBreak
13742 and are only approximated.\MessageBreak
13743 Greek macros such as \protect\alpha\space respond to the math-style\MessageBreak
13744 option. Latin symbols does not, per MathJax\MessageBreak
13745 limitations, unless placed inside \protect\symbit\space or similar}
13746 \LWR@nomathjaxwarn{unitsdef}{}
13747 \LWR@mathjaxwarn{witharrows}
13748 {Arrows can only point to the next line.\MessageBreak
13749 Text is only placed on a single line}
13750 \LWR@nomathjaxwarn{xy}
13751 {In text, xy works as-is. SVG images will be generated.\MessageBreak
13752 \LWR@forceSVGmessage{xy}}
13753 }()
13754 }
```

---

**File 2 l warp-2in1.sty****§ 110 Package 2in1**

Pkg 2in1 2in1 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2in1}

---

**File 3 l warp-2up.sty****§ 111 Package 2up**

Pkg 2up 2up is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2up}[2010/05/15]

```
2 \def\source#1#2#3{}
3 \def\target#1#2#3{}
4 \def\targetlayout#1{}
5 \newdimen\pageseplength
6 \newdimen\pagesepwidth
7 \newdimen\pagesepoffset
8 \def\twoupemptypage{}
9 \def\twoupclearpage{}
10 \def\twoupeject{}
11 \def\twouparticle{}
12 \def\twoupplain{}
13 \def\twouplegaltarget{}
14 \def\twouplandscape{}
15 \def\TwoupWrites{}
```

---

**File 4 l warp-a4.sty****§ 112 Package a4**

Pkg a4 a4 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4}[2004/04/15]

```
2 \newcommand*\WideMargins{}
```

---

**File 5 l warp-a4wide.sty**

§ 113      Package **a4wide**

Pkg a4wide a4wide is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{a4wide}[1994/08/30]

---

File 6 **l warp-a5comb.sty**

§ 114      Package **a5comb**

Pkg a5comb a5comb is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{a5comb}

---

File 7 **l warp-abstract.sty**

§ 115      Package **abstract**

(Emulates or patches code by PETER WILSON.)

Pkg abstract abstract is supported and patched by l warp.

⚠ missing TOC If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

for HTML output: memoir provides an abstract environment even though it is not an article or report class. Meanwhile, l warp loads book to emulate memoir, but book does not have an abstract environment, so when the abstract package is loaded for emulation there is no pre-existing abstract to redefine, which would cause an error. Thus, a null abstract is provide here:

1 \ProvideDocumentEnvironment{abstract}{}{}

Accept all options for l warp-abstract:

2 \LWR@ProvidesPackagePass{abstract}[2009/06/08]

3 \AtBeginDocument{  
4 \BeforeBeginEnvironment{abstract}{  
5 \LWR@forcenewpage  
6 \BlockClass{abstract}  
7 }  
8 \AfterEndEnvironment{abstract}{\endBlockClass}  
9 }  
10  
11 \renewcommand{\@bsrunintitle}{%  
12 \hspace\*{\abstitleskip}%  
13 {\abstractnamefont%  
14 \InlineClass{abstractrunintitle}{\abstractname}}%  
15 \@bslabeldelim}%  
16 }

```
17 \@ifclassloaded{memoir}
18 {
19 \renewenvironment{abstract}{%
20 % \titlepage
21 % \null\vfil
22 % \begin{parpenalty}{\lowpenalty}
23 \setup@bstrct
24 \if@bsrunin
25 \else
26 \if@bsstyle
27 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
28 \else
29 \ifnumber@bs
30 \num@bs
31 \else
32 \begin{\absnamepos}%
33 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}%
34 \end{parpenalty}\@M
35 \end{\absnamepos}%
36 \vspace{\abstitleskip}%
37 \fi
38 \fi
39 \vspace{\abstitleskip}%
40 \fi
41 \put@bsintoc%
42 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
43 {\par\end{@bstr@ctlist}}%\vfil\null%\endtitlepage
44 }
45 }% not memoir
46 \if@titlepage
47 \renewenvironment{abstract}{%
48 % \titlepage
49 \null\vfil
50 \begin{parpenalty}{\lowpenalty}
51 \if@bsrunin
52 \else
53 \if@bsstyle
54 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
55 \else
56 \ifnumber@bs
57 \num@bs
58 \else
59 \begin{\absnamepos}%
60 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}%
61 \end{parpenalty}\@M
62 \end{\absnamepos}%
63 \vspace{\abstitleskip}%
64 \fi
65 \fi
66 \vspace{\abstitleskip}%
67 \fi
68 \put@bsintoc%
69 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
70 {\par\end{@bstr@ctlist}}%\vfil\null%\endtitlepage
71 }
```

---

```

72 \else
73 \renewenvironment{abstract}{%
74 \if@bsrunin
75 \else
76 \if@bsstyle
77 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
78 \else
79 \ifnumber@bs
80 \num@bs
81 \else
82 \begin{\absnamepos}%
83 \abstractnamefont\BlockClassSingle{abstracttitle}{\abstractname}%
84 \end{\absnamepos}%
85 %% \vspace{\abstitleskip}%
86 \fi
87 \fi
88 \vspace{\abstitleskip}%
89 \fi
90 \put@bsintoc%
91 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
92 {\par\end{@bstr@ctlist}}
93 \fi
94 }% not memoir

```

---

#### File 8 **l warp-academicons.sty**

### § 116 Package **academicons**

*(Emulates or patches code by DIOGO A. B. FERNANDES.)*

Pkg **academicons** **academicons** is patched for use by **l warp**.

If `\aiicon` is used, the name of the icon is used in the `alt` tag. Otherwise, for each of the individual icon macros, a generic `alt` tag is used.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{academicons}[2018/06/27]`

```

2 \LetLtxMacro{\LWR@orig@symbol}{\symbol}
3
4 \let\LWR@academicons@orig@AI\AI
5
6 \newcommand*{\LWR@academicons@symbol}[1]{%
7 \begin{lateximage}*[academicon][academicons#1]%
8 \begingroup%
9 \LWR@academicons@orig@AI%
10 \LWR@orig@symbol{#1}%
11 \endgroup%
12 \end{lateximage}%
13 }
14
15 \renewcommand*{\AI}{%
16 \LetLtxMacro{\symbol}{\LWR@academicons@symbol}%
17 }

```

```

18
19 \renewcommand*\{\aiicon}[1]
20 {%
21 \begin{lateximage}*{[#1 icon][academicons#1]%
22 \AI\csname aiicon@#1\endcsname%
23 \end{lateximage}%
24 }

```

**File 9 lwarp-accents.sty**
**§ 117 Package accents**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg accents accents is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{accents}[2006/05/12]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{accents}
4
5 \CustomizeMathJax{\newcommand{\ring}[1]{\mathring{#1}}}
6 \CustomizeMathJax{\newcommand{\accentset}[2]{\overset{#1}{#2}}}

```

As of this writing, MATHJAX v3 does not yet support groups for macros, so for \underaccent, the originals are remembered here, then they are temporarily redefined and used inside \underaccent, then restored to their originals. \LARGE gives a reasonable size, and \raise is used to adjust vertically without introducing extra line space.

```

7 \CustomizeMathJax{\let\LWRgrave\grave}
8 \CustomizeMathJax{\let\LWRacute\acute}
9 \CustomizeMathJax{\let\LWRcheck\check}
10 \CustomizeMathJax{\let\LWRbreve\breve}
11 \CustomizeMathJax{\let\LWRbar\bar}
12 \CustomizeMathJax{\let\LWRhat\hat}
13 \CustomizeMathJax{\let\LWRdot\dot}
14 \CustomizeMathJax{\let\LWRtilde\tilde}
15 \CustomizeMathJax{\let\LWRddot\ddot}
16 \CustomizeMathJax{\let\LWRvec\vec}
17 \CustomizeMathJax{\let\LWRwidetilde\widetilde}
18
19 \CustomizeMathJax{\newcommand{\underaccent}[2]{%
20 {%
21 \renewcommand{\grave}[1]{\{\LARGE\LWRgrave{\##1}\}}%
22 \renewcommand{\acute}[1]{\{\LARGE\LWRacute{\##1}\}}%
23 \renewcommand{\check}[1]{\{\LARGE\LWRcheck{\##1}\}}%
24 \renewcommand{\breve}[1]{\{\LARGE\LWRbreve{\##1}\}}%
25 \renewcommand{\bar}[1]{\{\LARGE\LWRbar{\##1}\}}%
26 \renewcommand{\hat}[1]{\{\LARGE\LWRhat{\##1}\}}%
27 \renewcommand{\dot}[1]{\{\LARGE\LWRdot{\##1}\}}%

```

---

```

28 \renewcommand{\tilde}[1]{{\LARGE\textnormal{\LWRtilde}{##1}}}
29 \renewcommand{\ddot}[1]{{\LARGE\textnormal{\LWRddot}{##1}}}
30 \renewcommand{\vec}[1]{{\LARGE\textnormal{\LWRvec}{##1}}}
31 \renewcommand{\widetilde}[1]{{\LARGE\textnormal{\LWRwidetilde}{##2}}}
32 \underset{\raise 2pt {#1}}{_{#2}}
33 \let\grave{\LWRgrave}
34 \let\acute{\LWRacute}
35 \let\check{\LWRcheck}
36 \let\breve{\LWRbreve}
37 \let\bar{\LWRbar}
38 \let\hat{\LWRhat}
39 \let\dot{\LWRdot}
40 \let\tilde{\LWRtilde}
41 \let\ddot{\LWRddot}
42 \let\vec{\LWRvec}
43 \let\widetilde{\LWRwidetilde}
44 }
45 }
46
47 \CustomizeMathJax{\newcommand{\undertilde}[1]{%
48 \underset{\raise 3pt {\widetilde{}}}{_{#1}}}
49 }
50 \end{warpMathJax}

```

---

File 10 **l warp-accessibility.sty**

§ 118 Package **accessibility**

Pkg **accessibility** **accessibility** is emulated.

**for HTML output:** Discard all options for **l warp-accessibility**:

```

1 \LWR@ProvidesPackageDrop{accessibility}[2019/10/14]

2 \newcommand{\alt}[1]{\ThisAltText{#1}}
3 \newcommand{\newhref}[3]{\ThisAltText{#2}\LWR@href{#1}{#3}}
4 \providecommand{\thead}[1]{\textbf{#1}}

```

For MATHJAX:

```

5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\alt}[1]{}}
7 \CustomizeMathJax{\newcommand{\thead}[1]{\text{\textbf{#1}}}}
8 \end{warpMathJax}

```

---

File 11 **l warp-accsupp.sty**

§ 119 Package **accsupp**

Pkg **accsupp** **accsupp** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{accsupp}[2018/03/28]

```
2 \newcommand*{\BeginAccSupp}[1]{}
3 \newcommand*{\EndAccSupp}[1]{}
```

For MATHJAX:

```
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\BeginAccSupp}[1]{}}
6 \CustomizeMathJax{\newcommand{\EndAccSupp}[1]{}}
7 \end{warpMathJax}
```

---

## File 12 **lwarp-acro.sty**

### § 120 Package **acro**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg acro acro is patched for use by lwarp.

⚠ formats Define acronymn formats using \textbf instead of \bfseries etc.

**for HTML output:** 1 \LWR@ProvidesPackagePass{acro}[2019/10/12]

\DeclareAcronym is used in the preamble, where lwarp has not yet made the dollar active, so temporarily enable lwarp math catcode just for this definition:

```
2 \ExplSyntaxOn
3 \NewDocumentCommand \LWR@DeclareAcronym {mm}
4 {
5 \acro_declare_acronym:nn {#1} {#2}
6 \catcode`\$=3% lwarp
7 }
8 \ExplSyntaxOff
9
10 \RenewDocumentCommand{\DeclareAcronym}{}{
11 \catcode`\$=\active% lwarp
12 \LWR@DeclareAcronym
13 }
```

Replace dot fill with simple dots:

```
14 \ExplSyntaxOn
15 \cs_new_protected:Npn \LWR@HTML@acro_dot_fill: {\dots\space}
16 \LWR@formatted{acro_dot_fill:}
17 \ExplSyntaxOff
```

Modified to activate the current font:

```
18 \ExplSyntaxOn
19 \@ifpackagelater{acro}{2020/04/29}%
20 {}% v3 or later
```

```
21 {%
22 % before v3
23 % if package later{acro}{2019/09/23}%
24 % v2.10 or later
25 \cs_gset_protected:Npn __acro_typeset:nn #1#2
26 {
27 \mode_if_horizontal:F { \leavevmode }
28 \group_begin:
29 \use:x
30 {
31 \bool_if:cTF {\l__acro_custom_#1_format_bool}
32 { \exp_not:v {\l__acro_custom_#1_format_tl} }
33 { \exp_not:v {\l__acro_#1_format_tl} }
34 { \exp_not:N\lWR@textcurrentfont{#2}}% lwarp
35 }
36 \group_end:
37 }
38 \cs_gset_protected:Npn __acro-ending_format:nn #1#2
39 {
40 \bool_if:NTF \l__acro_include_endings_format_bool
41 {
42 \str_case:nn {#1}
43 {
44 {long}
45 {
46 \bool_if:NTF \l__acro_custom_long_format_bool
47 { \l__acro_custom_long_format_tl }
48 {
49 \bool_if:NTF \l__acro_first_instance_bool
50 { \l__acro_first_long_format_tl }
51 { \l__acro_long_format_tl }
52 }
53 }
54 {short}
55 {
56 \bool_if:NTF \l__acro_custom_short_format_bool
57 { \l__acro_custom_short_format_tl }
58 { \l__acro_short_format_tl }
59 }
60 {alt}
61 {
62 \bool_if:NTF \l__acro_custom_alt_format_bool
63 { \l__acro_custom_alt_format_tl }
64 { \l__acro_alt_format_tl }
65 }
66 }
67 }
68 { \use:n }
69 { \exp_not:N\lWR@textcurrentfont{#2}}% lwarp
70 }
71 }% v2.10 or later
72 {%
73 % before v2.10
74 \cs_gset_protected:Npn \acro_write_short:nn #1#2
75 {
76 \mode_if_horizontal:F { \leavevmode }
```

```

76 \group_begin:
77 \bool_if:NTF \l_acro_custom_format_bool
78 { \l_acro_custom_format_tl }
79 { \l_acro_short_format_tl }
80 {\LWR@textcurrentfont{#2}}% lwarf
81 \group_end:
82 }
83
84 \cs_gset_protected:Npn \acro_write_alt:nn #1#2
85 {
86 \mode_if_horizontal:F { \leavevmode }
87 \group_begin:
88 \bool_if:NTF \l_acro_custom_format_bool
89 { \l_acro_custom_format_tl }
90 { \l_acro_alt_format_tl }
91 {\LWR@textcurrentfont{#2}}% lwarf
92 \group_end:
93 }
94
95 \cs_gset_protected:Npn \acro_write_long:nn #1#2
96 {
97 \mode_if_horizontal:F { \leavevmode }
98 \group_begin:
99 \bool_if:NTF \l_acro_custom_long_format_bool
100 { \l_acro_custom_long_format_tl }
101 { \use:n }
102 {
103 \use:x
104 {
105 \exp_not:n {#1}
106 {
107 \bool_if:NTF \l_acro_first_upper_bool
108 { \exp_not:N __acro_first_upper_case:n { \exp_not:n {
109 \LWR@textcurrentfont{#2}}% lwarf
110 } } }
111 { \exp_not:n { \LWR@textcurrentfont{#2} } }% lwarf
112 }
113 }
114 }
115 \group_end:
116 }
117 }% before v2.10
118 }% before v3
119 \ExplSyntaxOff

```

---

File 13 **lwarf-acronym.sty**

§ 121 Package **acronym**

(Emulates or patches code by TOBIAS OETIKER.)

Pkg acronym acronym is patched for use by lwarf.

⚠ multiply-defined labels \acresetall does not work with cleverref, causing multiply-defined labels. lwarf patches

acronym for HTML, but not for print mode.

**for HTML output:** 1 \LWR@ProvidesPackagePass{acronym}[2015/03/21]

Uses \textit instead of \itshape:

```
2 \renewcommand{\acfia}[1]{%
3 {\textit{\AC@acl{#1}}}} (\ifAC@starred\acs*{#1}\else\acs{#1}\fi)}
```

Removes the mbox to allow math inside:

```
4 \renewcommand*\AC@acs[1]{%
5 % \mbox{%
6 \expandafter\AC@get\csname fn@\#1\endcsname\@firstoftwo{#1}%
7 } }
```

Fix for acronym labels in the captions of floats.

```
8 \renewcommand{@starttoc}[1]{%
9 \LWR@htmlelementclass{nav}{#1}
10 \LetLtxMacro{\verridelabel}{\gobble}
11 \LWR@orig@starttoc{#1}
12 \LWR@htmlelementclassend{nav}{#1}
13 }
```

Modified for **cleveref** and **l warp**:

```
14 \renewcommand*\AC@und@newl@bel[3]{%
15 \@ifundefined{#1@#3}{%
16 {%
17 \global\expandafter\let\csname#2@#3\endcsname\@nnil
18 \global\expandafter\let\csname#2@#3@l warp\endcsname\@nnil% l warp
19 \global\expandafter\let\csname#2@#3@cref\endcsname\@nnil% l warp
20 }%
21 {%
22 \global\expandafter\let\csname#1@#3\endcsname\relax
23 \global\expandafter\let\csname#1@#3@l warp\endcsname\relax% l warp
24 \global\expandafter\let\csname#1@#3@cref\endcsname\relax% l warp
25 }%
26 }%
```

#### File 14 **l warp-adjmulticol.sty**

## § 122 Package **adjmulticol**

(Emulates or patches code by BORIS VEYTSMAN.)

Pkg adjmulticol adjmulticol is emulated.

Emulation similar to **multicols** is used, with adjusted margins. If the number of columns is specified as 1, it is set so, but if two or greater are used, **l warp** allows a variable number of columns up to three.

---

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{adjmulticol}[2012/01/20]

2 \RequirePackage{multicol}

adjmultcols * {\langle numcols \rangle} {\langle left margin \rangle} {\langle right margin \rangle}

3 \NewDocumentEnvironment{adjmultcols}{s m m m}
4 {%

```

Compute the margins, and limit to positive only:

```

5 \setlength{\LWR@templengthone}{#3}%
6 \ifdimcomp{\LWR@templengthone}{<}{0pt}{\setlength{\LWR@templengthone}{0pt}}{}%
7 \setlength{\LWR@templengthtwo}{#4}%
8 \ifdimcomp{\LWR@templengthtwo}{<}{0pt}{\setlength{\LWR@templengthtwo}{0pt}}{}%

```

If one column is specified, use a <div> of class `singlecolumn`, else use `multicols`:

```

9 \newcommand*{\LWR@mcolstype}{multicols}%
10 \ifnumcomp{#2}{=}{1}{\renewcommand*{\LWR@mcolstype}{singlecolumn}}{}%

```

Help avoid page overflow:

```
11 \LWR@forcenewpage%
```

Create the <div> with the given margin and class:

```

12 \BlockClass[%
13 \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
14 \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}%
15]{\LWR@mcolstype}%
16 }
17 {\endBlockClass}

```

---

### File 15 lwarp-addlines.sty

§ 123      Package **addlines**

(Emulates or patches code by WILL ROBERTSON.)

Pkg `addlines` `addlines` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{addlines}[2018/12/05]

2 \newcommand\addlines{@ifstar\addlines@a\addlines@a}
3 \newcommand\addlines@a[1][1]{}
4 \let\addline\addlines
5 \newcommand\removelines{@ifstar\removelines@a\removelines@a}
6 \newcommand\removelines@a[1][1]{}
7 \let\removeline\removelines
8 \newcommand\squeezepage[1][0]{}

```

---

**File 16 l warp-afterpage.sty****§ 124 Package afterpage**

(Emulates or patches code by DAVID CARLISLE.)

Pkg afterpage afterpage is emulated.

for HTML output: Discard all options for l warp-afterpage:

```
1 \LWR@ProvidesPackageDrop{afterpage}[2014/10/28]
2 \newcommand{\afterpage}[1]{#1}
```

---

**File 17 l warp-algorithm2e.sty****§ 125 Package algorithm2e**

(Emulates or patches code by CHRISTOPHE FIORIO.)

Pkg algorithm2e algorithm2e is patched for use by l warp.

For print output, captions are placed according to package options, but for HTML output captions are placed where used. Therefore, to have captions appear at the top of the algorithms for both print and HTML, place each captions at the top of each algorithm.

for HTML output: 1 \LWR@ProvidesPackagePass{algorithm2e}[2017/07/18]

For the list-of entries:

```
2 \renewcommand{\l@algocf}[2]{\hypertocfloat{1}{\algocf}{\loa}{#1}{#2}}
```

Select the l warp float style according to the algorithm2e style:

```
3 \newcommand*{\LWR@floatstyle@algocf}{ruled}
4
5 \ifdefstring{\algocf@style}{boxed}{%
6 \renewcommand*{\LWR@floatstyle@algocf}{boxed}
7 }{%
8
9 \ifdefstring{\algocf@style}{boxruled}{%
10 \renewcommand*{\LWR@floatstyle@algocf}{boxruled}
11 }{%
12
13 \ifdefstring{\algocf@style}{plain}{%
14 \renewcommand*{\LWR@floatstyle@algocf}{plain}
15 }{}}
```

Paragraph handling to allow line numbers under certain conditions:

```

16 \newbool{LWR@algocf@dopars}
17 \booltrue{LWR@algocf@dopars}
18
19 \renewcommand{\algocf@everypar}{%
20 \ifbool{LWR@algocf@dopars}{%
21 \ifbool{LWR@doingstartpars}{%
22 \ifnumcomp{\value{LWR@lateximagedepth}}{0}{%
23 }{%
24 {%
25 \algocf@everyparnl\algocf@everyparhanging%
26 }{%
27 }{%
28 }{%
29 }

```

lwarp caption handling:

```

30 \renewcommand{\algocf@makecaption}[2]{%
31 \LWR@HTML@caption@begin{\algocf}%
32 \LWR@isolate{\algocf@captiontext{\#1}{\#2}}%
33 \LWR@HTML@caption@end%
34 }

```

Print any caption where it is declared:

```

35 \renewcommand{\algocf@makecaption@plain}[2]{%
36 \LWR@HTML@caption@begin{\algocf}%
37 \LWR@isolate{\algocf@captiontext{\#1}{\#2}}%
38 \LWR@HTML@caption@end%
39 }
40
41 \renewcommand{\algocf@makecaption@boxed}[2]{%
42 \LWR@HTML@caption@begin{\algocf}%
43 \LWR@isolate{\algocf@captiontext{\#1}{\#2}}%
44 \LWR@HTML@caption@end%
45 }
46
47 \renewcommand{\algocf@makecaption@ruled}[2]{%
48 \LWR@HTML@caption@begin{\algocf}%
49 \LWR@isolate{\algocf@captiontext{\#1}{\#2}}%
50 \LWR@HTML@caption@end%
51 }

```

Turn off line numbering while making the caption:

```

52 \long\def\algocf@latexcaption#1[#2]#3{%
53 \boolfalse{LWR@algocf@dopars}%
54 \par%
55 \addcontentsline{\csname ext@\#1\endcsname}{\#1}%
56 {\protect\numberline{\csname the\#1\endcsname}{\ignorespaces \LWR@isolate{\#2}}}%
57 \begingroup%
58 \parboxrestore%
59 \if@minipage%

```

```

60 \setminipage%
61 \fi%
62 \normalsize%
63 \makecaption{\csname fnum@\#1\endcsname}{\ignorespaces #3}\par%
64 \endgroup%
65 \booltrue{LWR@algocf@dopars}%
66 }%

```

Line numbers are printed in a <span> of class alg2elinenumber:

```

67 \renewcommand{\algocf@printnl}[1]{%
68 \InlineClass{alg2elinumber}{\NlSty{\#1}}{}%
69 }%

```

While initializing an algorithm environment, locally declare the style of a regular figure to be the same as the algorithm style, in case the figure option was used.

```

70 \preto{\algocf@init}{%
71 \edef\LWR@floatstyle@figure{\LWR@floatstyle@algocf}%
72 }%

```

For **lwarp**, the algorithm is not assembled inside a box, since `lateximages` would not work, so the captions are printed where declared.

```

73 \renewcommand{@algocf@start}{%
74 \let{@mathsemicolon}=; \def{;}{\ifmmode\mathsemicolon\else\endalgoln\fi}%
75 % \raggedright%
76 \AlFnt{}%
77 \booltrue{LWR@algocf@dopars}%
78 }%
79
80 \renewcommand{@algocf@finish}{%
81 \boolfalse{LWR@algocf@dopars}%
82 \lineskip\normalineskip\setlength{\skiptotal}{\defaultskiptotal}%
83 \let{;}{\mathsemicolon}%
84 \let{]}{\mathdisplay}%
85 }%

```

Use an `HTML` break:

```

86 \renewcommand{\BlankLine}{%
87 \LWR@stoppars%
88 \LWR@htmlltagc{br /}%
89 \LWR@startpars%
90 }%

```

Simplified for `HTML`. The paragraph handling must be preserved.

```

91 \renewcommand{\SetKwInOut}[2]{%
92 \algocf@newcommand{#1}[1]{%
93 \ifthenelse{\boolean{algocf@hanginginout}}{%
94 \relax}%
95 {\algocf@seteveryparhanging{\relax}}%
96 \ifthenelse{\boolean{algocf@inoutnumbered}}{%
97 \relax}%

```

```

98 {\algocf@seteveryparnl{\relax}}%
99 {%
100 \KwSty{#2\algocf@typo:}%
101 ~##1\par%
102 }%
103 \algocf@linesnumbered% reset the numbering of the lines
104 \ifthenelse{\boolean{\algocf@hanginginout}}{%
105 {\relax}%
106 {\algocf@reseteveryparhanging}%
107 }%
108 }%
109
110 \renewcommand{\ResetInOut}[1]{}

```

Each of the following creates a <div> of a given class, and turns off line numbering while creating the <div> tags:

```

111 \renewcommand{\algocf@Vline}[1]{%
112 \boolfalse{LWR@algocf@dopars}%
113 \begin{BlockClass}{alg2evline}%
114 \booltrue{LWR@algocf@dopars}%
115 #1%
116 \boolfalse{LWR@algocf@dopars}%
117 \end{BlockClass}%
118 \booltrue{LWR@algocf@dopars}%
119 }

120 \renewcommand{\algocf@Vsline}[1]{%
121 \boolfalse{LWR@algocf@dopars}%
122 \begin{BlockClass}{alg2evsline}%
123 \booltrue{LWR@algocf@dopars}%
124 #1%
125 \boolfalse{LWR@algocf@dopars}%
126 \end{BlockClass}%
127 \booltrue{LWR@algocf@dopars}%
128 }

129 \renewcommand{\algocf@Noline}[1]{%
130 \boolfalse{LWR@algocf@dopars}%
131 \begin{BlockClass}{alg2enoline}%
132 \booltrue{LWR@algocf@dopars}%
133 #1%
134 \boolfalse{LWR@algocf@dopars}%
135 \end{BlockClass}%
136 \booltrue{LWR@algocf@dopars}%
137 }

```

The [H] environment is converted to a regular float, which in HTML is placed where declared. Reusing the regular float allows the [H] version to reuse the ruled and boxed options.

```

138 \LetLtxMacro{\algocf@Here}{\algocf}
139 \LetLtxMacro{\endalgocf@Here}{\endalgocf}

```

---

**File 18 l warp-algorithmicx.sty****§ 126 Package algorithmicx**

(Emulates or patches code by SzÁSZ JÁNOS.)

Pkg algorithmicx algorithmicx is supported with minor adjustments.

for HTML output: 1 \LWR@ProvidesPackagePass{algorithmicx}[2005/04/27]

Inside the algorithmic environment, level indenting is converted to a <span> of the required length, and comments are placed inside a <span> which is floated right.

⚠ package conflicts If using `\newfloat`, `\trivfloat`, and/or `algorithmicx` together, see section 621.1.

```
2 \AtBeginEnvironment{algorithmic}{%
3 %
4 \let\origALG@doentity\ALG@doentity%
5 %
6 \renewcommand*\ALG@doentity{%
7 \origALG@doentity%
8 \LWR@htmltagc{%
9 span style=\textquotedbl{}%
10 width:\LWR@printlength{\ALG@thistlm}; display:inline-block;%
11 \textquotedbl%
12 }%
13 \ifbool{FormatWP}{%
14 \setlength{\LWR@templengthone}{\the\ALG@thistlm}%
15 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
16 \quad%
17 \addtolength{\LWR@templengthone}{-1em}%
18 }%
19 }{ }%
20 \LWR@htmltagc{/span}%
21 }%
22 %
23 \let\LWR@origComment\Comment%
24 %
25 \renewcommand{\Comment}[1]{%
26 \InlineClass{floatright}{\LWR@origComment{#1}}%
27 }%
28 %
29 %
30 \renewcommand\algorithmiccomment[1]{%
31 \hfill\HTMLunicode{25B7} #1% white right triangle
32 }%
```

---

**File 19 l warp-alltt.sty**

§ 127      Package **alltt**

*(Emulates or patches code by JOHANNES BRAAMS.)*

Pkg **alltt** **alltt** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{alltt}[1997/06/16]

```

2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching alltt.}
4
5 \AtBeginEnvironment{alltt}{%
6 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
7 {}%
8 {}%
9 \LWR@forcenewpage

```

Vertical spacing changes if inside a list.

```

10 \LWR@atbeginverbatim{alltt}%
11 }%
12 }
13
14 \AfterEndEnvironment{alltt}{%
15 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
16 {}%
17 {}%

```

Vertical spacing changes if inside a list.

```

18 \LWR@afterendverbatim%
19 }%
20 }
21
22 }

```

File 20 **l warp-amscdx.sty**

§ 128      Package **amscdx**

*(Emulates or patches code by MARTIN VERMEER.)*

Pkg **amscdx** **amscdx** is used as-is for SVG math.

**⚠ MATHJAX** For MATHJAX, a warning notes that the CD environment must be enclosed between **\displaymathother** and **\displaymathnormal**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{amscdx}[2019/07/02]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \renewenvironment{CD}

```

---

```

5 {\text{(Use \unicode{x005C}displaymathother before the CD enviroment.) \quad}}
6 {\quad \text{(Use \unicode{x005C}displaymathnormal after the CD enviroment.)}}
7 }
8
9 \CustomizeMathJax{\newcommand{\CDfattrue}{}}
10 \CustomizeMathJax{\newcommand{\CDfatfalse}{}}
11 \CustomizeMathJax{\newcommand{\CDashtrue}{}}
12 \CustomizeMathJax{\newcommand{\CDashfalse}{}}
13 \CustomizeMathJax{\newcommand{\CDlor}[1]{}}
14 \end{warpMathJax}

```

---

File 21 **l warp-amsmath.sty**

§ 129 Package **amsmath**

(Emulates or patches code by AMERICAN MATHEMATICAL SOCIETY, L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)

Pkg amsmath amsmath is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{amsmath}[2017/09/02]

\dotso An HTML text-mode version.

```

2 \newcommand*{\LWR@HTML@dotso}{\textellipsis\ }
3 \LWR@formatted{dotso}

```

Patches to allow \eqref inside a caption:

```

4 \def\maketag@@#1{\text{\#1}}
5 \def\tagform@#1{\maketag@@{\ignorespaces#1\unskip}}

```

Patches for *AMS* math \tag macro to remember the first tag:

```

6 \ifbool{mathjax}{}{\% not mathjax
7
8 \LetLtxMacro{\LWR@origmake@df@tag@@}{\make@df@tag@@}
9 \LetLtxMacro{\LWR@origmake@df@tag@@@}{\make@df@tag@@@}
10
11 \renewcommand*{\make@df@tag@@}[1]{%
12 \LWR@remembertag{\#1}%
13 \LWR@origmake@df@tag@@{\#1}%
14 }
15
16 \renewcommand*{\make@df@tag@@@}[1]{%
17 \LWR@remembertag{\#1}%
18 \LWR@origmake@df@tag@@{\#1}%
19 }
20
21 }% not mathjax

```

For nesting *AMS* environments:

```
22 \newcounter{LWR@amsmathdepth}
23 \setcounter{LWR@amsmathdepth}{0}
```

The following  $\mathcal{M}\mathcal{S}$  environments are patched in-place:

```
\LWR@amsmathenv@@before * {<environment name>}
* if the environment was starred.
```

Embeds the environment inside a `lateximage`.

```
24 \NewDocumentCommand{\LWR@amsmathenv@@before}{s m}{%
25 \IfBooleanTF{#1}{%
26 \begin{BlockClass}{displaymath}
27 }{%
28 \begin{BlockClass}{displaymathnumbered}
29 }
30 \LWR@newautoidanchor%
31 \booltrue{LWR@indisplaymathimage}%
32 \begin{lateximage}[\LWR@amsmathbodynumbered{#2}]*
33 \LWR@applyxfakebold%
34 }
```

```
\LWR@amsmathenv@@before * {<environment name>}
* if the environment was starred.
```

Embeds the environment with `MATHJAX` or a `lateximage`.

```
35 \NewDocumentCommand{\LWR@amsmathenv@before}{s m}{%
36 \ifnumequal{\value{LWR@amsmathdepth}}{0}{%
37 \LWR@stoppars%
38 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }{%
39 {
40 \LWR@syncmathjax
41 \boolfalse{LWR@amsmultiline}
42 \ifstrequal{#2}{multiline}{\booltrue{LWR@amsmultiline}}{}
43 \ifstrequal{#2}{multiline*}{\booltrue{LWR@amsmultiline}}{}}
44 }%
```

⚠ `autonum`'s “+” environments are not supported by `MATHJAX`.

```
44 \LWR@beginhideamsmath
45 }
46 {
47 \IfBooleanTF{#1}{%
48 \LWR@amsmathenv@@before*{#2}
49 }{%
50 \LWR@amsmathenv@@before{#2}
51 }
52 }
53 }{%
54 \addtocounter{LWR@amsmathdepth}{1}
55 }
```

```
\LWR@amsmathenv@@after
```

Embeds the environment inside a `lateximage`.

```
56 \newcommand*{\LWR@amsmathenv@@after}{%
```

```

57 \end{lateximage}\end{BlockClass}\LWR@startpars%
58 }

\LWR@amsmathenv@after * {\langle environment name \rangle}
* if the environment was starred. Ignored here, only used for a consistent syntax.
Embeds the environment with MATHJAX or a lateximage.

59 \NewDocumentCommand{\LWR@amsmathenv@after}{s m}{%
60 \ifnumequal{\value{\LWR@amsmathdepth}}{1}{%
61 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }{%
62 {%
63 \LWR@endhideamsmath
64 \boolfalse{\LWR@amsmultiline}
65 \LWR@addmathjax{#2}{\the\@envbody}
66 }%
67 {\LWR@amsmathenv@after}%
68 }%
69 }%
70 \addtocounter{\LWR@amsmathdepth}{-1}%
71 }

```

Clear the single-use alt text:

```

68 \gdef\LWR@ThisAltText{}%
69 {}%
70 \addtocounter{\LWR@amsmathdepth}{-1}%
71 }

```

Env **multline**

```

72 \BeforeBeginEnvironment{multline}{\LWR@amsmathenv@before{multline}}
73
74 \AfterEndEnvironment{multline}{\LWR@amsmathenv@after{multline}}

```

Env **multline\***

```

75 \BeforeBeginEnvironment{multline*}{\LWR@amsmathenv@before*{multline*}}
76
77 \AfterEndEnvironment{multline*}{\LWR@amsmathenv@after*{multline*}}
78

```

Env **gather**

```

79 \BeforeBeginEnvironment{gather}{\LWR@amsmathenv@before{gather}}
80
81 \AfterEndEnvironment{gather}{\LWR@amsmathenv@after{gather}}

```

Env **gather\***

```

82 \BeforeBeginEnvironment{gather*}{\LWR@amsmathenv@before*{gather*}}
83
84 \AfterEndEnvironment{gather*}{\LWR@amsmathenv@after*{gather*}}

```

Env **align**

```

85 \BeforeBeginEnvironment{align}{\LWR@amsmathenv@before{align}}

```

```

86
87 \AfterEndEnvironment{align}{\LWR@amsmathenv@after{align}}
```

Env align\*

```

88 \BeforeBeginEnvironment{align*}{\LWR@amsmathenv@before*{align*}}
89
90 \AfterEndEnvironment{align*}{\LWR@amsmathenv@after*{align*}}
```

Env flalign

```

91 \BeforeBeginEnvironment{flalign}{\LWR@amsmathenv@before{flalign}}
92
93 \AfterEndEnvironment{flalign}{\LWR@amsmathenv@after{flalign}}
```

Env flalign\*

```

94 \BeforeBeginEnvironment{flalign*}{\LWR@amsmathenv@before*{flalign*}}
95
96 \AfterEndEnvironment{flalign*}{\LWR@amsmathenv@after*{flalign*}}
```

Env alignat

```

97 \BeforeBeginEnvironment{alignat}{\LWR@amsmathenv@before{alignat}}
98
99 \AfterEndEnvironment{alignat}{\LWR@amsmathenv@after{alignat}}
```

Env alignat\*

```

100 \BeforeBeginEnvironment{alignat*}{\LWR@amsmathenv@before*{alignat*}}
101
102 \AfterEndEnvironment{alignat*}{\LWR@amsmathenv@after*{alignat*}}
```

```

103 \AtBeginEnvironment{subequations}{
104 \renewcommand*{\theMathJaxsubequations}{1}
105 \renewcommand*{\theMathJaxsection}{\theparentequation}
106 \renewcommand*{\theMathJaxequation}{\arabic{equation}}
107 }
```

For MATHJAX:

```

108 \begin{warpMathJax}
109 \CustomizeMathJax{\newcommand{\intertext}[1]{\text{\#1}\notag \\}}
110 \CustomizeMathJax{\let\Hat\hat}
111 \CustomizeMathJax{\let\Check\check}
112 \CustomizeMathJax{\let\Tilde\tilde}
113 \CustomizeMathJax{\let\Acute\acute}
114 \CustomizeMathJax{\let\Grave\grave}
115 \CustomizeMathJax{\let\Dot\dot}
116 \CustomizeMathJax{\let\Ddot\ddot}
117 \CustomizeMathJax{\let\Breve\breve}
```

---

```

118 \CustomizeMathJax{\let\Bar\bar}
119 \CustomizeMathJax{\let\Vec\vec}
120 \end{warpMathJax}
```

---

File 22 **l warp-amsthm.sty**

§ 130 Package **amsthm**

*(Emulates or patches code by PUBLICATIONS TECHNICAL GROUP – AMERICAN MATHEMATICAL SOCIETY.)*

The original source code is located in `amsclass.dtx`, and printed in `amsclass.pdf`.

Pkg `amsthm` `amsthm` is patched for use by `l warp`.

---

Table 17: `amsthm` package – css styling of theorems and proofs

**Theorem:** <div> of class `amsthmbody<theoremstyle>`

**Theorem Name:** <span> of class `amsthmname<theoremstyle>`

**Theorem Number:** <span> of class `amsthmnumber<theoremstyle>`

**Theorem Note:** <span> of class `amsthmnote<theoremstyle>`

**Proof:** <div> of class `amsthmproof`

**Proof Name:** <span> of class `amsthmproofname`

where <theoremstyle> is plain, definition, etc.

---

**for HTML output:** `amsthm` must be loaded before `mdframed`:

```

1 \@ifpackageloaded{mdframed}{
2 \PackageError{l warp}
3 {%
4 Package mdframed must be loaded after package amsthm.\MessageBreak
5 Enter 'H' for solutions%
6 }
7 {%
8 Move “\protect\usepackage{amsthm}” before
9 “\protect\usepackage{mdframed}”.\MessageBreak
10 Package amsthm may be loaded by something else,\MessageBreak
11 which must also be moved before mdframed.%
12 }
13 }
14 {\relax}
```

Necessary for `\text`, used by `\openbox`, etc., below:

```

15 \RequirePackage{amsmath}

16 \LWR@ProvidesPackagePass{amsthm}[2017/10/31]
```

Storage for the style being used for new theorems:

```
17 \newcommand{\LWR@newtheoremstyle}{plain}
```

Patched to remember the style being used for new theorems:

```
18 \renewcommand{\theoremstyle}[1]{%
19 \@ifundefined{th@#1}{%
20 \PackageWarning{amsthm}{Unknown theoremstyle '#1'}%
21 \thm@style{plain}%
22 \renewcommand{\LWR@newtheoremstyle}{plain}\% l warp
23 }{%
24 \thm@style{#1}%
25 \renewcommand{\LWR@newtheoremstyle}{#1}\% l warp
26 }%
27 }
```

Patched to remember the style for this theorem type:

```
28 \def\xnithm#1#2{%
29 \csedef{\LWR@thmstyle#2}{\LWR@newtheoremstyle}\% l warp
30 \let@tempa\relax
31 \exp@ifdefinable\csname #2\endcsname{%
32 \global\exp@let\csname end#2\endcsname\@endtheorem
33 \ifx *#1 unnumbered, need to get one more mandatory arg
34 \edef@\tempa##1{%
35 \gdef@\xp\@nx\csname#2\endcsname{%
36 \@nx\@thm{\@xp\@nx\csname th@\the\thm@style\endcsname}%
37 {}{##1}}%
38 \else % numbered theorem, need to check for optional arg
39 \def@\tempa{\@oparg{\ynithm{#2}}[]}\%
40 \fi
41 \AtBeginEnvironment{#2}{%
42 \edef\LWR@thisthmstyle{\@nameuse{\LWR@thmstyle#2}}%
43 }%
44 }%
45 \atempa%
46 }
```

Patched to enclose with css:

```
47 \newcommand{\LWR@haveamsthmname}{%
48 \renewcommand{\thmname}[1]{%
49 \InlineClass{amsthmname}\LWR@thisthmstyle{##1}\%
50 }%
51 }
52
53 \newcommand{\LWR@haveamsthmnumber}{%
54 \renewcommand{\thmnumber}[1]{%
55 \InlineClass{amsthmnumber}\LWR@thisthmstyle{##1}\%
56 }%
57 }
58
59 \newcommand{\LWR@haveamsthmnote}{%
60 \renewcommand{\thmnote}[1]{%
```

```

61 \InlineClass{amsthmnote\LWR@thisthmstyle}{##1}%
62 }
63 }
64
65 \LWR@haveamsthmname
66 \LWR@haveamsthmnumber
67 \LWR@haveamsthmnote

```

Patched for css:

```

68 \def\@begintheorem#1#2[#3]{%
69 \GetTitleString{#3}% lwarp
70 \let\@currentlabelname\GetTitleStringResult% lwarp
71 \item[% lwarp
72 \LWR@newautopagelabel{page}%
73 % \deferred@thm@head{ lwarp
74 % \the\thm@headfont \thm@indent lwarp
75 % \@ifempty{#1}{\let\thmname\@gobble}{\LWR@haveamsthmname}% lwarp
76 % \@ifempty{#2}{\let\thmnumber\@gobble}{\LWR@haveamsthmnumber}% lwarp
77 % \@ifempty{#3}{\let\thmnote\@gobble}{\LWR@haveamsthmnote}% lwarp
78 % \thm@swap\swappedhead\thmhead{#1}{#2}{#3}%
79 % \the\thm@headpunct % space
80 % \thmheadnl % possibly a newline.
81 % \hskip\thm@headsep
82 % }%
83]%
84 \ignorespaces}

```

Patched for css:

```

85 \def\@thm#1#2#3{%
86 \ifhmode\unskip\unskip\par\fi
87 \normalfont
88 \LWR@forcenewpage% lwarp
89 \LWR@printpendingfootnotes% lwarp
90 \BlockClass{amsthmbody\LWR@thisthmstyle}{}% lwarp

```

Footnotes are redefined to work correctly inside the option brackets for a theorem environment.

```

91 \renewcommand{\footnote}[1][]{%
92 \ifblank{##1}%
93 {%
94 \stepcounter{\mpfn}
95 \protected@xdef\@thefnmark{\thempfn}%
96 \footnotemark\footnotetext
97 }%
98 {%

```

```

99 \begingroup
100 \csname c@\@mpfn\endcsname ##1\relax
101 \unrestored@protected@xdef\@thefnmark{\thempfn}%
102 \endgroup
103 \@footnotemark\@footnotetext
104 }%
105 }%
106 %
107 \renewcommand{\footnotemark}[1][]{%
108 \ifblank{##1}{%
109 {%
110 \stepcounter{footnote}%
111 \protected@xdef\@thefnmark{\the\footnote}%
112 \@footnotemark%
113 }%
114 }%
115 \begingroup%
116 \c@footnote ##1\relax%
117 \unrestored@protected@xdef\@thefnmark{\the\footnote}%
118 \endgroup%
119 \@footnotemark%
120 }%
121 }%
122 %
123 \trivlist
124 \let\thmheadnl\relax
125 \let\thm@swap\@gobble
126 \thm@notefont{\fontseries\mddefault\upshape}%
127 \thm@headpunct{.}% add period after heading
128 \thm@headsep 5\p@ plus\p@ minus\p@\relax
129 \thm@space@setup
130 #1% style overrides
131 \topsep \thm@preskip % used by thm head
132 \topsepadd \thm@postskip % used by \@endparenv
133 \def\@tempa{#2}\ifx\@empty\@tempa
134 \def\@tempa{\@oparg{\@begintheorem{#3}{}}[]}\%
135 \else
136 \refstepcounter{#2}%
137 \def\@tempa{\@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]}\%
138 \fi
139 \@tempa%
140 }

```

**cleveref** patches `\@thm` to do `\cref@thmoptarg` if an optional argument is given. **lwarp** then patches `\cref@thmoptarg` `\AtBeginDocument`.

```

141 \AtBeginDocument{%
142 \def\cref@thmoptarg[#1]#2#3#4{%
143 \ifhmode\unskip\unskip\par\fi%
144 \normalfont%
145 \LWR@forcenewpage% lwarp
146 \LWR@printpendingfootnotes% lwarp
147 \BlockClass{amsthmbody}\LWR@thisthmstyle}%

```

```

148 \trivlist%
149 \let\thmheadnl\relax%
150 \let\thm@swap\@gobble%
151 \thm@notefont{\fontseries\mddefault\upshape}%
152 \thm@headpunct{.}% add period after heading
153 \thm@headsep 5\p@ plus\p@ minus\p@\relax%
154 \thm@space@setup%
155 #2% style overrides
156 \topsep \thm@preskip % used by thm head
157 \topsepadd \thm@postskip % used by \@endparenv
158 \def\@tempa{\#3}\ifx\@empty\@tempa%
159 \def\@tempa{\oparg{\begin{theorem}{}}[]}\%
160 \else%
161 \refstepcounter[#1]{#3} << cleveref modification
162 \def\@tempa{\oparg{\begin{theorem}{}}{\csname the#3\endcsname}[]}\%
163 \fi%
164 \@tempa
165 }%
166 }% AtBeginDocument
167
168 \def\@endtheorem{%
169 \endtrivlist%
170 \LWR@printpendingfootnotes% lwarp
171 \endBlockClass%
172 \endpefalse%
173 }

```

Proof QED symbol:

```

174 \AtBeginDocument{
175 \@ifundefined{LWR@orig@openbox}%
176 \LetLtxMacro{\LWR@orig@openbox}{\openbox}
177 \LetLtxMacro{\LWR@orig@blacksquare}{\blacksquare}
178 \LetLtxMacro{\LWR@orig@Box}{\Box}
179
180 \def\openbox{\text{\HTMLunicode{25A1}}} UTF-8 white box
181 \def\blacksquare{\text{\HTMLunicode{220E}}} UTF-8 end-of-proof
182 \def\Box{\text{\HTMLunicode{25A1}}} UTF-8 white box
183
184 \appto{\LWR@restoreorigformatting}{%
185 \LetLtxMacro{\openbox}{\LWR@orig@openbox}%
186 \LetLtxMacro{\blacksquare}{\LWR@orig@blacksquare}%
187 \LetLtxMacro{\Box}{\LWR@orig@Box}%
188 }% appto
189 }% }% \@ifundefined
190 }% AtBeginDocument

```

Patched for css:

```

191 \renewenvironment{proof}[1][\proofname]{\par
192 \LWR@forcenewpage% lwarp

```

---

```

193 \LWR@printpendingfootnotes% lwarp
194 \BlockClass{amsthmproof}%
195 \LWR@newautopagelabel{page}%
196 \pushQED{\qed}%
197 \normalfont \topsep6\p@ \@plus6\p@\relax
198 \trivlist
199 \item[
200 \InlineClass{amsthmproofname}{\#1\@addpunct{.}}]\ignorespaces% changes
201 }%
202 \InlineClass{theoremendmark}{\popQED}\endtrivlist%
203
204 \LWR@printpendingfootnotes% lwarp
205 \endBlockClass% lwarp
206 \endeffalse
206 }

```

---

File 23 **lwarp-anonchap.sty**

§ 131 Package **anonchap**

*(Emulates or patches code by PETER WILSON.)*

Pkg **anonchap** **anonchap** is emulated.

Pkg **tocloft** If using **tocloft** with **tocbibind**, **anonchap**, **fncychap**, or other packages which change chapter title formatting, load **tocloft** with its **titles** option, which tells **tocloft** to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

⚠ **tocloft & other packages**

The code is shared by **tocbibind**.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{anonchap}[2009/08/03]

2 \newcommand{\simplechapter}[1][\@empty]{%
3 \def\@chapcntformat##1{%
4 #1\csname the##1\endcsname\simplechapterdelim\quad%
5 }%
6 }
7
8 \newcommand{\restorechapter}{%
9 \let\@chapcntformat\@secCntFormat%
10 }

```

---

File 24 **lwarp-any size.sty**

§ 132 Package **any size**

*(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)*

Pkg anysize anysize is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{anysize}[1994/08/13]
2 \def\papersize#1#2{}
3 \def\marginsize#1#2#3#4{}
```

---

File 25 **l warp-appendix.sty**

§ 133 Package **appendix**

(Emulates or patches code by PETER WILSON.)

Pkg appendix appendix is patched for use by l warp.

- ⚠ incorrect toc link During HTML conversion, the option toc without the option page results in a toc link to whichever section was before the appendices environment. It is recommended to use both toc and also page at the same time.

for HTML output:

```
1 \LWR@ProvidesPackagePass{appendix}[2009/09/02]
2 \renewcommand*\@chap@pppage}{%
3 \part*\{appendixpagename}
4 \if@dotoc@pp
5 \addappheadtotoc
6 \fi
7 }
8
9 \renewcommand*\@sec@pppage}{%
10 \part*\{appendixpagename}
11 \if@dotoc@pp
12 \addappheadtotoc
13 \fi
14 }
```

---

File 26 **l warp-ar.sty**

§ 134 Package **ar**

(Emulates or patches code by AGOSTINO DE MARCO.)

Pkg ar ar is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{ar}[2012/01/23]
```

Measure and print the width of the supplied glyph.

```
2 \newlength{\LWR@ar@width}
3
4 \newcommand*\LWR@ar@printwidth}[1]{%
```

```

5 \setlength{\LWR@ar@width}{\widthof{#1}}%
6 width:%
7 \LWR@convertto{em}{\the\LWR@ar@width}em%
8 }

```

The **HTML** version of **\AR**:

```
9 \newrobustcmd*{\LWR@HTML@AR}{%
```

Start a hashed **lateximage**, additionally hashed by the font series, with a width depending on the given glyph:

```
10 \begin{lateximage}*[\AR][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@AR}]%
```

For text mode, set the font series according to the **HTML** font series:

```
11 \ifmmode\else\csuse{\LWR@orig\LWR@f@series series}\fi%
```

Print the original glyph using the newly set font series:

```
12 \LWR@print@AR%
```

Done.

```
13 \end{lateximage}%
14 }
```

Combine the print and **HTML** versions:

```
15 \LWR@formatted{AR}
```

```

16 \newrobustcmd*{\LWR@HTML@ARb}{%
17 \begin{lateximage}*[\AR][b][\LWR@ar@printwidth{\LWR@print@ARb}]%
18 \LWR@print@ARb%
19 \end{lateximage}%
20 }
21 \LWR@formatted{ARb}

22 \newrobustcmd*{\LWR@HTML@ARss}{%
23 \begin{lateximage}*[\ARss][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@ARss}]%
24 \ifmmode\else\csuse{\LWR@orig\LWR@f@series series}\fi%
25 \LWR@print@ARss%
26 \end{lateximage}%
27 }
28 \LWR@formatted{ARss}

29 \newrobustcmd*{\LWR@HTML@ARssb}{%
30 \begin{lateximage}*[\AR][ssb][\LWR@ar@printwidth{\LWR@print@ARssb}]%
31 \LWR@print@ARssb%
32 \end{lateximage}%
33 }
34 \LWR@formatted{ARssb}

35 \newrobustcmd*{\LWR@HTML@ARTt}{%

```

---

```

36 \begin{[tex]}*{AR}[tt]{\LWR@ar@printwidth{\LWR@print@ARtt}}%
37 \LWR@print@ARtt%
38 \end{[tex]}%
39 }%
40 \LWR@formatted{ARtt}

```

For MATHJAX:

```

41 \begin{warpMathJax}%
42 \CustomizeMathJax{\newcommand{\AR}{\mathit{A}\!\!R}}%
43 \CustomizeMathJax{\newcommand{\ARB}{\boldsymbol{A}\!\!R}}%
44 \end{warpMathJax}

```

---

### File 27 **l warp-arabicfront.sty**

#### § 135 Package **arabicfront**

Pkg **arabicfront** **arabicfront** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{arabicfront}[2006/09/03]

---

### File 28 **l warp-array.sty**

#### § 136 Package **array**

Pkg **array** **array** is used as-is for print output, and emulated for HTML.

**plarray** and **plexarray** do not affect **\firsthline** or **\lasthline**, and so are not affected by the following.

**for HTML output:** Remove the default nullified macros:

```

1 \let\firsthline\relax
2 \let\lasthline\relax
3
4 \LWR@ProvidesPackagePass{array}[2018/12/30]

5 \newcommand*{\LWR@HTML@firsthline}{\LWR@HTMLhline}%
6 \LWR@expandableformatted{firsthline}
7
8 \newcommand*{\LWR@HTML@lasthline}{\LWR@HTMLhline}%
9 \LWR@expandableformatted{lasthline}

10 \providecommand*{\LWR@HTML@tabularnewline}{\LWR@tabularendofline}
11 \LWR@formatted{tabularnewline}

```

For MATHJAX:

```

12 \CustomizeMathJax{
13 \newcommand{\multicolumn}[3]{#3}% only uses one cell
14 }

```

---

File 29 **l warp-arydshln.sty**

§ 137 Package **arydshln**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

Pkg **arydshln** **arydshln** heavily patches tabular code, so the actual package is not used. **arydshln** is emulated for **HTML tabular**, and reverts to solid rules for **SVG math array** and **tabular** in a **lateXimage**.

**css** is not able to display a double-dashed border, so a single-dashed rule is displayed as a single-dashed border, and a double-dashed rule is displayed as a thicker single-dashed border.

For **MATHJAX**, limited emulation is provided for math mode.

**for HTML output:** **array** is required to allow **\newcolumn** below.

```

1 \RequirePackage{array}

2 \LWR@ProvidesPackageDrop{arydshln}[2018/09/26]
```

Ignored, but included for source compatibility:

```

3 \newdimen\dashlinedash \dashlinedash4pt %
4 \newdimen\dashlinegap \dashlinegap4pt %
5 \let\hdashlinewidth\dashlinedash
6 \let\hdashlinegap\dashlinegap
7
8 \def\ADLnullwide{}
9 \def\ADLsomewide{}
10 \def\ADLnullwidehline{}
11 \def\ADLsomewidehline{}
12
13 \def\ADLactivate{}
14 \def\ADLinactivate{}
15 \newcommand*{\ADLdrawingmode}[1]{}
16 \newcommand*{\ADLnoshorthanded}{}
17 \newcommand*{\dashgapcolor}[2][]{}
18 \newcommand*{\nodashgapcolor}{}%
```

In a **lateXimage**, revert to solid vertical rules:

```

19 \appto{\LWR@restoreorigformatting}{%
20 \newcolumntype{:}{|}{|}%
21 \newcolumntype{;}{;[1]{|}}{|
22 \LetLtxMacro{\hdashline}{\hline}%
23 }
```

Some of these macros are already defined as temporary placeholders in the **lwarp** core, so they must be redefined here.

The emulated defaults also work for an emulated print mode inside a `\teximage`:

```

24 \def\hdashline{
25 % \adl@hdashline\adl@ihdashline
26 \adl@hdashline\adl@inactivehdl
27 }
28 \def\adl@hdashline#1{\noalign{\ifnum0='}\fi
29 % \ifadl@zwhrule \vskip-\arrayrulewidth
30 % \else
31 % \adl@hline\adl@connect\arrayrulewidth
32 % \hrule \height \arrayrulewidth% lwarp
33 % \fi
34 % \@ifnextchar[%]
35 % {#1}%
36 % {#1[%}
37 % \dashlinedash/\dashlinegap
38 % 1pt/1pt
39 %]{}}
40 % \def\adl@ihdashline[#1/#2]{\ifnum0='{\fi}%
41 % \multispan{\adl@columns}\unskip \adl@hcline\z@[#1/#2]%
42 % \noalign{\ifnum0='}\fi
43 % \futurelet@tempa\adl@xhline}
44 \def\adl@inactivehdl[#1/#2]{%
45 % \ifadl@zwhrule \vskip-\arrayrulewidth \fi
46 % \hrule\height\arrayrulewidth
47 % \futurelet@tempa\adl@xhline}
48 \def\adl@xhline{\ifx@tempa\hline \adl@ixhline\fi
49 % \ifx@tempa\hdashline \adl@ixhline\fi
50 % \ifnum0='{\fi}}
51 \def\adl@ixhline{\vskip\doublerulesep \adl@hline\relax\doublerulesep}
52 \def\adl@hline#1#2{%
53 % \@tempcnta#2
54 % \global\advance\adl@totalheight\@tempcnta
55 % \xdef\adl@rowsL{\adl@rowsL
56 % (#1/\number\@tempcnta);}%
57 % \xdef\adl@rowsR{\adl@rowsR
58 % (#1/\number\@tempcnta);}
59 }
60
61 \def\cdashline#1{\noalign{\ifnum0='}\fi
62 % \@ifnextchar[%]
63 % {\adl@cdline[#1]}%
64 % {\adl@cdline[#1][\dashlinedash/\dashlinegap]}
65 % {\adl@inactivecdl[#1]}%
66 % {\adl@inactivecdl[#1][\dashlinedash/\dashlinegap]}}
67 }
68
69 \def\adl@inactivecdl[#1-#2][#3]{\ifnum0='{\fi}\cline{#1-#2}}
70 \begin{warpMathJax}
71 \CustomizeMathJax{\newcommand{\firstdashline}[1][]{\hdashline}}
72 \CustomizeMathJax{\let\lastdashline\firstdashline}
73 \CustomizeMathJax{\let\cdashline\cline}
74 \end{warpMathJax}
```

---

**File 30 l warp-asymptote.sty****§ 138 Package asymptote**

(Emulates or patches code by ANDY HAMMERLINDL, JOHN BOWMAN, TOM PRINCE.)

Pkg asymptote asymptote is patched for use by l warp.

To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{asymptote}[2016/11/26]

2 \BeforeBeginEnvironment{asy}{%
3 \begin{lateximage}[-asymptote-\~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{asy}{\end{lateximage}}
6
7 \xpatchcmd{\asyinclude}
8 {\begingroup}
9 {\begin{lateximage}[-asymptote-\~\PackageDiagramAltText]}
10 {}
11 {\LWR@patcherror{asymptote}{asyinclude-begingroup}}
12
13 \xpatchcmd{\asyinclude}
14 {\endgroup}
15 {\end{lateximage}}
16 {}
17 {\LWR@patcherror{asymptote}{asyinclude-endgroup}}}
```

---

**File 31 l warp-atbegshi.sty****§ 139 Package atbegshi**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg atbegshi atbegshi is ignored.

for HTML output: Discard all options for l warp-atbegshi:

```

1 \LWR@ProvidesPackageDrop{atbegshi}[2011/10/05]

2 \let\AtBeginShipout\relax
3 \let\AtBeginShipoutNext\relax
4 \let\AtBeginShipoutFirst\relax
5 \let\AtBeginShipoutDiscard\relax
6 \let\AtBeginShipoutInit\relax
7 \let\AtBeginShipoutAddToBox\relax
8 \let\AtBeginShipoutAddToBoxForeground\relax
9 \let\AtBeginShipoutUpperLeft\relax
10 \let\AtBeginShipoutUpperLeftForeground\relax
11 \let\AtBeginShipoutOriginalShipout\relax
12
13 \newcommand*{\AtBeginShipout}[1]{}
14 \newbox\AtBeginShipoutBox
15 \newcommand*{\AtBeginShipoutNext}[1]{}
16 \newcommand*{\AtBeginShipoutFirst}[1]{}
17 \newcommand*{\AtBeginShipoutDiscard}{}
18 \newcommand*{\AtBeginShipoutInit}{}
19 \newcommand*{\AtBeginShipoutAddToBox}[1]{}
20 \newcommand*{\AtBeginShipoutAddToBoxForeground}[1]{}
21 \newcommand*{\AtBeginShipoutUpperLeft}[1]{}
22 \newcommand*{\AtBeginShipoutUpperLeftForeground}[1]{}
23 \newcommand*{\AtBeginShipoutOriginalShipout}[1]{}
24 \def\AtBeginShipoutBoxWidth{0pt}
25 \def\AtBeginShipoutBoxHeight{0pt}
26 \def\AtBeginShipoutBoxDepth{0pt}
```

### File 32 l warp-attachfile.sty

#### § 140 Package attachfile

(Emulates or patches code by SCOTT PAKIN.)

Pkg attachfile attachfile is patched for use by l warp.



Metadata is ignored for now.

for HTML output: 1 \LWR@ProvidesPackagePass{attachfile}[2016/09/18]

Encloses each icon:

```

2 \newenvironment*{\LWR@attachfile@icon}{}
3 {
4 \begin{lateximage} *%
5 [-attachfile-] %
6 [% %
7 \detokenize\expandafter{\atfi@icon@icon}-%
8 \detokenize\expandafter{\atfi@color@rgb} %
```

```

9]%
10 }
11 {
12 \end{lateximage}
13 }

```

Each icon is enclosed inside a `\LWR@attachfile@icon` environment:

```

14 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
15 \xapptocmd{\atfi@acroGraph}{\end\LWR@attachfile@icon}{}{}
16
17 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
18 \xapptocmd{\atfi@acroPaperclip}{\end\LWR@attachfile@icon}{}{}
19
20 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
21 \xapptocmd{\atfi@acroPushPin}{\end\LWR@attachfile@icon}{}{}
22
23 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
24 \xapptocmd{\atfi@acroTag}{\end\LWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```
25 \DeclareRobustCommand{\atfi@embedfile}[1]{}{}
```

The displayed output for an `\attachfile` reference:

```

26 \newcommand*{\LWR@attachfile@appearance}{}%
27
28 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
29 \def\LWR@attachfile@appearance{\#1}%
30 }

```

A file annotation becomes a reference:

```

31 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
32 \LWR@href{\#1}{\LWR@attachfile@appearance}%
33 }

```

### File 33 lwarf-attachfile2.sty

## § 141 Package **attachfile2**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg `attachfile2` `attachfile2` is patched for use by `lwarf`.

 Metadata is ignored for now.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{attachfile2}[2016/05/16]`

Adds memory of the selected color:

```

2 \def\LWR@attachfiletwo@color{}%
3
4 \define@key{AtFi}{color}{%
5 \def\LWR@attachfiletwo@color{\#1}%
6 \HyColor@AttachfileColor{\#1}%
7 \atfi@color@tex\atfi@color@inline\atfi@color@annot
8 {attachfile2}{color}%
9 }

```

Encloses each icon:

```

10 \newenvironment*{\LWR@attachfile@icon}{%
11 {
12 \begin{lateximage}%
13 [-attachfile-]%
14 [%]
15 \detokenize\expandafter{\atfi@icon@icon}-%
16 \detokenize\expandafter{\LWR@attachfiletwo@color}%
17]%
18 }
19 {
20 \end{lateximage}
21 }

```

Each icon is enclosed inside a `\LWR@attachfile@icon` environment:

```

22 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{%
23 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{%
24
25 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{%
26 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{%
27
28 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{%
29 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{%
30
31 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{%
32 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{%

```

Disable PDF file embedding:

```
33 \DeclareRobustCommand{\atfi@embedfile}[1]{}
```

The displayed output for an `\attachfile` reference:

```

34 \newcommand*{\LWR@attachfile@appearance}{}%
35
36 \def\atfi@set@appearance@icon{%
37 \atfi@set@appearance{\csname atfi@acro\atfi@icon\endcsname}%
38 }
39
40 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
41 \def\LWR@attachfile@appearance{\#1}%
42 }

```

A file annotation becomes a reference:

```
43 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
44 \LWR@href{\#1}{\LWR@attachfile@appearance}%
45 }
```

Modified for text color:

```
46 \DeclareRobustCommand{\notextattachfile}[2][]{%
47 \begingroup
48 \atfi@setup{\#1}%
49 \ifatfi@print
50 \leavevmode
51 \begingroup
52 \HyColor@UseColor\atfi@color@tex
53 \LWR@textcurrentcolor{\#2}%
54 lwarp
54 \strut
55 \endgroup
56 % \else
57 % \sbox{\ltx@zero{\#2\strut}}%
58 % \makebox[\wd0]{}
59 \fi
60 \endgroup
61 }
```

Modified to draw the icon:

```
62 \DeclareRobustCommand{\noattachfile}[1][]{%
63 \begingroup
64 \atfi@setup{\#1}%
65 \atfi@set@appearance@icon
66 \ifatfi@print
67 \LWR@attachfile@appearance%
68 lwarp
69 % \expandafter
70 % \atfi@refxform\csname atfi@appobj@\atfi@icon@icon\endcsname
71 % \else
72 % \makebox[\atfi@appearancewidth]{}
73 \fi
74 \endgroup
74 }
```

File 34 **lwarp-authblk.sty**

§ 142 Package **authblk**

(Emulates or patches code by PATRICK W. DALY.)

Pkg authblk authblk is patched for HTML.

package support **lwarp** supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages **authblk** and **titling**. If both are used, **authblk** should be loaded before **titling**.

\published and \subtitle If using the **titling** package, additional titlepage fields for \published and \subtitle may

be added by using `\AddSubTitlePublished` in the preamble. See section 69.8.

(Emulates or patches code by PATRICK W. DALY.)

**for HTML output:** Require that `authblk` be loaded before `titling`:

```

1 \@ifpackageloaded{titling}{%
2 \PackageError{l warp-authblk}{%
3 Package authblk must be loaded before titling}%
4 {%
5 Titling appends authblk's author macro,
6 so authblk must be loaded first.%%
7 }%
8 }%
9 {\relax}
```

Load `authblk`:

```
10 \LWR@ProvidesPackagePass{authblk}[2001/02/27]
```

Patch to add a class for the affiliation:

```

11 \LetLtxMacro{\LWRAB@affil}{\affil}
12
13 \renewcommand{\affil}[2][]{
14 \LWRAB@affil[#1]{\protect\InlineClass{affiliation}{#2}}%
15 }
```

Create an HTML break for an `\authorcr`:

```
16 \renewcommand*{\authorcr}{\protect\LWR@newlinebr}
```

### File 35 l warp-autobreak.sty

## § 143 Package **autobreak**

(Emulates or patches code by TAKAHIRO UEDA.)

Pkg `autobreak` `autobreak` is used as-is for SVG math, and nullified for MATHJAX.

**for HTML output:** `1 \LWR@ProvidesPackagePass{autobreak}[2017/02/23]`

For MATHJAX. The modified `align` environment is used for SVG math, but is reverted to its original for MATHJAX. (Extraneous commas were appearing in the result.)

```

2 \begin{warpMathJax}
3 \renewenvironment{autobreak}{\newcommand{\MoveEqLeft}[1]{}{}{}}
4 \let\start@align\@autobreak@\oldstart@align
5 \let\endalign\@autobreak@\oldendalign
6 \CustomizeMathJax{\newenvironment{autobreak}{}{}{}}
7 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1]{}{}{}}
8 \CustomizeMathJax{\newcommand{\everybeforeautobreak}[1]{}{}{}}
9 \CustomizeMathJax{\newcommand{\everyafterautobreak}[1]{}{}{}}
10 \end{warpMathJax}
```

---

**File 36 l warp-autonum.sty****§ 144 Package autonum**

Pkg autonum autonum is ignored.

⚠ numbering All equations are numbered in HTML output.

MATHJAX does not support the “+” environments.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{autonum}[2015/01/18]

```
2 \RequirePackage{amsmath}
3
4
5 \newenvironment{equation+}{\equation}{\endequation}
6
7
8 \newenvironment{gather+}{\gather}{\endgather}
9
10 \BeforeBeginEnvironment{gather+}{\LWR@amsmathenv@@before{gather+}}
11
12 \AfterEndEnvironment{gather+}{\LWR@amsmathenv@@after}
13
14
15 \newenvironment{multline+}{\multline}{\endmultline}
16
17 \BeforeBeginEnvironment{multline+}{\LWR@amsmathenv@@before{multline+}}
18
19 \AfterEndEnvironment{multline+}{\LWR@amsmathenv@@after}
20
21
22 \newenvironment{flalign+}{\flalign}{\endflalign}
23
24 \BeforeBeginEnvironment{flalign+}{\LWR@amsmathenv@@before{flalign+}}
25
26 \AfterEndEnvironment{flalign+}{\LWR@amsmathenv@@after}
27
28
29 \newenvironment{align+}{\align}{\endalign}
30
31 \BeforeBeginEnvironment{align+}{\LWR@amsmathenv@@before{align+}}
32
33 \AfterEndEnvironment{align+}{\LWR@amsmathenv@@after}
34
35
36 \newenvironment{alignat+}{\alignat}{\endalignat}
37
38 \BeforeBeginEnvironment{alignat+}{\LWR@amsmathenv@@before{alignat+}}
39
40 \AfterEndEnvironment{alignat+}{\LWR@amsmathenv@@after}
41
```

```
42
43 \newenvironment{split+}{\split}{\endsplit}
```

---

File 37 **l warp-awesomebox.sty**

§ 145 Package **awesomebox**

(Emulates or patches code by ÉTIENNE DEPARIS.)

Pkg awesomebox awesomebox is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{awesomebox}[2019/07/27]

2 \newcommand*\LWR@awesomebox@boxborders{}%
3 \newcommand*\LWR@awesomebox@contentsborders{}%
4
5 \newcommand*\LWR@awesomebox@ruleborders{}%
6 border-top: 1px solid black ;
7 border-bottom: 1px solid black%
8 }
9
10 \% \awesomebox[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}{7:content}
11 \RenewDocumentCommand \awesomebox { O{abvrulecolor} 0{} o m m m +m }{%
12 \begin{awesomeblock}{#1}{#2}{#3}{#4}{#5}{#6}
13 #7
14 \end{awesomeblock}
15 }
16
17 \% \begin{awesomeblock}[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}
18 \% <contents>
19 \% \end{awesomeblock}
20 \RenewDocumentEnvironment{awesomeblock}{ O{abvrulecolor} 0{} o m m m }
21 {%
22 \LWR@forceminwidth{#4}%
23 \convertcolorspec{named}{#1}{HTML}\LWR@tempcolor%
24 \renewcommand*\LWR@awesomebox@boxborders{}%
25 \renewcommand*\LWR@awesomebox@contentsborders{}%
26 \ifdefstreq{\abShortLine}{#2}{%
27 \renewcommand*\LWR@awesomebox@contentsborders{\LWR@awesomebox@ruleborders}%
28 }{%
29 \ifdefstreq{\abLongLine}{#2}{%
30 \renewcommand*\LWR@awesomebox@boxborders{\LWR@awesomebox@ruleborders}%
31 }{%
32 \begin{BlockClass}[\LWR@awesomebox@boxborders]{awesomebox}
33 \begin{BlockClass}[%]
34 margin-left: 2\% ;
35 vertical-align: top
36]{\minipage}
37 \color{#6}\Huge #5
38 \end{BlockClass}
39 \begin{BlockClass}[%]
40 width:75\% ;
41 vertical-align: top ;
```

---

```

42 padding-left: 1em ;
43 \LWR@awesomebox@contentsborders ;
44 border-left: \LWR@printlength{\LWR@atleastonept} %
45 solid \LWR@origpound\LWR@tempcolor%
46]{minipage}
47 \IfValueTF{#3}{#3\newline}{}
48 }
49 {%
50 \end{BlockClass}
51 \end{BlockClass}
52 }
```

---

File 38 **l warp-axessibility.sty**

§ 146 Package **axessibility**

Pkg axessibility axessibility is ignored.

**for HTML output:**

```

1 \PackageInfo{l warp}{Using the l warp version of package ‘axessibility’.}%
2 \ProvidesPackage{l warp-axessibility}%
3 no date is declared by the original
4 \newif\iftagpdfopt
5
6 \DeclareOption{accsupp}%
7 \tagpdfoptfalse
8 }
9
10 \DeclareOption{tagpdf}%
11 \tagpdfopttrue
12 }
13
14 \ProcessOptions\relax
15
16 \iftagpdfopt
17 \RequirePackage{tagpdf}
18 \else
19 \RequirePackage{accsupp}
20 \fi

21 \long\def\wrap#1{}
22 \long\def\wrapml#1{}
23 \long\def\wrapmlstar#1{}
24 \long\def\wrapmlalt#1{}
```

For MATHJAX. These usually will not be needed.

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\wrap}[1]{}}
27 \CustomizeMathJax{\newcommand{\wrapml}[1]{}}
28 \CustomizeMathJax{\newcommand{\wrapmlstar}[1]{}}
29 \CustomizeMathJax{\newcommand{\wrapmlalt}[1]{}}
30 \end{warpMathJax}
```

---

**File 39 l warp-axodraw2.sty****§ 147 Package axodraw2**

(Emulates or patches code by JOHN C. COLLINS, J.A.M. VERMASEREN.)

Pkg axodraw2 axodraw2 is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{axodraw2}[2018/02/15]

2 \BeforeBeginEnvironment{axopicture}{%
3 \begin{lateximage}[-axopicture-\~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{axopicture}{\end{lateximage}}
```

---

**File 40 l warp-backnaur.sty****§ 148 Package backnaur**

(Emulates or patches code by ADRIAN P. ROBSON.)

Pkg backnaur backnaur is patched for use by l warp, and emulated for MATHJAX.

for HTML output:

```
1 \LWR@ProvidesPackagePass{backnaur}[2019/06/18]

2 \renewenvironment{bnf}{\eqnarray}{\endeqnarray}
3 \renewenvironment{bnf*}{\csuse{eqnarray*}}{\csuse{endeqnarray*}}
```

For MATHJAX:

```
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\bnfpn}[1]{\langle \text{\textrm{#1}} \rangle}}
6 \CustomizeMathJax{\newcommand{\bnfor}{\mid}}
7 \CustomizeMathJax{\newcommand{\bnfsp}{;}}
8 \@ifpackagewith{backnaur}{perp}{
9 \CustomizeMathJax{\newcommand{\bnfes}{\perp}}
10 }{
11 \@ifpackagewith{backnaur}{epsilon}{
12 \CustomizeMathJax{\newcommand{\bnfes}{\epsilon}}
13 }{
14 \CustomizeMathJax{\newcommand{\bnfes}{\lambda}}
15 }
16 }
17 \@ifpackagewith{backnaur}{tsrm}{
18 \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{\#1}}}
19 }{
20 \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{\texttt{\#1}}}}
21 }
```

---

```

22 \CustomizeMathJax{\newcommand{\bnftd}[1]{\text{\textit{#1}}}}
23 \CustomizeMathJax{\newcommand{\bnfsk}{\dots}}
24 \@ifpackagewith{backnaur}{altpo}{%
25 \CustomizeMathJax{\newcommand{\bnfpo}{::=}}%
26 }{%
27 \CustomizeMathJax{\newcommand{\bnfpo}{\models}}%
28 }%
29 \CustomizeMathJax{\newcommand{\bnfprod}{\ifstar{\LWRbnfprodnn}{\LWRbnfprodyn}}}%
30 \CustomizeMathJax{\newcommand{\LWRbnfprodyn}[2]{\bnfpn{#1} & \bnfpo & #2}}%
31 \CustomizeMathJax{\newcommand{\LWRbnfprodnn}[2]{\nonumber \bnfpn{#1} & \bnfpo & #2}}%
32 \CustomizeMathJax{\newcommand{\bnfmore}{\ifstar{\LWRbnfmorenn}{\LWRbnfmoreyn}}}%
33 \CustomizeMathJax{\newcommand{\LWRbnfmoreyn}[1]{ & & #1}}%
34 \CustomizeMathJax{\newcommand{\LWRbnfmorenn}[1]{\nonumber & & #1}}%
35 \end{warpMathJax}

```

---

File 41 **lwarf-backref.sty**

§ 149 Package **backref**

(Emulates or patches code by DAVID CARLISLE AND SEBASTIAN RAHTZ.)

Pkg backref **backref** is patched for use by **lwarf**.

⚠ **loading** Note that **backref** must be explicitly loaded, and is not automatically loaded by **hyperref** when generating HTML output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{backref}[2016/05/21]

Force the **hyperref** option:

```

2 \def\backref{}%
3 %
4 \long\def\hyper@section@backref#1#2#3{%
5 \LWR@refwithsection{#3}%
6 }%
7 %
8 \let\backrefxxx\hyper@section@backref

```

---

File 42 **lwarf-balance.sty**

§ 150 Package **balance**

(Emulates or patches code by PATRICK W. DALY.)

Pkg balance **balance** is ignored.

**for HTML output:** Discard all options for **lwarf-balance**:

```

1 \LWR@ProvidesPackageDrop{balance}[1999/02/23]%
2 \newcommand*\{balance}{}%
3 \newcommand*\nobalance{}%

```

---

**File 43 l warp-bbd ing.sty****§ 151 Package bbd ing***(Emulates or patches code by KAREL HORAK, PETER MØLLER NEERGAARD.)***Pkg bbd ing** bbd ing is patched for use by l warp.**for HTML output:** 1 \LWR@ProvidesPackagePass{bbd ing}[1999/04/15]

```
2 \newcommand*{\LWR@bbdingsymbol}[2]{\HTMLunicode{#2}}
```

```
3
```

```
4 \newcommand{\LWR@HTML@ScissorRightBrokenBottom}{\LWR@bbdingsymbol{000}} {2701}}
```

```
5 \newcommand{\LWR@HTML@ScissorRight}{\LWR@bbdingsymbol{001}} {2702}}
```

```
6 \newcommand{\LWR@HTML@ScissorRightBrokenTop}{\LWR@bbdingsymbol{002}} {2703}}
```

```
7 \newcommand{\LWR@HTML@ScissorLeftBrokenBottom}{\LWR@bbdingsymbol{003}} {2701}}
```

```
8 \newcommand{\LWR@HTML@ScissorLeft}{\LWR@bbdingsymbol{004}} {2702}}
```

```
9 \newcommand{\LWR@HTML@ScissorLeftBrokenTop}{\LWR@bbdingsymbol{005}} {2703}}
```

```
10 \newcommand{\LWR@HTML@ScissorHollowRight}{\LWR@bbdingsymbol{006}} {2704}}
```

```
11 \newcommand{\LWR@HTML@ScissorHollowLeft}{\LWR@bbdingsymbol{007}} {2704}}
```

```
12 \newcommand{\LWR@HTML@Phone}{\LWR@bbdingsymbol{010}} {260E}}
```

```
13 \newcommand{\LWR@HTML@PhoneHandset}{\LWR@bbdingsymbol{011}} {2706}}
```

```
14 \newcommand{\LWR@HTML@Tape}{\LWR@bbdingsymbol{012}} {2707}}
```

```
15 \newcommand{\LWR@HTML@Plane}{\LWR@bbdingsymbol{013}} {2708}}
```

```
16 \newcommand{\LWR@HTML@Envelope}{\LWR@bbdingsymbol{014}} {2709}}
```

```
17 \newcommand{\LWR@HTML@HandCuffRight}{\LWR@bbdingsymbol{015}} {261B}}
```

```
18 \newcommand{\LWR@HTML@HandCuffLeft}{\LWR@bbdingsymbol{016}} {261A}}
```

```
19 \newcommand{\LWR@HTML@HandCuffRightUp}{\LWR@bbdingsymbol{017}} {261D}}
```

```
20 \newcommand{\LWR@HTML@HandCuffLeftUp}{\LWR@bbdingsymbol{020}} {261F}}
```

```
21 \newcommand{\LWR@HTML@HandRight}{\LWR@bbdingsymbol{021}} {261E}}
```

```
22 \newcommand{\LWR@HTML@HandLeft}{\LWR@bbdingsymbol{022}} {261C}}
```

```
23 \newcommand{\LWR@HTML@HandRightUp}{\LWR@bbdingsymbol{023}} {261D}}
```

```
24 \newcommand{\LWR@HTML@HandLeftUp}{\LWR@bbdingsymbol{024}} {261F}}
```

```
25 \newcommand{\LWR@HTML@Peace}{\LWR@bbdingsymbol{025}} {270C}}
```

```
26 \newcommand{\LWR@HTML@HandPencilLeft}{\LWR@bbdingsymbol{026}} {270D}}
```

```
27 \newcommand{\LWR@HTML@PencilRight}{\LWR@bbdingsymbol{027}} {270F}}
```

```
28 \newcommand{\LWR@HTML@PencilLeft}{\LWR@bbdingsymbol{030}} {270F}}
```

```
29 \newcommand{\LWR@HTML@PencilRightUp}{\LWR@bbdingsymbol{031}} {2710}}
```

```
30 \newcommand{\LWR@HTML@PencilLeftUp}{\LWR@bbdingsymbol{032}} {2710}}
```

```
31 \newcommand{\LWR@HTML@PencilRightDown}{\LWR@bbdingsymbol{033}} {270E}}
```

```
32 \newcommand{\LWR@HTML@PencilLeftDown}{\LWR@bbdingsymbol{034}} {270E}}
```

```
33 \newcommand{\LWR@HTML@NibRight}{\LWR@bbdingsymbol{035}} {2711}}
```

```
34 \newcommand{\LWR@HTML@NibLeft}{\LWR@bbdingsymbol{036}} {2711}}
```

```
35 \newcommand{\LWR@HTML@NibSolidRight}{\LWR@bbdingsymbol{037}} {2712}}
```

```
36 \newcommand{\LWR@HTML@NibSolidLeft}{\LWR@bbdingsymbol{040}} {2712}}
```

```
37 \newcommand{\LWR@HTML@Checkmark}{\LWR@bbdingsymbol{041}} {2713}}
```

```
38 \newcommand{\LWR@HTML@CheckmarkBold}{\LWR@bbdingsymbol{042}} {2714}}
```

```
39 \newcommand{\LWR@HTML@XSolid}{\LWR@bbdingsymbol{043}} {2715}}
```

```
40 \newcommand{\LWR@HTML@XSolidBold}{\LWR@bbdingsymbol{044}} {2716}}
```

```
41 \newcommand{\LWR@HTML@XSolidBrush}{\LWR@bbdingsymbol{045}} {2717}}
```

```
42 \newcommand{\LWR@HTML@PlusOutline}{\LWR@bbdingsymbol{046}} {2719}}
```

```
43 \newcommand{\LWR@HTML@Plus}{\LWR@bbdingsymbol{047}} {271A}}
```

```
44 \newcommand{\LWR@HTML@PlusCenterOpen}{\LWR@bbdingsymbol{050}} {271C}}
45 \newcommand{\LWR@HTML@PlusThinCenterOpen}{\LWR@bbdingsymbol{051}} {271B}}
46 \newcommand{\LWR@HTML@Cross}{\LWR@bbdingsymbol{052}} {271D}}
47 \newcommand{\LWR@HTML@CrossOpenShadow}{\LWR@bbdingsymbol{053}} {271E}}
48 \newcommand{\LWR@HTML@CrossOutline}{\LWR@bbdingsymbol{054}} {271F}}
49 \newcommand{\LWR@HTML@CrossBoldOutline}{\LWR@bbdingsymbol{055}} {271F}}
50 \newcommand{\LWR@HTML@CrossMaltese}{\LWR@bbdingsymbol{056}} {2720}}
51 \newcommand{\LWR@HTML@DavidStarSolid}{\LWR@bbdingsymbol{057}} {2721}}
52 \newcommand{\LWR@HTML@DavidStar}{\LWR@bbdingsymbol{060}} {2721}}
53 \newcommand{\LWR@HTML@FourAsterisk}{\LWR@bbdingsymbol{061}} {2722}}
54 \newcommand{\LWR@HTML@JackStar}{\LWR@bbdingsymbol{062}} {2723}}
55 \newcommand{\LWR@HTML@JackStarBold}{\LWR@bbdingsymbol{063}} {2724}}
56 \newcommand{\LWR@HTML@CrossClowerTips}{\LWR@bbdingsymbol{064}} {2725}}
57 \newcommand{\LWR@HTML@FourStar}{\LWR@bbdingsymbol{065}} {2726}}
58 \newcommand{\LWR@HTML@FourStarOpen}{\LWR@bbdingsymbol{066}} {2727}}
59 \newcommand{\LWR@HTML@FiveStarLines}{\LWR@bbdingsymbol{067}} {2729}}
60 \newcommand{\LWR@HTML@FiveStar}{\LWR@bbdingsymbol{070}} {2605}}
61 \newcommand{\LWR@HTML@FiveStarOpen}{\LWR@bbdingsymbol{071}} {2729}}
62 \newcommand{\LWR@HTML@FiveStarOpenCircled}{\LWR@bbdingsymbol{072}} {272A}}
63 \newcommand{\LWR@HTML@FiveStarCenterOpen}{\LWR@bbdingsymbol{073}} {272B}}
64 \newcommand{\LWR@HTML@FiveStarOpenDotted}{\LWR@bbdingsymbol{074}} {272C}}
65 \newcommand{\LWR@HTML@FiveStarOutline}{\LWR@bbdingsymbol{075}} {272D}}
66 \newcommand{\LWR@HTML@FiveStarOutlineHeavy}{\LWR@bbdingsymbol{076}} {272E}}
67 \newcommand{\LWR@HTML@FiveStarConvex}{\LWR@bbdingsymbol{077}} {272F}}
68 \newcommand{\LWR@HTML@FiveStarShadow}{\LWR@bbdingsymbol{100}} {2730}}
69 \newcommand{\LWR@HTML@AsteriskBold}{\LWR@bbdingsymbol{101}} {2731}}
70 \newcommand{\LWR@HTML@AsteriskCenterOpen}{\LWR@bbdingsymbol{102}} {2732}}
71 \newcommand{\LWR@HTML@AsteriskThin}{\LWR@bbdingsymbol{103}} {273B}}
72 \newcommand{\LWR@HTML@AsteriskThinCenterOpen}{\LWR@bbdingsymbol{104}} {273C}}
73 \newcommand{\LWR@HTML@EightStarTaper}{\LWR@bbdingsymbol{105}} {2733}}
74 \newcommand{\LWR@HTML@EightStarConvex}{\LWR@bbdingsymbol{106}} {2735}}
75 \newcommand{\LWR@HTML@SixStar}{\LWR@bbdingsymbol{107}} {2736}}
76 \newcommand{\LWR@HTML@EightStar}{\LWR@bbdingsymbol{110}} {2737}}
77 \newcommand{\LWR@HTML@EightStarBold}{\LWR@bbdingsymbol{111}} {2738}}
78 \newcommand{\LWR@HTML@TwelweStar}{\LWR@bbdingsymbol{112}} {2739}}
79 \newcommand{\LWR@HTML@SixteenStarLight}{\LWR@bbdingsymbol{113}} {273A}}
80 \newcommand{\LWR@HTML@SixFlowerPetalRemoved}{\LWR@bbdingsymbol{114}} {273B}}
81 \newcommand{\LWR@HTML@SixFlowerOpenCenter}{\LWR@bbdingsymbol{115}} {273C}}
82 \newcommand{\LWR@HTML@Asterisk}{\LWR@bbdingsymbol{116}} {273D}}
83 \newcommand{\LWR@HTML@SixFlowerAlternate}{\LWR@bbdingsymbol{117}} {273E}}
84 \newcommand{\LWR@HTML@FiveFlowerPetal}{\LWR@bbdingsymbol{120}} {273F}}
85 \newcommand{\LWR@HTML@SixFlowerPetalDotted}{\LWR@bbdingsymbol{121}} {2740}}
86 \newcommand{\LWR@HTML@FiveFlowerOpen}{\LWR@bbdingsymbol{122}} {2740}}
87 \newcommand{\LWR@HTML@EightFlowerPetal}{\LWR@bbdingsymbol{123}} {2741}}
88 \newcommand{\LWR@HTML@SunshineOpenCircled}{\LWR@bbdingsymbol{124}} {2742}}
89 \newcommand{\LWR@HTML@SixFlowerAltPetal}{\LWR@bbdingsymbol{125}} {2743}}
90 \newcommand{\LWR@HTML@FourClowerOpen}{\LWR@bbdingsymbol{126}} {273F}}
91 \newcommand{\LWR@HTML@FourClowerSolid}{\LWR@bbdingsymbol{127}} {273F}}
92 \newcommand{\LWR@HTML@AsteriskRoundedEnds}{\LWR@bbdingsymbol{130}} {2749}}
93 \newcommand{\LWR@HTML@EightFlowerPetalRemoved}{\LWR@bbdingsymbol{131}} {274A}}
94 \newcommand{\LWR@HTML@EightAsterisk}{\LWR@bbdingsymbol{132}} {274B}}
95 \newcommand{\LWR@HTML@SixFlowerRemovedOpenPetal}{\LWR@bbdingsymbol{133}} {2740}}
96 \newcommand{\LWR@HTML@SparkleBold}{\LWR@bbdingsymbol{134}} {2748}}
97 \newcommand{\LWR@HTML@Sparkle}{\LWR@bbdingsymbol{135}} {2747}}
98 \newcommand{\LWR@HTML@SnowflakeChevron}{\LWR@bbdingsymbol{136}} {2744}}
```

```
99 \newcommand{\LWR@HTML@SnowflakeChevronBold}{\LWR@bbdingsymbol{137}} {2746}}
100 \newcommand{\LWR@HTML@Snowflake}{\LWR@bbdingsymbol{140}} {2744}
101 \newcommand{\LWR@HTML@CircleSolid}{\LWR@bbdingsymbol{141}} {25CF}
102 \newcommand{\LWR@HTML@Ellipse}{\LWR@bbdingsymbol{142}} {274D}
103 \newcommand{\LWR@HTML@EllipseSolid}{\LWR@bbdingsymbol{143}} {25CF}
104 \newcommand{\LWR@HTML@CircleShadow}{\LWR@bbdingsymbol{144}} {274D}
105 \newcommand{\LWR@HTML@EllipseShadow}{\LWR@bbdingsymbol{145}} {274D}
106 \newcommand{\LWR@HTML@Square}{\LWR@bbdingsymbol{146}} {25A1}
107 \newcommand{\LWR@HTML@SquareSolid}{\LWR@bbdingsymbol{147}} {25A0}
108 \newcommand{\LWR@HTML@SquareShadowBottomRight}{\LWR@bbdingsymbol{150}} {2751}
109 \newcommand{\LWR@HTML@SquareShadowTopRight}{\LWR@bbdingsymbol{151}} {2752}
110 \newcommand{\LWR@HTML@SquareShadowTopLeft}{\LWR@bbdingsymbol{152}} {2752}
111 \newcommand{\LWR@HTML@SquareCastShadowBottomRight}{\LWR@bbdingsymbol{153}} {2751}
112 \newcommand{\LWR@HTML@SquareCastShadowTopRight}{\LWR@bbdingsymbol{154}} {2752}
113 \newcommand{\LWR@HTML@SquareCastShadowTopLeft}{\LWR@bbdingsymbol{155}} {2752}
114 \newcommand{\LWR@HTML@TriangleUp}{\LWR@bbdingsymbol{156}} {25B2}
115 \newcommand{\LWR@HTML@TriangleDown}{\LWR@bbdingsymbol{157}} {25BC}
116 \newcommand{\LWR@HTML@DiamondSolid}{\LWR@bbdingsymbol{160}} {25C6}
117 \newcommand{\LWR@HTML@OrnamentDiamondSolid}{\LWR@bbdingsymbol{161}} {2756}
118 \newcommand{\LWR@HTML@HalfCircleRight}{\LWR@bbdingsymbol{162}} {25D7}
119 \newcommand{\LWR@HTML@HalfCircleLeft}{\LWR@bbdingsymbol{163}} {25D6}
120 \newcommand{\LWR@HTML@RectangleThin}{\LWR@bbdingsymbol{164}} {2758}
121 \newcommand{\LWR@HTML@Rectangle}{\LWR@bbdingsymbol{165}} {2759}
122 \newcommand{\LWR@HTML@RectangleBold}{\LWR@bbdingsymbol{166}} {275A}
123 \newcommand{\LWR@HTML@ArrowBoldRightStrobe}{\LWR@bbdingsymbol{167}} {27A0}
124 \newcommand{\LWR@HTML@ArrowBoldUpRight}{\LWR@bbdingsymbol{170}} {27A6}
125 \newcommand{\LWR@HTML@ArrowBoldDownRight}{\LWR@bbdingsymbol{171}} {27A5}
126 \newcommand{\LWR@HTML@ArrowBoldRightShort}{\LWR@bbdingsymbol{172}} {27A7}
127 \newcommand{\LWR@HTML@ArrowBoldRightCircled}{\LWR@bbdingsymbol{173}} {27B2}
128
129
130 \LWR@formatted{ScissorRightBrokenBottom}
131 \LWR@formatted{ScissorRight}
132 \LWR@formatted{ScissorRightBrokenTop}
133 \LWR@formatted{ScissorLeftBrokenBottom}
134 \LWR@formatted{ScissorLeft}
135 \LWR@formatted{ScissorLeftBrokenTop}
136 \LWR@formatted{ScissorHollowRight}
137 \LWR@formatted{ScissorHollowLeft}
138 \LWR@formatted{Phone}
139 \LWR@formatted{PhoneHandset}
140 \LWR@formatted{Tape}
141 \LWR@formatted{Plane}
142 \LWR@formatted{Envelope}
143 \LWR@formatted{HandCuffRight}
144 \LWR@formatted{HandCuffLeft}
145 \LWR@formatted{HandCuffRightUp}
146 \LWR@formatted{HandCuffLeftUp}
147 \LWR@formatted{HandRight}
148 \LWR@formatted{HandLeft}
149 \LWR@formatted{HandRightUp}
150 \LWR@formatted{HandLeftUp}
151 \LWR@formatted{Peace}
152 \LWR@formatted{HandPencilLeft}
153 \LWR@formatted{PencilRight}
```

```
154 \LWR@formatted{PencilLeft}
155 \LWR@formatted{PencilRightUp}
156 \LWR@formatted{PencilLeftUp}
157 \LWR@formatted{PencilRightDown}
158 \LWR@formatted{PencilLeftDown}
159 \LWR@formatted{NibRight}
160 \LWR@formatted{NibLeft}
161 \LWR@formatted{NibSolidRight}
162 \LWR@formatted{NibSolidLeft}
163 \LWR@formatted{Checkmark}
164 \LWR@formatted{CheckmarkBold}
165 \LWR@formatted{XSolid}
166 \LWR@formatted{XSolidBold}
167 \LWR@formatted{XSolidBrush}
168 \LWR@formatted{PlusOutline}
169 \LWR@formatted{Plus}
170 \LWR@formatted{PlusCenterOpen}
171 \LWR@formatted{PlusThinCenterOpen}
172 \LWR@formatted{Cross}
173 \LWR@formatted{CrossOpenShadow}
174 \LWR@formatted{CrossOutline}
175 \LWR@formatted{CrossBoldOutline}
176 \LWR@formatted{CrossMaltese}
177 \LWR@formatted{DavidStarSolid}
178 \LWR@formatted{DavidStar}
179 \LWR@formatted{FourAsterisk}
180 \LWR@formatted{JackStar}
181 \LWR@formatted{JackStarBold}
182 \LWR@formatted{CrossClowerTips}
183 \LWR@formatted{FourStar}
184 \LWR@formatted{FourStarOpen}
185 \LWR@formatted{FiveStarLines}
186 \LWR@formatted{FiveStar}
187 \LWR@formatted{FiveStarOpen}
188 \LWR@formatted{FiveStarOpenCircled}
189 \LWR@formatted{FiveStarCenterOpen}
190 \LWR@formatted{FiveStarOpenDotted}
191 \LWR@formatted{FiveStarOutline}
192 \LWR@formatted{FiveStarOutlineHeavy}
193 \LWR@formatted{FiveStarConvex}
194 \LWR@formatted{FiveStarShadow}
195 \LWR@formatted{AsteriskBold}
196 \LWR@formatted{AsteriskCenterOpen}
197 \LWR@formatted{AsteriskThin}
198 \LWR@formatted{AsteriskThinCenterOpen}
199 \LWR@formatted{EightStarTaper}
200 \LWR@formatted{EightStarConvex}
201 \LWR@formatted{SixStar}
202 \LWR@formatted{EightStar}
203 \LWR@formatted{EightStarBold}
204 \LWR@formatted{TwelweStar}
205 \LWR@formatted{SixteenStarLight}
206 \LWR@formatted{SixFlowerPetalRemoved}
207 \LWR@formatted{SixFlowerOpenCenter}
208 \LWR@formatted{Asterisk}
```

```
209 \LWR@formatted{SixFlowerAlternate}
210 \LWR@formatted{FiveFlowerPetal}
211 \LWR@formatted{SixFlowerPetalDotted}
212 \LWR@formatted{FiveFlowerOpen}
213 \LWR@formatted{EightFlowerPetal}
214 \LWR@formatted{SunshineOpenCircled}
215 \LWR@formatted{SixFlowerAltPetal}
216 \LWR@formatted{FourFlowerOpen}
217 \LWR@formatted{FourFlowerSolid}
218 \LWR@formatted{AsteriskRoundedEnds}
219 \LWR@formatted{EightFlowerPetalRemoved}
220 \LWR@formatted{EightAsterisk}
221 \LWR@formatted{SixFlowerRemovedOpenPetal}
222 \LWR@formatted{SparkleBold}
223 \LWR@formatted{Sparkle}
224 \LWR@formatted{SnowflakeChevron}
225 \LWR@formatted{SnowflakeChevronBold}
226 \LWR@formatted{Snowflake}
227 \LWR@formatted{CircleSolid}
228 \LWR@formatted{Ellipse}
229 \LWR@formatted{EllipseSolid}
230 \LWR@formatted{CircleShadow}
231 \LWR@formatted{EllipseShadow}
232 \LWR@formatted{Square}
233 \LWR@formatted{SquareSolid}
234 \LWR@formatted{SquareShadowBottomRight}
235 \LWR@formatted{SquareShadowTopRight}
236 \LWR@formatted{SquareShadowTopLeft}
237 \LWR@formatted{SquareCastShadowBottomRight}
238 \LWR@formatted{SquareCastShadowTopRight}
239 \LWR@formatted{SquareCastShadowTopLeft}
240 \LWR@formatted{TriangleUp}
241 \LWR@formatted{TriangleDown}
242 \LWR@formatted{DiamondSolid}
243 \LWR@formatted{OrnamentDiamondSolid}
244 \LWR@formatted{HalfCircleRight}
245 \LWR@formatted{HalfCircleLeft}
246 \LWR@formatted{RectangleThin}
247 \LWR@formatted{Rectangle}
248 \LWR@formatted{RectangleBold}
249 \LWR@formatted{ArrowBoldRightStrobe}
250 \LWR@formatted{ArrowBoldUpRight}
251 \LWR@formatted{ArrowBoldDownRight}
252 \LWR@formatted{ArrowBoldRightShort}
253 \LWR@formatted{ArrowBoldRightCircled}
```

---

File 44 **lwarf-biblatex.sty**

§ 152 Package **biblatex**

(Emulates or patches code by PHILIPP LEHMAN.)

Pkg biblatex When **biblatex** is used, modifications from **newfloat** may have to be undone.

**for HTML output:**

1. `lwarp` uses `newfloat`.
2. For classes with chapters which `newfloat` does not know about, such as C<sub>T</sub>E<sub>X</sub>-related classes, `newfloat` may modify `\addtocontents`.
3. `biblatex`, though, wants to patch `\addtocontents`, which causes an error if `\addtocontents` has been changed.
4. Therefore, `\addtocontents` is restored to its original here, since `biblatex` is about to be loaded.
5. This means that the `newfloat`'s `chapterlistsgaps` option may no longer work.

```

1 \ifdef{\newfloat@addtocontents@ORI}{
2 \let\addtocontents\newfloat@addtocontents@ORI
3 }{}
```

`hyperref` emulation is loaded `\AtBeginDocument` to avoid an options clash.

```

4 \AtBeginDocument{\RequirePackage{hyperref}}
5
6 \LWR@ProvidesPackagePass{biblatex}[2018/03/04]
```

The following create hyperlinks to the references. The original code to use `hyperref` is recreated here, because `hyperref` is emulated.

```

7 \AfterPreamble{
8
9 \let\blx@anchors@\empty
10 \protected\def\blx@anchor{%
11 \xifinlist{\the\c@refsection @\abx@field@entrykey}{\blx@anchors}
12 {}
13 {\listxadd\blx@anchors{\the\c@refsection @\abx@field@entrykey}%
14 \hypertarget{cite.\the\c@refsection @\abx@field@entrykey}{}}
15 }
16 \protected\def\blx@imc@bibhyperref{%
17 \@ifnextchar[%]
18 {\blx@bibhyperref}
19 {\blx@bibhyperref[\abx@field@entrykey]}%
20 }
21 \long\def\blx@bibhyperref[#1]#2{%
22 % \blx@sfsave
23 % \hyperlink{cite.\the\c@refsection @#1}{%
24 % \blx@sfrst
25 % #2%
26 % \blx@sfsave
27 % }%
28 % \blx@sfrst%
29 }% \def\blx@nohyperref[#1]#2{#2}%
30
31 \protected\long\def\blx@imc@bibhyperlink#1#2{%
32 % \blx@sfsave
33 % \hyperlink{cite.\the\c@refsection:#1}{%
34 % \blx@sfrst
35 % }%
```

```

36 % \blx@sfsave
37 }%
38 % \blx@sfrst%
39 }%
40
41 \protected\long\def\blx@imc@bibhypertarget#1#2{%
42 % \blx@sfsave%
43 % \hypertarget{cite.\the\c@refsection:#1}{%
44 % \blx@sfrst%
45 % #2%
46 % \blx@sfsave%
47 }%
48 % \blx@sfrst%
49 }
50
51 \let\blx@imc@ifhyperref@\firstoftwo

```

Ensure that an autopage reference is current where each \cite is used, although this is nullified inside footnotes since they now use a L<sup>A</sup>T<sub>E</sub>X box.

```

52 \xpretocmd{\blx@citecmdinit}
53 {\LWR@newautopagelabel{page}}%
54 {}
55 {\LWR@patcherror{biblatex}{\blx@citecmdinit}}

```

Ensure that an autopage reference is current for each backref. If the citation is in a footnote, the backref will point to whatever preceeded the footnotes.

```

56 \xpatchcmd{\blx@addbackref@i}
57 {\thepage}
58 {\the\LWR@previousautopagelabel}% ref to the most recent object
59 {}
60 {\LWR@patcherror{biblatex}{\blx@addbackref@i A}}
61
62 \xpatchcmd{\blx@addbackref@i}
63 {\c@page}
64 {\c@LWR@previousautopagelabel}% ref to the most recent object
65 {}
66 {\LWR@patcherror{biblatex}{\blx@addbackref@i B}}

```

The following patches are for back page references.

```

67 \DeclareListFormat{pageref}{%
68 \ifnumless{\abx@pagerefstyle}{0}
69 {\usebibmacro{list:plain}%
70 \ifhyperref
71 {%
72 % \hyperlink{page.#1}{#1}%
73 \LWR@refwithsection{\BaseJobname-autopage-#1}%
74 }
75 {#1}%
76 \ifnumequal{\value{listcount}}{1}
77 {\usebibmacro{pageref:init}%
78 {}}%
79 \usebibmacro{pageref:comp}%

```

```

80 \ifnumequal{\value{listcount}}{\value{liststop}}
81 {\usebibmacro{pageref:dump}}
82 {}}
83
84 \renewbibmacro*{pageref:comp}[1]{%
85 \numdef\abx@range@prev{\abx@range@prev+1}%
86 \ifinteger{#1}%
87 {\def\abx@range@num{#1}%
88 \def\abx@range@this{1}%
89 \ifnumequal{\abx@range@this}{\abx@range@last}%
90 {}
91 {\def\abx@range@prev{-1}}}
92 {\ifrmnum{#1}%
93 {\numdef\abx@range@num{\rmnтонум{#1}}%
94 \def\abx@range@this{2}%
95 \ifnumequal{\abx@range@this}{\abx@range@last}%
96 {}
97 {\def\abx@range@prev{-1}}}
98 {\undef\abx@range@num%
99 \def\abx@range@this{0}%
100 \def\abx@range@prev{-1}}}
101 \ifdef\abx@range@num%
102 {\ifnumequal{\abx@range@num}{\abx@range@prev}%
103 {\def\abx@range@hold{#1}%
104 \numdef\abx@range@diff{\abx@range@diff+1}%
105 \usebibmacro{pageref:dump}%
106 \ifnumgreater{\abx@range@last}{-1}%
107 {\printdelim{multilistdelim}}%
108 {}%
109 \ifhyperref%
110 {\hyperlink{page.#1}{#1}%
111 {\LWR@refwithsection{\BaseJobname-autopage-#1}}% lwarp
112 {}}%
113 \edef\abx@range@prev{\abx@range@num}%
114 \usebibmacro{pageref:dump}%
115 \ifnumgreater{\abx@range@last}{-1}%
116 {\printdelim{multilistdelim}}%
117 {}%
118 \ifhyperref%
119 {\hyperlink{page.#1}{#1}%
120 {\LWR@refwithsection{\BaseJobname-autopage-#1}}% lwarp
121 {}}%
122 \def\abx@range@prev{-1}%
123 \edef\abx@range@last{\abx@range@this}%
124
125 \renewbibmacro*{pageref:dump}{%
126 \ifnumgreater{\abx@range@diff}{0}%
127 {\ifcase\abx@pagerefstyle\relax % two
128 \bibrangedash
129 \ifhyperref%
130 {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}%
131 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
132 {}%
133 \or % three
134 \ifnumless{\abx@range@diff}{2}%

```

```
135 {\printdelim{multilistdelim}}
136 {\bibrangedash}%
137 \ifhyperref
138 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
139 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
140 {\abx@range@hold}%
141 \or % two+
142 \ifnumless{\abx@range@diff}{2}
143 {\sqspace
144 \ifhyperref
145 {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
146 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
147 {\bibstring{sequens}}}
148 {\bibrangedash
149 \ifhyperref
150 {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
151 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
152 {\abx@range@hold}}%
153 \or % three+
154 \ifnumless{\abx@range@diff}{2}
155 {\sqspace
156 \ifhyperref
157 {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
158 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
159 {\bibstring{sequens}}}
160 {\ifnumless{\abx@range@diff}{3}
161 {\sqspace
162 \ifhyperref
163 {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
164 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
165 {\bibstring{sequentes}}}
166 {\bibrangedash
167 \ifhyperref
168 {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
169 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
170 {\abx@range@hold}}}}%
171 \else % all+
172 \ifnumless{\abx@range@diff}{2}
173 {\sqspace
174 \ifhyperref
175 {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
176 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
177 {\bibstring{sequens}}}
178 {\sqspace
179 \ifhyperref
180 {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
181 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
182 {\bibstring{sequentes}}}}%
183 \fi
184 \def\abx@range@diff{0}
185 {}}
186 }% \AfterPreamble
```

---

File 45 **l warp-bibunits.sty**

§ 153 Package **bibunits**

(Emulates or patches code by THORSTEN HANSEN.)

Pkg **bibunits** **bibunits** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bibunits}[2004/05/12]

2 \def\bu@bibdata{\BaseJobname}

---

File 46 **l warp-bigdelim.sty**

§ 154 Package **bigdelim**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

Pkg **bigdelim** **bigdelim** is used as-is for print or `lateXimage`, and patched for `HTML`.

The delimiters are displayed in `HTML` by printing the delimiter, the text, and a thick border across the side of the `\multirow` which indicates the actual height of the delimiter. The delimiter character is given a `<span>` class of `ldelim` or `rdelim`, and the default css sets this to `font-size:200%`

⚠ **use `\mrowcell`** `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

---

```
\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\{}{3}{.25in}[left] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}
```

---

|        |        |
|--------|--------|
| left { | a    b |
| c    d |        |
| e    f |        |
| g    h |        |
| i    j |        |

---

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

**for HTML output:** First, remove the temporary definitions of `\ldelim` and `\rdelim`, which were previously defined for tabular scanning in case `bigdelim` was not loaded:

```
1 \let\ldelim\relax
2 \let\rdelim\relax
```

Next, load the package's new definitions:

```
3 \LWR@ProvidesPackagePass{bigdelim}[2021/03/15]
```

```
\ldelim {<1:delimiter>} {<2:#rows>} [<3: vmove>] [<4:width>} [<5:text>]
\rdelim
4 \NewDocumentCommand{\LWR@HTML@ldelim}{m m o m O{}}
5 \renewcommand{\LWR@multirowborder}{right}
6 \multirow{#2}{#4}{#5} \InlineClass{ldelim}{#1}
7 }
8
9 \LWR@formatted{ldelim}
10
11 \NewDocumentCommand{\LWR@HTML@rdelim}{m m o m O{}}
12 \renewcommand{\LWR@multirowborder}{left}
13 \multirow{#2}{#4}{\InlineClass{rdelim}{#1} #5}
14 }
15
16 \LWR@formatted{rdelim}
```

Limited emulation for MATHJAX. The delimiter is printed on the first row, along with any optional text.

```
17 \begin{warpMathJax}
18 % \ldelim ({n}{width}[text]
19 \CustomizeMathJax{\newcommand{\LWRldelimtwo}[1][]{\text{#1}\sim\LWRbigdelim}}
20 \CustomizeMathJax{\newcommand{\LWRldelimeone}[2][]{\LWRldelimtwo}}
21 \CustomizeMathJax{\def\ldelim#1#2{\def\LWRbigdelim{#1}\LWRldelimeone}}
22 % \rdelim) {n}{width}[text]
23 \CustomizeMathJax{\newcommand{\LWRrdelimtwo}[1][]{\LWRbigdelim\text{#1}}}
24 \CustomizeMathJax{\newcommand{\LWRrdelimeone}[2][]{\LWRrdelimtwo}}
25 \CustomizeMathJax{\def\rdelim#1#2{\def\LWRbigdelim{#1}\LWRrdelimeone}}
26 \end{warpMathJax}
```

#### File 47 lwarf-bigfoot.sty

§ 155 Package **bigfoot**

Pkg bigfoot **bigfoot** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bigfoot}[2015/08/30]

```
2 \RequirePackage{manyfoot}
3 \RequirePackage{perpage}
4
5 \def\RestyleFootnote#1#2{}
```

---

```

6 \def\FootnoteSpecific#1{}
7 \def\DefineFootnoteStack#1{}
8 \def\PushFootnoteMark#1{}
9 \def\PopFootnoteMark#1{}
10 \def\hfootfraction{0.9}
11 \def\vtypefraction{0.7}
12 \def\FootnoteMinimum{1sp}
13 \def\FootnoteMainMinimum{0pt}
14 \newcount\bigfoottolerance
15 \bigfoottolerance=100
16 \providecommand\footnotecarryratio{2}

```

---

File 48 **l warp-bigstrut.sty**

§ 156 Package **bigstrut**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

Pkg **bigstrut** **bigstrut** is used as-is for print or `\latexitimage`, and patched for `HTML`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bigstrut}[2018/08/03]

```

2 \LetLtxMacro{\LWR@origbigstrut}{\bigstrut}
3
4 \renewcommand{\bigstrut}[1][x]{}
5
6 \appto{\LWR@restoreorigformatting}{%
7 \LetLtxMacro{\bigstrut}{\LWR@origbigstrut}%
8 }
9

```

```

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\bigstrut}[1][]{}}
12 \end{warpMathJax}

```

---

File 49 **l warp-bitpattern.sty**

§ 157 Package **bitpattern**

*(Emulates or patches code by JEAN-MARC BOURGUET.)*

Pkg **bitpattern** **bitpattern** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bitpattern}[2015/12/11]

```

2 \xpatchcmd{\bitpattern}
3 {\begingroup}
4 {\begin{latexitimage}[-bitpattern-\~\PackageDiagramAltText]}
5 {}
6 {\LWR@patcherror{bitpattern}{bitpattern}}

```

```
7
8 \xpatchcmd{\bp@Done}
9 {\endgroup}
10 {\end{lateximage}}
11 {}
12 {\LWR@patcherror{bitpattern}{bp@Done}}
```

---

**File 50 l warp-blowup.sty****§ 158 Package blowup**

Pkg blowup blowup is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{blowup}[2018/01/02]

```
2 \newcommand*\blowUp[1]{}
```

---

**File 51 l warp-bm.sty****§ 159 Package bm**

(Emulates or patches code by DAVID CARLISLE, FRANK MITTELBACH.)

Pkg bm bm is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{bm}[2019/07/24]

\DeclareBoldMathCommand must only be used in the preamble, since it adds to the MATHJAX setup code.

```
2 \begin{warpMathJax}
3 \LetLtxMacro{\LWR@orig}{\DeclareBoldMathCommand}\ DeclareBoldMathCommand
4
5 \renewcommand{\DeclareBoldMathCommand}[3][bold]{%
6 \LWR@orig{\DeclareBoldMathCommand[#1]{#2}{#3}}%
7 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}{%
8 }%
9 }
10 \onlyinpreamble{\DeclareBoldMathCommand
11 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}{%
12 \end{warpMathJax}}
```

---

**File 52 l warp-booklet.sty****§ 160 Package booklet**

(Emulates or patches code by PETER WILSON.)

Pkg booklet **booklet** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{booklet}[2009/09/02]

2 \newdimen\pageseplength
3 \newdimen\pagesepwidth
4 \newdimen\pagesepoffset
5 \newif\ifsidebyside \sidebysidetrue
6 \newif\ifusandscape \usandscapefalse
7 \newif\ifprintoption \printoptionfalse
8 \newcommand*\{\pagespersignature}[1]{}
9 \def\magstepminus#1{}
10 \newcommand*\{\target}[3]{}
11 \newcommand*\{\source}[3]{}
12 \newcommand*\{\setpdftargetpages}{}
13 \newcommand*\{\setdvipstargetpages}{}
14 \newcommand*\{\targettopbottom}{}
15 \newcommand*\{\twoupemptypage}{}
16 \newcommand*\{\twoupclearpage}{}
17 \newcommand*\{\checkforlandscape}{}

```

### File 53 l warp-bookmark.sty

#### § 161 Package **bookmark**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg bookmark **bookmark** is ignored.

**for HTML output:** Discard all options for l warp-bookmark:

```

1 \LWR@ProvidesPackageDrop{bookmark}[2016/05/17]

2 \newcommand*\{\bookmarksetup}[1]{}
3 \newcommand*\{\bookmarksetupnext}[1]{}
4 \newcommand*\{\bookmark}[2][]{}
5 \newcommand*\{\bookmarkdefinestyle}[2]{}
6 \newcommand*\{\bookmarkget}[1]{}
7 \newcommand{\BookmarkAtEnd}[1]{}

```

### File 54 l warp-booktabs.sty

#### § 162 Package **booktabs**

(Emulates or patches code by SIMON FEAR.)

Pkg booktabs **booktabs** is emulated during HTML output, and used as-is during print output and inside an HTML `lateximage`.

⚠ **\cmidrule** For MATHJAX, emulation is provided in math mode, but `\cmidrule trim` must not be used.

**for HTML output:** If `booktabs` has already been loaded before `l warp`, such as by `memoir`, use it as-is. If not, the `l warp` core will have placed some dummy macros which should be removed before loading the actual `booktabs` definitions.

```

1 \@ifpackageloaded{booktabs}{}{
2 \LetLtxMacro\toprule\relax
3 \LetLtxMacro\midrule\relax
4 \LetLtxMacro\cmidrule\cline
5 \LetLtxMacro\bottomrule\relax
6 \LetLtxMacro\addlinespace\relax
7 \LetLtxMacro\morecmidrules\relax
8 \LetLtxMacro\specialrule\relax
9 }
```

Next, load the `booktabs` package:

```
10 \LWR@ProvidesPackagePass{booktabs}[2019/10/08]
```

Adjust to work even if `xltabular` is loaded:

```

11 \% \def\LWR@HTML@@BLTrule{@BTnormal}
12 %
13 \% \LWR@formatted{@BLTrule}
14 \LetLtxMacro\@BLTrule\@BTnormal

15 \DeclareDocumentCommand{\LWR@HTML@toprule}{o d()}%
16 {%
17 \IfValueTF{#1}%
18 {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}%
19 {%
20 \ifbool{FormatWP}%
21 {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}%
22 {\booltrue{LWR@doingtbrule}}%
23 }%
24 \LWR@getmynexttoken
25
26 \LWR@expandableformatted{toprule}
27
28 \DeclareDocumentCommand{\LWR@HTML@midrule}{o d()}%
29 {%
30 \IfValueTF{#1}%
31 {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}%
32 {%
33 \ifbool{FormatWP}%
34 {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}%
35 {\defaddtocounter{LWR@hlines}{1}}%
36 }%
37 \LWR@getmynexttoken
38
39 \LWR@expandableformatted{midrule}
40
41 \DeclareDocumentCommand{\LWR@HTML@cmidrule}{O{\LWR@cmidrulewidth} d() m}{%
42 \LWR@docmidrule[#1](#2){#3}%
43 \LWR@getmynexttoken%
44 }
```

```

45
46 \LWR@expandableformatted{cmidrule}
47
48 \DeclareDocumentCommand{\LWR@HTML@bottomrule}{o d()}{%
49 \IfValueTF{#1}{%
50 {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}{%
51 {%
52 \ifbool{FormatWP}{%
53 {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}{%
54 {\booltrue{LWR@doingtbrule}}}{%
55 }{%
56 \LWR@getmynexttoken{%
57 }{%
58 }{%
59 }{%
60 }{%
61 \DeclareDocumentCommand{\LWR@HTML@addlinespace}{o}{%
62
63 \LWR@expandableformatted{addlinespace}
64
65 \DeclareDocumentCommand{\LWR@HTML@morecmidrules}{}{%
66
67 \LWR@expandableformatted{morecmidrules}
68
69 \DeclareDocumentCommand{\LWR@HTML@specialrule}{m m m d()}{%
70 {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}\LWR@getmynexttoken}{%
71
72 \LWR@expandableformatted{specialrule}

```

For MATHJAX:

```

73 \begin{warpMathJax}
74 \CustomizeMathJax{\newcommand{\toprule}[1][]{\hline}}
75 \CustomizeMathJax{\let\midrule\toprule}
76 \CustomizeMathJax{\let\bottomrule\toprule}
77 \CustomizeMathJax{\def\LWRbooktabscmidrulepare#1#2{}}
78 \CustomizeMathJax{\newcommand{\LWRbooktabscmidrulelenoparen}[1]{}}
79 \CustomizeMathJax{\newcommand{\cmidrule}[1][]{%
80 \ifnextchar(\LWRbooktabscmidrulepare\LWRbooktabscmidrulelenoparen%
81 }%
82 \CustomizeMathJax{\newcommand{\morecmidrules}{}}
83 \CustomizeMathJax{\newcommand{\specialrule}[3]{\hline}}
84 \CustomizeMathJax{\newcommand{\addlinespace}[1]{}}
85 \end{warpMathJax}

```

File 55 **lwarp-bophook.sty**

§ 163 Package **bophook**

Pkg bophook **bophook** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bophook}[2001/03/29]

```
2 \newcommand*{\AtBeginPage}[1]{}
3 \newcommand*{\PageLayout}[1]{}
```

---

File 56 **l warp-bounddvi.sty**

§ 164 Package **bounddvi**

Pkg **bounddvi** **bounddvi** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bounddvi}[2016/12/28]

---

File 57 **l warp-boxedminipage.sty**

§ 165 Package **boxedminipage**

(Emulates or patches code by SCOTT PAKIN.)

Pkg **boxedminipage** **boxedminipage** is emulated for HTML, and used as-is for `\textrm`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{boxedminipage}[2020/04/19]

```
2 \newenvironment{\LWR@HTML@boxedminipage}{%
3 \LWR@stoppars%
4 \begin{BlockClass}{framebox}%
5 \minipage{%
6 }%
7 {%
8 \endminipage%
9 \end{BlockClass}%
10 \LWR@startpars%
11 }%
12 \LWR@formattedenv{boxedminipage}
```

---

File 58 **l warp-boxedminipage2e.sty**

§ 166 Package **boxedminipage2e**

(Emulates or patches code by SCOTT PAKIN.)

Pkg **boxedminipage2e** **boxedminipage2e** has been renamed **boxedminipage** by the author.

**for HTML output:** Automatically loads **boxedminipage**:

```
1 \LWR@ProvidesPackagePass{boxedminipage2e}
```

---

File 59 **l warp-braket.sty**

§ 167      Package **braket**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg **braket** **braket** works as-is for HTML with SVG math. For MATHJAX, the MATHJAX extension is used.

for HTML output: 1 \LWR@ProvidesPackagePass{braket}% No date is provided by the file.

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{braket}}
4 \end{warpMathJax}
```

---

File 60 **l warp-breakurl.sty**

§ 168      Package **breakurl**

*(Emulates or patches code by VILAR CAMARA NETO.)*

Pkg **breakurl** **breakurl** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{breakurl}[2013/04/10]

```
2 \LetLtxMacro\burl\l LWR@url
3
4 \NewDocumentCommand{\LWR@burlaltb}{O{} +m m}{%
5 \LWR@ensuredoingapar%
6 \LWR@subhyperref{#2}%
7 \LWR@subhyperreftext{#3}%
8 \endgroup% restore catcodes
9 }
10
11 \newrobustcmd*\burlalt{%
12 \begingroup%
13 \LWR@linkcatcodes%
14 \LWR@burlaltb%
15 }
16
17 \LetLtxMacro\urlalt\burlalt
```

---

File 61 **l warp-breqn.sty**

§ 169      Package **breqn**

*(Emulates or patches code by MICHAEL J. DOWNES, MORTEN HØGHOLM.)*

Pkg **breqn** **breqn** is patched for use by **l warp**.

⚠ **darray** **darray** is not supported, and in fact does not work in the print version either.

While using MATHJAX, **breqn** objects are converted to SVG images.

for HTML output: 1 \LWR@ProvidesPackagePass{breqn}[2017/01/27]

```
2 \setkeys{breqn}{spread={5pt}}
3
4 \def\eqnumside{R}
5 % \def\eqnumplace{T}
6
7 \BeforeBeginEnvironment{dmath}%
8 \begin{BlockClass}{displaymathnumbered}
9 \LWR@newautoidanchor%
10 \booltrue{\LWR@indisplaymathimage}%
11 \begin{ lateximage }[-breqn dmath- \MathImageAltText]
12 }
13
14 \AfterEndEnvironment{dmath}%
15 \end{ lateximage }\end{BlockClass}
16 }
17
18 \BeforeBeginEnvironment{dmath*}%
19 \begin{BlockClass}{displaymath}
20 \LWR@newautoidanchor%
21 \booltrue{\LWR@indisplaymathimage}%
22 \begin{ lateximage }[-breqn dmath*- \MathImageAltText]
23 }
24
25 \AfterEndEnvironment{dmath*}%
26 \end{ lateximage }\end{BlockClass}
27 }
28
29 \BeforeBeginEnvironment{dseries}%
30 \begin{BlockClass}{displaymathnumbered}
31 \LWR@newautoidanchor%
32 \booltrue{\LWR@indisplaymathimage}%
33 \begin{ lateximage }[-breqn dseries- \MathImageAltText]
34 }
35
36 \AfterEndEnvironment{dseries}%
37 \end{ lateximage }\end{BlockClass}
38 }
39
40 \BeforeBeginEnvironment{dseries*}%
41 \begin{BlockClass}{displaymath}
42 \LWR@newautoidanchor%
43 \booltrue{\LWR@indisplaymathimage}%
44 \begin{ lateximage }[-breqn dseries*- \MathImageAltText]
45 }
46
47 \AfterEndEnvironment{dseries*}%
48 \end{ lateximage }\end{BlockClass}
49 }
50
51 \BeforeBeginEnvironment{dgroup}%
52 \begin{BlockClass}{displaymath}
53 \LWR@newautoidanchor%
54 \booltrue{\LWR@indisplaymathimage}%
55 \begin{ lateximage }[-breqn dgroup- \MathImageAltText]
56 }
```

---

```

57
58 \AfterEndEnvironment{dgroup}{
59 \end{lateximage}\end{BlockClass}
60 }
61
62 \BeforeBeginEnvironment{dgroup*}{
63 \begin{BlockClass}{displaymath}
64 \LWR@newautoidanchor%
65 \booltrue{\LWR@indisplaymathimage}%
66 \begin{lateximage}[-breqn dgroup*- \MathImageAltText]
67 }
68
69 \AfterEndEnvironment{dgroup*}{
70 \end{lateximage}\end{BlockClass}
71 }

```

---

File 62 **l warp-bsheaders.sty**

§ 170 Package **bsheaders**

Pkg **bsheaders** **bsheaders** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bsheaders}[1997/10/06]

---

File 63 **l warp-bussproofs.sty**

§ 171 Package **bussproofs**

(Emulates or patches code by SAMUEL R. BUSS.)

Pkg **bussproofs** **bussproofs** is used as-is for HTML, and emulated by MATHJAX's extension.

⚠ **\DisplayProof** If not using MATHJAX, inline proofs with **\DisplayMath** must be placed inside a math expression.

If using MATHJAX, only the **prooftree** environment may be used, not **\DisplayProof**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bussproofs} no date in file

```

2 \ifbool{mathjax}{
3 \CustomizeMathJax{\require{bussproofs}}
4
5 \NewEnviron{\LWR@HTML{prooftree}}{
6 {\LWR@doequation{\BODY}{prooftree}}%
7 [\LWR@doendequation{prooftree}]%
8 \LWR@formattedenv{prooftree}%
9 }{%
10 \BeforeBeginEnvironment{prooftree}{%
11 \begin{lateximage}[-bussproofs-\PackageDiagramAltText]%
12 }

```

```
13 \AfterEndEnvironment{prooftree}{\end{lateximage}}
14 }
```

---

File 64 **lwarf-bxpapersize.sty**

§ 172 Package **bxpapersize**

Pkg `bxpapersize` `bxpapersize` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bxpapersize}[2017/10/08]

```
2 \providecommand*\papersizesetup{\bxpapersizesetup}
3 \newcommand*\bxpapersizesetup[1]{}
```

---

File 65 **lwarf-bytefield.sty**

§ 173 Package **bytefield**

(Emulates or patches code by SCOTT PAKIN.)

Pkg `bytefield` `bytefield` is patched for use by `lwarf`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bytefield}[2017/09/15]

```
2 \BeforeBeginEnvironment{bytefield}{%
3 \begin{lateximage}[-bytefield-\~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{bytefield}{\end{lateximage}}
```

---

File 66 **lwarf-cancel.sty**

§ 174 Package **cancel**

Pkg `cancel` `cancel` is used as-is for SVG math, and emulated for HTML text output.

**for HTML output:** 1 \LWR@origRequirePackage{lwarf-xcolor}%
2 \LWR@ProvidesPackagePass{cancel}[2013/04/12]

\cancelto is math-only, so is used as-is.

```
3 \LetLtxMacro{\LWR@origcancel}{\cancel}
4 \LetLtxMacro{\LWR@origbcancel}{\bcancel}
5 \LetLtxMacro{\LWR@origxcancel}{\xcancel}
6
7 \appto{\LWR@restoreorigformatting}{%
8 \LetLtxMacro{\cancel}{\LWR@origcancel}}
```

---

```

9 \LetLtxMacro{\bcancel}{\LWR@origbcancel}
10 \LetLtxMacro{\xcancel}{\LWR@origcancel}
11 }

\LWR@cancelcolor {\langle text\rangle} {\langle color\rangle} {\langle class\rangle} {\langle colorstyle\rangle} {\langle FormatWPstyle\rangle}
Add colors if not empty:
12 \newcommand{\LWR@cancelcolor}[5]{%
13 \ifcsempty{#2}{%
14 {\InlineClass{#5}{#3}{#1}}{%
15 {\LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}}{%
16 }

\cancel {\langle text\rangle}
17 \DeclareRobustCommand{\cancel}[1]{%
18 \begingroup%
19 \CancelColor{%
20 \LWR@findcurrenttextcolor{%
21 \color{black}}{%
22 \LWR@cancelcolor{#1}{\LWR@tempcolor}{\sout}{text-decoration-color}{%
23 {text-decoration:line-through}}{%
24 \endgroup{%
25 }{%
26
27 \LetLtxMacro{\bcancel}{\cancel}
28 \LetLtxMacro{\xcancel}{\cancel}

```

For MATHJAX:

```

29 \begin{warpMathJax}
30 \PackageWarningNoLine{lwarp, cancel}{The MathJax v3 extension will be used}
31 \CustomizeMathJax{\require{cancel}}
32 \end{warpMathJax}

```

---

File 67 **lwarp-canoniclayout.sty**

§ 175 Package **canoniclayout**

Pkg canoniclayout canoniclayout is ignored.

**for HTML output:** s 1 \LWR@ProvidesPackageDrop{canoniclayout}[2011/11/05]

```

2 \newcommand*{\currentfontletters}{}
3 \newcommand*{\charactersperpage}{}

```

---

File 68 **lwarp-caption.sty**

§ 176 Package **caption**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg caption caption is patched for use by lwarp.

**for HTML output:**

```
1 \typeout{---}
2 \typeout{Packages lwarp and caption:}
3 \typeout{If a ‘‘Missing \protect\begin\protect{document}\protect’’ error occurs here,}
4 \typeout{try using: \space \protect\usepackage\protect{caption\protect}\space}
5 \protect\captionsetup{options}
6 \typeout{instead of: \protect\usepackage[options]\protect{caption\protect}.}
7 \typeout{---}
8
9 \LWR@ProvidesPackagePass{caption}[2020/10/26]

10 \long\def\caption@iibox@#1#2#3#4{%
11 % \setbox@\tempboxa\hbox{#4}%
12 \caption@iibox{#1}{#2}{#3}%
13 % [\wd@\tempboxa]%
14 []% lwarp
15 [\captionbox@hj@default]%
16 % {\unhbox@\tempboxa}%
17 {#4}%" lwarp
18 }

19 \long\def\caption@iiibox#1#2#3#4#5[#6][#7]{%
20 \begingroup
21 #1% set \caption@position
22 \caption@iftop{%
23 \endgroup

24 \minipagefullwidth% lwarp
25 \parbox[t]{\linewidth}{%
26 #1\relax
27 \caption@setposition t%
28 % #2%
29 {\caption#4{#5}}%
30 % \captionbox@hrule
31 % \csname caption@hj@#7\endcsname
32 #8%
33 }%
34 }{%
35 \endgroup

36 % \parbox[b]{#6}{%
37 \minipagefullwidth% lwarp
38 \parbox[b]{\linewidth}{% lwarp
39 #1\relax
40 \caption@setposition b%
41 % \csname caption@hj@#7\endcsname
42 #8%
43 % \captionbox@hrule
44 % #3
45 {\caption#4{#5}}%
46 }%
47 }%
48 }
```

```
\caption@makecaption
49 \long\def\caption@makecaption#1#2{%
50 % \caption@make@above
51 \caption@@make{#1}{#2}%
52 % \caption@make@below
53 }
54
55 \AtBeginDocument{
56 \let\@makecaption\caption@makecaption
57 }
```

Appended to look ahead to the next token for \centering, etc:

```
58 \AtBeginDocument{
59 \xapptocmd{\@xfloat}
60 {\LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment}
61 {}
62 {\LWR@patcherror{caption}{\@xfloat}}
63
64 \xapptocmd{\@dblfloat}
65 {\LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment}
66 {}
67 {\LWR@patcherror{caption}{\@dblfloat}}
68 }
```

Updates for late patches for scrextend:

```
69 \caption@AtBeginDocument{
70 \@ifpackageloaded{lwarp-scrextend}{
71 \LetLtxMacro\captionbelow\caption
72 \LetLtxMacro\captionabove\caption
73 \LetLtxMacro\captionofbelow\captionof
74 \LetLtxMacro\captionofabove\captionof
75 }{}}
76 }
```

### File 69 **lwarp-caption3.sty**

§ 177      Package **caption3**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg **caption3** **caption3** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass[caption3][2020/10/21]

```
\caption@@make {\langle caption label \rangle} {\langle caption text \rangle}
2 \@ifpackagelater{caption3}{2020/08/23}%
3 \renewcommand\caption@@make[2]{%
4 \LWR@traceinfo{caption@@make}%
```

```

5 \LWR@stoppars% lwarp
6 % \sbox{\tempboxa{#1}%
7 % \ifdim\wd\tempboxa=\z@
8 % \caption@set{labelseparator}{none}%
9 % \fi
10 \caption@ifempty{#2}{%
11 \caption@set{labelseparator}{none}%
12 \caption@set{textformat}{simple}%
13 }%
14 \caption@labelseparator % defines \caption@iflabelfont,
15 % \caption@labelsep and \caption@labelsep@name
16 % (the latter is needed by \caption@fmt)
17 %

18 % \setpar{\@par\caption@@par}\caption@@par
19 \caption@applyfont

\caption@fmt with plain format is defined as {#1#2#3\par}:

20 % \caption@fmt
21 {\ifcaption@star\else
22 \begingroup
23 \captionlabelfont
24 \LWR@isolate{#1}% lwarp
25 \endgroup
26 \fi}%
27 {\ifcaption@star\else
28 \begingroup
29 \caption@iflabelfont\captionlabelfont
30 \relax\caption@labelsep
31 \endgroup
32 \fi}%
33 {{\captiontextfont
34 \let\\newline% lwarp
35 %
36 \caption@textstart
37 % \caption@ifstrut
38 % {\vrule\@height\ht\strutbox\@width\z@}%
39 % {}%
40 % \nobreak\hskip\z@skip % enable hyphenation
41 \LWR@isolate{\caption@textformat{#2}}% lwarp
42 % \caption@ifstrut
43 % {\ifhmode\@finalstrut\strutbox\fi}%
44 % {}%
45 \caption@textend}%
46 \LWR@startpars% lwarp
47 \LWR@traceinfo{caption@@@make done}%
48 }
49 }% later than 2020/08/23
50 {% earlier than 2020/08/23
51 \renewcommand\caption@@@make[2]{%
52 \LWR@traceinfo{caption@@@make}%

```

```

53 \LWR@stopars% lwarp
54 % \sbox\@tempboxa{#1}%
55 % \ifdim\wd\@tempboxa=\z@
56 % \let\caption@lsep\relax
57 % \fi
58 \caption@ifempty{#2}{%
59 \let\caption@lsep\@empty
60 \let\caption@tfmt\@firstofone
61 }%
62 % \setpar{\@par\caption@par}\caption@@par
63 \caption@applyfont

\caption@fmt with plain format is defined as {#1#2#3\par}:

64 % \caption@fmt
65 { \ifcaption@star\else
66 \begingroup
67 \captionlabelfont
68 \LWR@isolate{#1}%
69 \endgroup
70 \fi}%
71 { \ifcaption@star\else
72 \begingroup
73 \caption@iflf\captionlabelfont
74 \relax
75 \caption@lsep
76 \endgroup
77 \fi}%
78 { \%
79 \captiontextfont
80 \let\\newline% lwarp
81 % \caption@ifstrut
82 % {\vrule@height\ht\strutbox@width\z@}%
83 % {}%
84 % \nobreak\hskip\z@skip % enable hyphenation
85 \LWR@isolate{\caption@tfmt{#2}}% lwarp
86 % \caption@ifstrut
87 % {\ifhmode\@finalstrut\strutbox\fi}%
88 % {}%
89 }%
90 \LWR@startpars% lwarp
91 \LWR@traceinfo{caption@@@make done}%
92 }
93 }% earlier than 2020/08/23

\caption@@make@ {()}{()}

94 \renewcommand{\caption@@make@}[2]{%
95 \caption@stepthecounter%
96 \caption@beginhook%
97 \caption@@make{#1}{#2}%
98 \caption@endhook%
99 }

100 \DeclareCaptionBox{none}{#2}
101 \DeclareCaptionBox{parbox}{%

```

---

```

102 #2%
103 }

104 \DeclareCaptionBox{colorbox}{%
105 #2%
106 }

```

---

File 70 **l warp-cases.sty**

§ 178 Package **cases**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg cases **cases** is patched for use by **l warp**.

While using MATHJAX, **cases** objects are converted to SVG math images.

**for HTML output:** 1 \LWR@ProvidesPackagePass{cases}[2002/05/02]

```

2 \BeforeBeginEnvironment{numcases}{
3 \begin{BlockClass}{displaymathnumbered}
4 \LWR@newautoidanchor%
5 \booltrue{\LWR@indisplaymathimage}%
6 \begin{lateximage}[-cases- \MathImageAltText]
7 }
8
9 \AfterEndEnvironment{numcases}{
10 \end{lateximage}\end{BlockClass}
11 }
12
13 \BeforeBeginEnvironment{subnumcases}{
14 \begin{BlockClass}{displaymathnumbered}
15 \LWR@newautoidanchor%
16 \booltrue{\LWR@indisplaymathimage}%
17 \begin{lateximage}[-cases- \MathImageAltText]
18 }
19
20 \AfterEndEnvironment{subnumcases}{
21 \end{lateximage}\end{BlockClass}
22 }

```

---

File 71 **l warp-ccicons.sty**

§ 179 Package **ccicons**

*(Emulates or patches code by MICHAEL UMMELS.)*

Pkg ccicons **ccicons** is used as SVG images for HTML.

**for HTML output:** Discard all options for **l warp-ccicons**:

1 \LWR@ProvidesPackagePass{ccicons}[2017/10/30]

---

```

2 \newcommand{\LWR@ccicons}[2]{%
3 {\begin{lateximage}*[#1]\ccicons@font\char#2\end{lateximage}}
4 }
5 \renewcommand{\ccicons@logo}{\LWR@ccicons{ccLogo}{0}}
6 \renewcommand{\ccicons@by}{\LWR@ccicons{ccAttribution}{1}}
7 \renewcommand{\ccicons@sa}{\LWR@ccicons{ccShareAlike}{2}}
8 \renewcommand{\ccicons@nd}{\LWR@ccicons{ccNoDerivatives}{3}}
9 \renewcommand{\ccicons@nc}{\LWR@ccicons{ccNonCommercial}{4}}
10 \renewcommand{\ccicons@nceu}{\LWR@ccicons{ccNonCommercialEU}{5}}
11 \renewcommand{\ccicons@ncjp}{\LWR@ccicons{ccNonCommercialJP}{6}}
12 \renewcommand{\ccicons@pd}{\LWR@ccicons{ccPublicDomain}{7}}
13 \renewcommand{\ccicons@zero}{\LWR@ccicons{ccZero}{8}}
14 \renewcommand{\ccicons@sampling}{\LWR@ccicons{ccSampling}{9}}
15 \renewcommand{\ccicons@share}{\LWR@ccicons{ccShare}{10}}
16 \renewcommand{\ccicons@remix}{\LWR@ccicons{ccRemix}{11}}
17 \renewcommand{\ccicons@copy}{\LWR@ccicons{ccCopy}{12}}
18 \renewcommand{\ccicons@pdalt}{\LWR@ccicons{ccPublicDomainAlt}{13}}

```

---

### File 72 **l warp-centernot.sty**

#### § 180 Package **centernot**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg centernot **centernot** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{centernot}[2016/05/16]

Based on <https://github.com/mathjax/MathJax/issues/2107> with \textstyle removed to work with sub/super scripts.

```

2 \LWR@origRequirePackage{l warp-common-mathjax-overlaysymbols}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\centernot}[1]{%
6 \LWRoverlaysymbols{\unicode{x2215}}{#1}
7 }}}
8 \end{warpMathJax}

```

---

### File 73 **l warp-changebar.sty**

#### § 181 Package **changebar**

Pkg changebar **changebar** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{changebar}[2018/03/09]

```

2 \newcommand*{\cbstart}(){}
3 \newcommand*{\cbend}(){}
4 \newenvironment*{\changebar}{}{}

```

```
5 \newcommand*\cbdelete(){}
6 \newcommand*\nochnagebars(){}
7 \newcommand*\cbccolor}[1]{}
8 \newlength\changebarwidth
9 \newlength\deletebarwidth
10 \newlength\changebarsep
11 \newcounter{changebargrey}
```

---

File 74 **l warp-changelayout.sty**

§ 182 Package **changelayout**

(Emulates or patches code by AHMED MUSA.)

Pkg changelayout **changelayout** is patched for use by **l warp**.

for HTML output:

```
1 \LWR@ProvidesPackagePass{changelayout}[2009/10/07]

2 \renewrobustcmd\cpl@backtodefaults{}
3
4 \renewrobustcmd\cpl@checkifoddpage{%
5 \cpl@oddpagefalse%
6 }
7
8 \renewrobustcmd\changepagelayout[1]{%
9 \setkeys[KV]{changelay}{#1}%
10 }
11
12 \renewrobustcmd{\changetextlayout}[1]{\changepagelayout{#1}}
13
14 \renewrobustcmd\adjustpagelayout[1]{%
15 \setkeys[KV@X]{changelay}{#1}%
16 }
17
18 \renewrobustcmd{\adjusttextlayout}[1]{\adjustpagelayout{#1}}
19
20 \renewrobustcmd\adjusttextwidth[1]{%
21 \setkeys[KV]{changelay}{#1}%
22 \begin{BlockClass}[color:\LWR@colorstyle{named}{\cpl@textcolor}]{changelayout}
23 \color{\cpl@textcolor}%
24 \cpl@content
25 \end{BlockClass}
26 }
```

---

File 75 **l warp-changepage.sty**

§ 183 Package **changepage**

(Emulates or patches code by PETER WILSON.)

Pkg changepage **changepage** is ignored.

**for HTML output:** Discard all options for `\l warp-changepage`:

```

1 \LWR@ProvidesPackageDrop{changepage}[2009/10/20]

2 \newif\ifoddpage
3 \DeclareRobustCommand{\checkoddpage}{\oddpagetrue}
4 \DeclareRobustCommand{\changetext}[5]{}
5 \DeclareRobustCommand{\changepage}[9]{}
6
7 \@ifundefined{adjustwidth}{}
8 \newenvironment{adjustwidth}[2]{}{}
9 \newenvironment{adjustwidth*}[2]{}{}
10 }{
11 \renewenvironment{adjustwidth}[2]{}{}
12 \renewenvironment{adjustwidth*}[2]{}{}
13 }

14 \DeclareDocumentCommand{\strictpagecheck}{}{}
15 \DeclareDocumentCommand{\easypagecheck}{}{}

```

#### File 76 **l warp-changes.sty**

### § 184 Package **changes**

(Emulates or patches code by EKKART KLEINOD.)

Pkg **changes** **changes** is patched for use by **l warp**.

⚠ **\comment** Use `commandnameprefix=ifneeded` to avoid a conflict with the `\comment` command when using **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{changes}[2021/02/14]

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```

2 \renewcommand{\ChangesListline}[4]{%
3 \IfIsInList{#1}{\Changes@loc@show}{%
4 \LWR@startpars%
5 #2: #3 \qqquad%
6 \nameref{\BaseJobname-autopage-\#4}%
7 \LWR@stoppars%
8 }{}%
9 }
10
11 \renewcommand{\listofchanges}[1][\empty]{%
12 \setkeys{Changes@loc}{#1}%
13 \ifbool{Changes@optiondraft}{%
14 {%
15 \IfIsInList{\Changes@loc@style}{list|summary|compactsummary}%
16 {}%
17 {}%
18 \PackageWarning{changes}{Wrong style for list of changes: '\Changes@loc@style', using 'list' instead.}%

```

```
19 \def\Changes@loc@style{}%
20 }%
21 \IfIsEmpty{\Changes@loc@style}%
22 {\def\Changes@loc@style{list}}%
23 {}%
24 \IfStrEq{\Changes@loc@show}{all}%
25 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
26 {}%
27 \IfIsInList{\Changes@loc@show}{added|deleted|replaced|highlight|comment}%
28 {}%
29 {}%
30 \PackageWarning{changes}{Wrong show-value for list of changes: '\Changes@loc@show', using 'all' instead.}%
31 \def\Changes@loc@show{}%
32 }%
33 \IfIsEmpty{\Changes@loc@show}%
34 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
35 {}%
36 \IfIsEmpty{\Changes@loc@title}%
37 {}%
38 \IfStrEq{\Changes@loc@style}{list}%
39 {\def\Changes@heading{\listofchangesname}}%
40 \IfStrEq{\Changes@loc@style}{summary}%
41 {\def\Changes@heading{\summaryofchangesname}}%
42 \IfStrEq{\Changes@loc@style}{compactsummary}%
43 {\def\Changes@heading{\compactsummaryofchangesname}}%
44 }%
45 {\def\Changes@heading{\Changes@loc@title}}%
46 \section*\{\Changes@heading}%
47 \IfIsInList{\Changes@loc@style}{list}%
48 {}%
49 \IfFileExists{\jobname.\Changes@locextension}%
50 {}%
51 \newread\Changes@InFile%
52 \openin\Changes@InFile=\jobname.\Changes@locextension%
53 \loop\unless\ifeof\Changes@InFile%
54 \read\Changes@InFile to \Changes@Line%
55 \ifeof\Changes@InFile\else%
56 \Changes@Line%
57 \fi%
58 \repeat%
59 \closein\Changes@InFile%
60 }{%
61 \emph{\changesnoloc}%
62 \PackageWarning{changes}{LaTeX rerun needed for list of changes}%
63 }%
64 }{%
65 \IfIsInList{\Changes@loc@style}{summary|compactsummary}%
66 {}%
67 \IfFileExists{\jobname.\Changes@socextension}%
68 {}%
69 \newread\Changes@InFile%
70 \openin\Changes@InFile = \jobname.\Changes@socextension%
71 \loop\unless\ifeof\Changes@InFile%
72 \read\Changes@InFile to \Changes@Line%
73 \ifeof\Changes@InFile\else%
```

```
74 \expandafter\changes@chopline\Changes@Line\\%
75 \textbf{%
76 \IfIsColored%
77 {\color{\Changes@Incolor}}%
78 {}}%
79 \IfIsAnonymous{\Changes@Inid}%
80 {%
81 \LWR{textcurrentcolor}{% lwarf
82 \changesauthorname: \changesanonymousname%
83 }%
84 }%
85 {%
86 \LWR{textcurrentcolor}{% lwarf
87 \changesauthorname: \Changes@Inid%
88 }%
89 \IfIsEmpty{\Changes@Inname}%
90 {}}%
91 { %
92 \LWR{textcurrentcolor}{% lwarf
93 (\Changes@Inname)%
94 }%
95 }%
96 }%
97 }\\%
98 \numdef{\Changes@InSum}{0}%
99 \renewcommand*\do}[1]{%
100 \numdef{\Changes@InSum}{\Changes@InSum + \csuse{Changes@In#####1}}%
101 }%
102 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
103 \ifnumcomp{\Changes@InSum}{=}{0}%
104 {%
105 % \parbox{\Changes@summary@width}{% lwarf
106 \changesnochanges%
107 }%
108 \% \\[1ex]%
109 \par% \lwarf
110 }%
111 {%
112 \numdef{\Changes@InCount}{0}%
113 \renewcommand*\do}[1]{%
114 \numdef{\Changes@InCount}{\Changes@InCount + \csuse{Changes@In#####1}}%
115 \ifboolexpr{%
116 not \IfStrEq{\Changes@loc@style}{compactsummary}} or%
117 test {\ifnumgreater{\csuse{Changes@In#####1}}{0}}%
118 }%
119 {%
120 % \parbox{\Changes@summary@width}{% lwarf
121 \csuse{changes#####1name}~%
122 \% \let\cleaders\leaders\dotfill~% lwarf
123 \dotfill~% \lwarf
124 \csuse{Changes@In#####1}%
125 \% lwarf
126 \% \ifnumless{\Changes@InCount}{\Changes@InSum}%
127 {\\}%
128 \% \\[1ex]%
129 }
```

```
129 }%
130 { }%
131 }%
132 \expandafter\expandafter\expandafter{\Changes@loc@show}%
133 \par% lwarp
134 }%
135 \fi%
136 \repeat
137 \closein\Changes@InFile%
138 }{%
139 \emph{\changesnosoc}%
140 \PackageWarning{changes}{LaTeX rerun needed for summary of changes}%
141 }%
142 }{ }%
143 }{ }%
144 }
145
146
147 \renewcommand{\Changes@Markup@comment}[3]{%
148 \IfStrEq{\Changes@optioncommentmarkup}{todo}%
149 {%
150 \IfIsColored%
151 {\colorlet{\Changes@todocolor}{authorcolor}}%
152 {\colorlet{\Changes@todocolor}{black}}%
153 \todo[color=\Changes@todocolor!10, bordercolor=\Changes@todocolor, linecolor=\Changes@todocolor!70, nolist]%
154 }{ }%
155 \IfStrEq{\Changes@optioncommentmarkup}{margin}%
156 {%
157 \marginpar{%
158 \IfIsColored%
159 {\leavevmode\color{authorcolor}}%
160 }{ }%
161 \LWR@textcurrentcolor{%
162 \textbf{[\IfIsAnonymous{#2}{}{#3~}\arabic{\Changes@commentCount#2}]:} #1%
163 }% lwarp
164 }{ }%
165 }{ }%
166 \IfStrEq{\Changes@optioncommentmarkup}{footnote}%
167 {%
168 \footnote{%
169 \LWR@textcurrentcolor{%
170 \textbf{[\IfIsAnonymous{#2}{}{#3~}\arabic{\Changes@commentCount#2}]:} #1%
171 }% lwarp
172 }{ }%
173 }{ }%
174 \IfStrEq{\Changes@optioncommentmarkup}{uwave}%
175 {%
176 {%
177 \IfIsColored%
178 {\color{authorcolor}}%
179 }{ }%
180 \allowbreak%
181 \uwave{%
182 \textbf{[\IfIsAnonymous{#2}{}{#3~}\arabic{\Changes@commentCount#2}]:} #1%
183 }%
```

```
184 }%
185 }{ }%
186 }
187
188 \renewrobustcmd{\Changes@output}[7]{%
189 \ifbool{Changes@optiondraft}{%
190 {%
191 \Changes@check@author{#2}%
192 \Changes@set@color{#2}%
193 {%
194 \IfIsInList{#1}{added|deleted|replaced|highlight}{%
195 {%
196 \IfIsEmpty{#5}{%
197 {%
198 \IfIsEmptyAtPosition{#2}{left}{%
199 { }%
200 { {%
201 \IfIsColored{%
202 {\color{authorcolor}}%
203 { }%
204 \LWR@textcurrentcolor{%
205 \Changes@Markup@author{\Changes@output@author{#2}{left}}{%
206 }% lwarp
207 }%}
208 }{ }%
209 {%
210 \IfStrEq{#1}{highlight}{%
211 { }{ }%
212 \IfIsColored{%
213 {\color{authorcolor}}%
214 { }%
215 {%
216 \LWR@textcurrentcolor{%
217 \IfStrEq{#1}{added}{\Changes@Markup@added{#3}}{%
218 \IfStrEq{#1}{deleted}{\Changes@Markup@deleted{#4}}{%
219 \IfStrEq{#1}{replaced}{\allowbreak\Changes@Markup@added{#3}\allowbreak\Changes@Markup@deleted{#4}}{%
220 \IfStrEq{#1}{highlight}{\Changes@Markup@highlight{#3}}{%
221 }% lwarp
222 }%}
223 \IfIsEmpty{#5}{%
224 {%
225 \IfIsEmptyAtPosition{#2}{right}{%
226 { }%
227 { {%
228 \IfIsColored{%
229 {\color{authorcolor}}%
230 { }%
231 \LWR@textcurrentcolor{%
232 \Changes@Markup@author{\Changes@output@author{#2}{right}}{%
233 }% lwarp
234 }%}
235 }{ }%
236 \stepcounter{Changes@#1Count#2}%
237 }{ }%
238 \IfIsEmpty{#5}{%
```

---

```

239 { }%
240 {%
241 \stepcounter{Changes@commentCount#2}%
242 \Changes@set@commentcount{#2}%
243 \Changes@Markup@comment%
244 {#5}%
245 {#2}%
246 {\Changes@output@author{#2}{left}\Changes@output@author{#2}{right}}%
247 }%
248 }%
249 \IfIsEmpty{#2}%
250 {\def\Changes@locid{}}
251 {\def\Changes@locid{\~{#2}}}
252 \addtocontents{\Changes@locextension}{\protect\ChangesListline{#1}{#6\Changes@locid}{#7}{\thepage}}%
253 }%
254 {%
255 \IfIsEmpty{#3}%
256 {\@bsphack\@esphack}%
257 {#3}%
258 }%
259 }

```

---

File 77 **l warp-chappg.sty**

§ 185 Package **chappg**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg chappg chappg is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{chappg}[2006/05/09]

2 \renewcommand{\pagenumbering}[2][]{}
3 \providecommand{\chappgsep}{--}

```

---

File 78 **l warp-chapterbib.sty**

§ 186 Package **chapterbib**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg chapterbib chapterbib is patched for use by l warp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{chapterbib}[2010/09/18]

2 \xdef\@savedjobname{\BaseJobname}
3 \let\@currentipfile\@savedjobname

```

---

File 79 **l warp-chemfig.sty**

§ 187      Package **chemfig**

*(Emulates or patches code by CHRISTIAN TELLECHEA.)*

Pkg **chemfig** **chemfig** is patched for use by **l warp**.

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `\lateximage`:

```
\begin{lateximage}[-chemfig-~\PackageDiagramAltText]
\chemfig{...}
\polymerdelim[...]{...}
\end{lateximage}
```

The images are not hashed because they depend on external settings which may be changed at any time, and are unlikely to be reused inline anyhow.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemfig}[2021/02/28]

```

2 \catcode`_=11
3
4 \@ifpackagelater{chemfig}{2020/03/05}
5 {
6 \xpretocmd\charge{\begin{lateximage}[-chemfig-~\PackageDiagramAltText]}
7 {}{\LWR@patcherror{chemfig}{charge}}
8 \xpretocmd\Charge{\begin{lateximage}[-chemfig-~\PackageDiagramAltText]}
9 {}{\LWR@patcherror{chemfig}{Charge}}
10 \xapptocmd\charge_c{\end{lateximage}}
11 {}{\LWR@patcherror{chemfig}{charge_c}}
12 }{}
13
14 \@ifpackagelater{chemfig}{2019/04/18}%
15 {%
16 2019/04/18 or newer
17
18 \xpretocmd{\CF_chemfiga}
19 {\begin{lateximage}[-chemfig-~\PackageDiagramAltText]}
20 {}{\LWR@patcherror{chemfig}{CF_chemfiga}}
21
22 \xpatchcmd{\CF_chemfigb}
23 {\let\CF_flipstate\CF_zero}
24 {\end{lateximage}\let\CF_flipstate\CF_zero}
25 {}{\LWR@patcherror{chemfig}{CF_chemfigb}}
26
27 \GlobalLetLtxMacro\LWR@chemfig@origCF_lewisc\CF_lewisc
28 \gdef\CF_lewisc#1,#2_nil{%
29 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
30 \LWR@chemfig@origCF_lewisc#1,#2_nil
31 \end{lateximage}
32 }
33 \gpreto{\schemestart}{%
34 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
35 }
36 \gappto{\CF_schemestop}{\end{lateximage}}
```

```
37 }% 2019/04/18 or newer
38 {%
39 older than 2019/04/18
40 \LetLtxMacro{\LWR@chemfig}{\origchemfig}\chemfig
41
42 \DeclareDocumentCommand{\chemfig}{s O{} O{} m}{%
43 \begin{ lateximage }[-chemfig-\~\PackageDiagramAltText]%
44 \IfBooleanTF{#1}{%
45 \LWR@chemfig@\origchemfig*[#2][#3]{#4}%
46 }{%
47 \LWR@chemfig@\origchemfig[#2][#3]{#4}%
48 }
49 \end{ lateximage }%
50 }
51
52 \LetLtxMacro{\LWR@chemfig}{\origCF@lewis@b}\CF@lewis@b
53
54 \def\CF@lewis@b#1#2{%
55 \begin{ lateximage }[-chemfig-\~\PackageDiagramAltText]%
56 \LWR@chemfig@\origCF@lewis@b{#1}{#2}%
57 \end{ lateximage }%
58 }
59
60 \preto{\schemestart}{%
61 \begin{ lateximage }[-chemfig-\~\PackageDiagramAltText]%
62 }
63 \appto{\CF@schemestop}{\end{ lateximage }%
64
65 }% older than 2019/04/18
66
67 \catcode`_=8%
68
69
70
71 \LetLtxMacro{\LWR@chemfig}{\origchemleft}\chemleft
72
73 \def\chemleft#1#2\chemright#3{%
74 \begin{ lateximage }[-chemfig-\~\PackageDiagramAltText]%
75 \LWR@chemfig@\origchemleft#1#2\chemright#3%
76 \end{ lateximage }%
77 }
78
79 \LetLtxMacro{\LWR@chemfig}{\origchemup}\chemup
80
81 \def\chemup#1#2\chemdown#3{%
82 \begin{ lateximage }[-chemfig-\~\PackageDiagramAltText]%
83 \LWR@chemfig@\origchemup#1#2\chemdown#3%
84 \end{ lateximage }%
85 }
```

§ 188      Package **chemformula**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg **chemformula** **chemformula** is patched for use by **l warp**.

The SVG images are hashed according to contents and local options. Global options are assumed to be constant document-wide.

⚠ **chemformula with MATHJAX** **chemformula** works best without MATHJAX. If MATHJAX is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The **chemformula** package adapts to `array`, but does not know about MATHJAX, and MATHJAX does not know about **chemformula**.)

While using MATHJAX, `\displaymathother` may also be used for other forms of display and inline math which contain **chemformula** expressions.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{chemformula}[2019/10/13]

2 \ExplSyntaxOn

```

`\ch` Enclose in an inline SVG image or MATHJAX. The `alt` tag is the contents of the `\ch` expression. The filename is hashed, and also has additional hashing information based on the local options.

```

3 \RenewDocumentCommand \ch { O{}m }
4 {%

```

To work inside `align` with `\displaymathother`, a simple version must be used to work with **chemformula**'s adaptation to `align`.

```

5 \ifnumcomp{\value{\LWR@latextimedepth}}{>}{0}%
6 {
7 \chemformula_ch:nn {#1} {#2}%
8 }%

```

If used as the outer level, must temporarily ensure MATHJAX is disabled:

```

9 {
10 \begingroup%
11 \boolfalse{mathjax}%

```

An inline image is used, adjusted for the baseline:

```

12 \LWR@subsingle$*{%
13 \textbackslash\{}ch\{\LWR@HTMLsanitize{#2}\}%
14 alt text
15 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
16 add'l hashing
17 \}%
18 \chemformula_ch:nn {#1} {#2}%
19 original
20 \endgroup%
21}
22}

```

\chcpd Similar to \ch.

```
23 \@ifpackagelater{chemformula}{2019/10/13}{
24 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
25 {
26 \begingroup%
27 \boolfalse{mathjax}%
28 \LWR@subsingledollar*{\% lwarp
29 \textbackslash{}chcpd\{\LWR@HTMLsanitize{\#2}\}\%}
30 }{%
31 \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}\%
32 }{\% original
33 \group_begin:
34 \tl_if_blank:nF {\#2}
35 {
36 \keys_set:nn {chemformula} {\#1}
37 __chemformula_save_catcodes:
38 __chemformula_sanitze:Nn
39 \l__chemformula_chemformula_tmpa_tl
40 {\#2}
41 __chemformula_input_compound_no_check:NV
42 \l__chemformula_compound_tl
43 \l__chemformula_chemformula_tmpa_tl
44 __chemformula_prepare_output:NV
45 \l__chemformula_compound_tl
46 \l__chemformula_catcodes_tl
47 \chemformula_write:V \l__chemformula_compound_tl
48 }
49 \group_end:
50 }
51 \endgroup
52 }
53 }% later than 2019/10/13
54 {\% earlier than 2019/10/13
55 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
56 {
57 \begingroup%
58 \boolfalse{mathjax}%
59 \LWR@subsingledollar*{\% lwarp
60 \textbackslash{}chcpd\{\LWR@HTMLsanitize{\#2}\}\%}
61 }{%
62 \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}\%
63 }{\% original
64 \group_begin:
65 \tl_if_blank:nF {\#2}
66 {
67 \keys_set:nn {chemformula} {\#1}
68 __chemformula_save_catcodes:
69 __chemformula_sanitze:Nn
70 \l__chemformula_chemformula_tmpa_tl
71 {\#2}
72 __chemformula_input_compound_no_check:NV
73 \l__chemformula_compound_tl
74 \l__chemformula_chemformula_tmpa_tl
75 __chemformula_prepare_output:N \l__chemformula_compound_tl
76 \chemformula_write:V \l__chemformula_compound_tl
```

```

77 }
78 \group_end:
79 }
80 \endgroup
81 }
82 }% earlier than 2019/10/13

```

\charrow If standalone, appears in a regular `lateximage`.

```

83 \RenewDocumentCommand \charrow { mO{}O{} }
84 {
85 \begin{latentimage}[-chemformula- charrow]
86 \group_begin:
87 __chemformula_draw_arrow:nnn {#1} {#2} {#3}
88 \group_end:
89 \end{latentimage}
90 }

```

\chname If standalone, appears in a regular `lateximage`, hashed according to contents.

```

91 \RenewDocumentCommand \chname { R(){}R(){} }
92 {
93 \begin{latentimage}*[%
94 \textbackslash chname(\LWR@HTMLsanitize{#1})(\LWR@HTMLsanitize{#2})
95]*%
96 \chemformula_chwritebelow:nn {#1} {#2}
97 \end{latentimage}
98 }

```

\chlewis Placed inline, hashed according to contents and options.

```

99 \RenewDocumentCommand \chlewis { O{}mm }
100 {
101 \begingroup%
102 \boolfalse{mathjax}%
103 \LWR@subsingle dollar*\textbackslash chlewis\{#2\}\{#3\}%
104 {
105 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
106 }%
107 \chemformula_lewis:nnn {#1} {#2} {#3}
108 }
109 \endgroup%
110 }

```

`lwarp` redefines the \$ character, so special handling is required to escape math expressions inside `\ch`.

This boolean tracks a new kind of escaped math:

```
111 \bool_new:N \l__chemformula_first_last_LWRdollar_bool
```

Adds additional escaping for the new dollar definition:

```

112 \cs_gset_protected:Npn __chemformula_input_escape_math:n #1
113 {
114 __chemformula_first_last_math:n {#1}
115 \bool_if:NT \l__chemformula_first_last_dollar_bool
116 {
117 \bool_set_true:N \l__chemformula_first_last_math_bool
118 __chemformula_read_escape_dollar:w #1 \q_nil
119 }
120 \bool_if:NT \l__chemformula_first_last_mathbraces_bool
121 {
122 \bool_set_true:N \l__chemformula_first_last_math_bool
123 __chemformula_read_escape_mathbraces:w #1 \q_nil
124 }

```

Added by lwarp:

```

125 \bool_if:NT \l__chemformula_first_last_LWRdollar_bool% lwarp
126 {
127 \bool_set_true:N \l__chemformula_first_last_math_bool% lwarp
128 __chemformula_read_escape_LWRdollar:w #1 \q_nil% lwarp
129 }
130 }
```

### \chemformula\_read\_escape\_LWRdollar

The following parses the contents inside the new dollars.

lwarp keeps the dollar as its original math shift until the document starts. While `chemmacros` is being patched, the dollar must temporarily be set to its new meaning during the following definition.

```

131 \begingroup
132 \catcode`\$=\active
133
134 \cs_new_protected:Npn __chemformula_read_escape_LWRdollar:w $#1$ \q_nil
135 {
136 __chemformula_read_escape_math:n {#1}
137 }
138
139 \endgroup

```

### \chemformula\_bool\_set\_if\_first\_last

The following looks at the first and last tokens for delimiters to escape math inside `\ch`. The original definition is modified to look for the control sequences which are used by the new meaning of \$.

```

140 \cs_new_protected:Npn __chemformula_bool_cs_set_if_first_last:NnNN #1#2#3#4
141 {
142 \int_zero:N \l__chemformula_tmpa_int
143 \int_zero:N \l__chemformula_tmpb_int
144 \int_set:Nn \l__chemformula_tmpa_int { \tl_count:n {#2} }
145 \tl_map_inline:nn {#2}
146 {

```

```

147 \int_incr:N \l__chemformula_tmpb_int
148 \int_compare:nT { \l__chemformula_tmpb_int = 1 }
149 {

```

At the start, the cs\_ version compares control sequences:

```

150 \ifdefstrelqual{##1}{##3}%
151 {
152 \bool_set_true:N #1
153 }%
154 {}
155 }

```

At the end, compare more control sequences:

```

156 \int_compare:nT { \l__chemformula_tmpb_int = \l__chemformula_tmpa_int }
157 {
158 \ifdefstrelqual{##1}{##4}
159 {}
160 {
161 \bool_set_false:N #1
162 }
163 }
164 }
165 }

```

### \chemformula\_first\_last\_math

Modified to check for the new meaning of \$ at first/last:

```

166 \cs_gset_protected:Npn __chemformula_first_last_math:n #1
167 {
168 \bool_set_false:N \l__chemformula_first_last_math_bool
169 \bool_set_false:N \l__chemformula_first_last_dollar_bool
170 \bool_set_false:N \l__chemformula_first_last_LWRdollar_bool% lwarp
171 \bool_set_false:N \l__chemformula_first_last_mathbraces_bool
172 __chemformula_bool_set_if_first_last:Nnnn
173 \l__chemformula_first_last_dollar_bool
174 {#1}
175 { $ } { $ }
176 \bool_if:NF \l__chemformula_first_last_dollar_bool
177 {
178 __chemformula_bool_set_if_first_last:Nnnn
179 \l__chemformula_first_last_mathbraces_bool
180 {#1}
181 { \'(} { \') }

```

Added by lwarp:

```

182 \bool_if:NF \l__chemformula_first_last_mathbraces_bool% lwarp
183 {
184 __chemformula_bool_cs_set_if_first_last:NnNN
185 \l__chemformula_first_last_LWRdollar_bool
186 {#1}
187 { \LWR@newsingledollar } { \LWR@newsingledollar }
188 }%
189 }
190 }

```

---

191 \ExplSyntaxOff

---

File 81 **l warp-chemgreek.sty**

§ 189 Package **chemgreek**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemgreek chemgreek is patched for use by l warp.

**Greek symbols** To use text-mode symbols, use packages **textalpha** or **textgreek**. Using the other packages

**⚠ package selection** supported by **chemgreek** will result in math-mode greek characters, which will result in SVG images being used. These images will be hashed.

**⚠ X<sub>E</sub>T<sub>E</sub>X, L<sub>U</sub>A<sub>T</sub>E<sub>X</sub>** If using X<sub>E</sub>T<sub>E</sub>X or L<sub>U</sub>A<sub>T</sub>E<sub>X</sub>, select the fontspec mapping:

\selectchemgreekmapping{fontspec}

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemgreek}[2020/01/16]

```

2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemgreek_text:n #1
5 { { \text {#1} } }
6
7 \appto\LWR@restoreorigformatting{%
8 \cs_set_protected:Npn \chemgreek_text:n #1%
9 { \ensuremath { \text {#1} } } }%
10 }
11
12 \ExplSyntaxOff

```

---

File 82 **l warp-chemmacros.sty**

§ 190 Package **chemmacros**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemmacros chemmacros is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemmacros}[2017/08/28]

SVG file hashing assumes that the relevant options are constant for the entire document.

## § 190.1 Changes to the user's document

### ⚠ \makepolymerdelims

When using `\makepolymerdelims`, enclose the entire expression inside a `polymerdelims` environment, such as (from the `chemmacros` manual):

```
\begin{polymerdelims}
\chemfig{-[@{op,.75}]CH_2-CH(-[6]Cl)-[@{cl,0.25}]}
\makepolymerdelims{5pt}[27pt]{op}{cl}
\end{polymerdelims}
```

### ⚠ redox reactions

Redox reactions must be enclosed inside a `redoxreaction` environment. For print output, extra space must be included above and/or below the result, so they are declared as arguments to the environment, instead of being manually entered as per the `chemmacros` manual. For `HTML` output, the extra space is ignored and a `lateximage` is used instead.

```
\begin{redoxreaction}{7mm}{7mm}
\O{a,Na} \rightarrow \O{b,Na}\pch\redox(a,b){oxidation}
\end{redoxreaction}
```

## § 190.2 Code

### § 190.3 Loading modules

Patching `chemmacros` modules must be done `\AtBeginDocument`, since modules are invoked by the user in the preamble, and each patch is only done if the module is loaded.

```
2 \ExplSyntaxOn
3
4 \newcommand{\@ifchemmacrosmoduleloaded}[1]{%
5 \ifl@aded{\c__chemmacros_module_extension_tl}{\c__chemmacros_module_prefix_tl.\#1}%
6 }
7
8 \ExplSyntaxOff
```

### § 190.4 New environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during `HTML` output. These environments are provided here in `HTML` mode, and in the `lwarp` core in print mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

Env `polymerdelims`

```
9 \DeclareDocumentEnvironment{polymerdelims}{}{%
10 {\begin{lateximage}[-chemmacros- polymer]}{%
11 {\end{lateximage}}}}
```

Env `redoxreaction` `{<space above>} {<space below>}`

For `HTML` output, the above and below space is ignored, and a `lateximage` is used instead. For the print output version, see section 90.

```
12 \DeclareDocumentEnvironment{redoxreaction}{m m}
13 {\begin{ lateximage }[-chemmacros- redoxreaction] }
14 {\end{ lateximage} }

15 \ExplSyntaxOn
```

## § 190.5 Acid-base

```
16 \AtBeginDocument{
17 \@ifchemmacrosmoduleloaded{acid-base} {
18 \PackageInfo{lwarp}{Patching~chemmacros~module~acid-base}
19
20 \cs_gset_protected:Npn \chemmacros_p:n #1
21 {
22 \begingroup
23 \boolfalse{mathjax}
24 \LWR@subsingledollar*{
25 \textbackslash{}p\{\LWR@HTMLsanitize{\#1}\}
26 }{
27 \chemmacrosp\protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}%
28 }{
29 \group_begin:
30 \mbox
31 {
32 \chemmacros_p_style:n {p}
33 \ensuremath {\#1}
34 }
35 \group_end:
36 }
37 \endgroup
38 }
39
40 \RenewDocumentCommand \pH {} {
41 \begingroup
42 \boolfalse{mathjax}
43 \LWR@subsingledollar*{\textbackslash{}pH}{chemmacros} {
44 \chemmacros_p:n { \chemmacros_chemformula:n {H} }
45 }
46 \endgroup
47 }
48
49 \RenewDocumentCommand \pOH {} {
50 \begingroup
51 \boolfalse{mathjax}
52 \LWR@subsingledollar*{\textbackslash{}pOH}{chemmacros} {
53 \chemmacros_p:n { \chemmacros_chemformula:n {OH} }
54 }
55 \endgroup
56 }
57
58 \RenewDocumentCommand \pKa {O{}} {
59 {
60 \begingroup
61 \boolfalse{mathjax}
62 \LWR@subsingledollar*{\textbackslash{}pKa{[]}{#1{}}}{chemmacros #1}{
```

```
63 \chemmacros_p:n
64 {
65 \Ka \ifblank {\#1} {}
66 { {} \c_math_subscript_token { \chemmacros_bold:n {\#1} } }
67 }
68 }
69 \endgroup
70 }
71
72 \RenewDocumentCommand \pKb {O{}}
73 {
74 \begingroup
75 \boolfalse{mathjax}
76 \LWR@subsingledollar*{\textbackslash{}pKb{[]}\#1{}}{\chemmacros #1}{%
77 \chemmacros_p:n
78 {
79 \Kb \ifblank {\#1} {}
80 { {} \c_math_subscript_token { \chemmacros_bold:n {\#1} } }
81 }
82 }
83 \endgroup
84 }
85
86 \LetLtxMacro \LWR@chemmacros@origKa \Ka
87 \renewcommand*\Ka}{%
88 \begingroup
89 \boolfalse{mathjax}
90 \LWR@subsingledollar*{\textbackslash{}Ka}{\chemmacros}{%
91 \LWR@chemmacros@origKa%
92 }%
93 \endgroup
94 }
95
96 \LetLtxMacro \LWR@chemmacros@origKb \Kb
97 \renewcommand*\Kb}{%
98 \begingroup
99 \boolfalse{mathjax}
100 \LWR@subsingledollar*{\textbackslash{}Kb}{\chemmacros}{%
101 \LWR@chemmacros@origKb%
102 }%
103 \endgroup
104 }
105
106 \LetLtxMacro \LWR@chemmacros@origKw \Kw
107 \renewcommand*\Kw}{%
108 \begingroup
109 \boolfalse{mathjax}
110 \LWR@subsingledollar*{\textbackslash{}Kw}{\chemmacros}{%
111 \LWR@chemmacros@origKw
112 }%
113 \endgroup
114 }
115
116 }{ }% \@ifchemmacrosmoduleloaded
117 }% AtBeginDocument
```

## § 190.6 Charges

```

118 \AtBeginDocument{
119 \@ifchemmacrosmoduleloaded{charges}{
120 \PackageInfo{lwarp}{Patching~chemmacros~module~charges}
121
122 \cs_gset_protected:Npn \fplus {
123 \begingroup
124 \boolearn{mathjax}
125 \LWR@subsingle dollar{\textbackslash fplus}{chemmacros}
126 { \LWR@origensuredmath{\chemformula_fplus:} }
127 \endgroup
128 }
129 \cs_gset_protected:Npn \fminus {
130 \begingroup
131 \boolearn{mathjax}
132 \LWR@subsingle dollar{\textbackslash fminus}{chemmacros}
133 { \LWR@origensuredmath{\chemformula_fminus:} }
134 \endgroup
135 }
136
137 }{}% \@ifchemmacrosmoduleloaded
138 }% AtBeginDocument

```

## § 190.7 Nomenclature

```

139 \AtBeginDocument{
140 \@ifchemmacrosmoduleloaded{nomenclature}{
141 \PackageInfo{lwarp}{Patching~chemmacros~module~nomenclature}
142
143 \cs_gset_protected:Npn \chemmacros_charge:n #1
144 {
145 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}
146 {\chemmacros_chemformula:n { {}^{#1} }}
147 {
148 \ifmmode
149 {\chemmacros_chemformula:n { {}^{#1} }}
150 \else
151 { \textsuperscript{\ensuremath{#1}} }
152 \fi
153 }
154 }
155
156
157 \LetLtxMacro{\LWR@chemmacros@origchemprime}{\chemprime}
158
159 \protected\def\chemprime { \HTMLUnicode{2032} }
160
161 \appto{\LWR@chemmacros@origchemprime}{%
162 \LetLtxMacro{\chemprime}{\LWR@chemmacros@origchemprime}%
163 }
164 \ChemCompatibilityFrom{5.8}
165 \cs_gset_protected:Npn __chemmacros_cip:n #1
166 {
167 \tl_set:Nn \l__chemmacros_tlp {#1}

```

```
168 \int_step_inline:nnn {0} {1} {9}
169 {
170 \tl_replace_all:Nnn \l__chemmacros_tmpa_tl
171 {##1}
172 { { \l__chemmacros_cip_number_tl ##1} }
173 }
174 {
175 \l__chemmacros_cip_inner_tl
176 \LWR@textcurrentcolor{\LWR@textcurrentfont\% lwarp
177 \l__chemmacros_tmpa_tl
178 }%\% lwarp
179 }
180 }
181 \EndChemCompatibility

182 \RenewDocumentCommand \Sconf { O{S} } {
183 \begin{lateximage}[\textbackslash{}textbackslash{}Sconf{[]}\#1{[]}]*
184 \chemmacros_sconf:n {#1}
185 \end{lateximage}
186 }
187
188 \RenewDocumentCommand \Rconf { O{R} } {
189 \begin{lateximage}[\textbackslash{}textbackslash{}Rconf{[]}\#1{[]}]*
190 \chemmacros_rconf:n {#1}
191 \end{lateximage}
192 }

193 \cs_gset_protected:Npn \chemmacros_hapto:n #1
194 {
195 \begingroup
196 \boolfalse{mathjax}
197 \LWR@subsingle dollar*\textbackslash{}hapto\{#1\}\chemmacros{
198 \chemmacros_coordination_symbol:nnn
199 { \l__chemmacros_coord_use_hyphen_bool }
200 {
201 \chemmacros_if_compatibility:nnTF {>} {5.7}
202 { \c_true_bool }
203 { \c_false_bool }
204 }
205 { \chemeta }
206 {#1}
207 }
208 \endgroup
209 }
210
211 \cs_gset_protected:Npn \chemmacros_dento:n #1
212 {
213 \begingroup
214 \boolfalse{mathjax}
215 \LWR@subsingle dollar*\textbackslash{}dento\{#1\}\chemmacros{
216 \chemmacros_coordination_symbol:nnn
217 { \l__chemmacros_coord_use_hyphen_bool }
218 {
219 \chemmacros_if_compatibility:nnTF {>} {5.7}
220 { \c_true_bool }
221 { \c_false_bool }
```

```

222 }
223 { \chemkappa }
224 {#1}
225 }
226 \endgroup
227 }
228
229 \cs_gset_protected:Npn \chemmacros_bridge:n #1
230 {
231 \begingroup
232 \boolfalse{mathjax}
233 \LWR@subsingle dollar*{\textbackslash bridge\{#1\}}{\chemmacros}{%
234 \chemmacros_coordination_symbol:nnn
235 { \l_chemmacros_coord_use_hyphen_bool }
236 { \l_chemmacros_bridge_super_bool }
237 { \chemmu }
238 {#1}
239 }
240 \endgroup
241 }
242 }{}% \ifchemmacrosmoduleloaded
243 % AtBeginDocument

```

## § 190.8 Particles

```

244 \AtBeginDocument{
245 @ifchemmacrosmoduleloaded{particles}%
246 \PackageInfo{lwarf}{Patching~chemmacros~module~particles}
247
248 \cs_gset_protected:Npn \chemmacros_declare_nucleophile:Nn #1#2
249 {
250 \cs_set_protected:cpx {__chemmacros_ \chemmacros_remove_backslash:N #1:}%
251 {
252 \bool_if:NTF \l_chemmacros_nucleophile_elpair_bool
253 {
254 \chemmacros_elpair:n {#2}
255 \chemmacros_if_compatibility:nnT {>=}{5.3}
256 { \skip_horizontal:N \l_chemmacros_nucleophile_dim }
257 \chemmacros_chemformula:n { {}^{ -} }
258 }
259 { \chemmacros_chemformula:n { #2^{ -} } }
260 }
261 \DeclareDocumentCommand #1 {o}
262 {%
263 \begin{ lateximage }%
264 \group_begin:%
265 \IfNoValueF {##1}{%
266 { \chemmacros_set_keys:nn {particles} {##1} }%
267 \use:c {__chemmacros_ \chemmacros_remove_backslash:N #1:}%
268 \group_end:%
269 \end{ lateximage }%
270 }
271 }
272
273 \RenewChemNucleophile \Nuc {Nu}
274 \RenewChemNucleophile \ba {ba}

```

```

275
276 }{ }% \@ifchemmmacrosmoduleloaded
277 }% AtBeginDocument

Phases

278 \AtBeginDocument{
279 \@ifchemmmacrosmoduleloaded{phases}{%
280 \PackageInfo{l warp}{Patching~chemmmacros~module~phases}}
281
282 \cs_undefine:N \chemmmacros_phase:n
283 \cs_new_protected:Npn \chemmmacros_phase:n #1
284 {
285 \mode_leave_vertical:
286
287 \bool_if:NTF \l__chemmmacros_phases_sub_bool
288 {
289 \ifnumequal{\value{LWR@latextimedepth}}{0}
290 {
291 \textsubscript{ (#1) }
292 }
293 \chemformula_subscript:n { (#1) }
294 }
295 }
296 {
297 \skip_horizontal:N \l__chemmmacros_phases_space_dim
298 \chemmmacros_text:n { (#1) }
299 }
300 }
301
302 }{ }% \@ifchemmmacrosmoduleloaded
303 }% AtBeginDocument

```

§ 190.10 Mechanisms

```

304 \AtBeginDocument{
305 \ifchemmacrosmoduleloaded{mechanisms}%
306 \PackageInfo{l warp}{Patching~chemmacros~module~mechanisms}%
307
308 \chemmacros_define_keys:n {textmechanisms}
309 {
310 type .choice: ,
311 type / .code:n =
312 {
313 __chemmacros_set_mechanisms:nnn { S }
314 {
315 \textsubscript{N}
316 }
317 {
318 } ,
319 type / 1 .code:n =
320 {
321 __chemmacros_set_mechanisms:nnn { S }

```

```
322 {
323 \textsubscript{N}
324 1
325 }
326 { }
327 } ,
328 type / 2 .code:n =
329 {
330 \chemmacros_set_mechanisms:nnn { S }
331 {
332 \textsubscript{N}
333 2
334 }
335 { }
336 } ,
337 type / se .code:n =
338 {
339 \chemmacros_set_mechanisms:nnn { S }
340 {
341 \textsubscript{E}
342 }
343 { }
344 } ,
345 type / 1e .code:n =
346 {
347 \chemmacros_set_mechanisms:nnn { S }
348 {
349 \textsubscript{E}
350 1
351 }
352 { }
353 } ,
354 type / 2e .code:n =
355 {
356 \chemmacros_set_mechanisms:nnn { S }
357 {
358 \textsubscript{E}
359 2
360 }
361 { }
362 } ,
363 type / ar .code:n =
364 {
365 \chemmacros_set_mechanisms:nnn { S }
366 {
367 \textsubscript{E}
368 }
369 { Ar - }
370 } ,
371 type / e .code:n =
372 { \chemmacros_set_mechanisms:nnn { E } { } { } } ,
373 type / e1 .code:n =
374 { \chemmacros_set_mechanisms:nnn { E } { 1 } { } } ,
375 type / e2 .code:n =
376 { \chemmacros_set_mechanisms:nnn { E } { 2 } { } } ,
```

```

377 type / cb .code:n =
378 {
379 __chemmacros_set_mechanisms:nnn { E }
380 {
381 1
382 \textsubscript{cb}
383 }
384 { }
385 } ,
386 type .default:n =
387 }
388
389 \cs_gset_protected:Npn \chemmacros_mechanisms:n #1
390 {
391 \tl_if_blank:nTF {#1}
392 { \chemmacros_set_keys:nn {textmechanisms} { type } }
393 { \chemmacros_set_keys:nn {textmechanisms} { type = #1 } }
394 \mbox
395 {
396 \tl_use:N \l_chemmacros_mechanisms_ar_tl
397 \tl_use:N \l_chemmacros_mechanisms_type_tl
398 \tl_use:N \l_chemmacros_mechanisms_mol_tl
399 }
400 }
401
402 \appto\LWR@restoreorigformatting{%
403 \cs_set_protected:Npn \chemmacros_mechanisms:n #1%
404 {%
405 \tl_if_blank:nTF {#1}%
406 { \chemmacros_set_keys:nn {mechanisms} { type } }%
407 { \chemmacros_set_keys:nn {mechanisms} { type = #1 } }%
408 \mbox%
409 {%
410 \tl_use:N \l_chemmacros_mechanisms_ar_tl%
411 \tl_use:N \l_chemmacros_mechanisms_type_tl%
412 \tl_use:N \l_chemmacros_mechanisms_mol_tl%
413 }%
414 }%
415 }
416
417 }{ }% \ifchemmacrosmoduleloaded
418 }% AtBeginDocument

```

### § 190.11 Newman

```

419 \AtBeginDocument{
420 \@ifchemmacrosmoduleloaded{newman}%
421 \PackageInfo{lwarp}{Patching~chemmacros~module~newman}
422
423 \RenewDocumentCommand \newman {od()m}%
424 {
425 \IfValueTF{#2}%
426 {\begin{lateximage}[\textbackslash{}newman{#2}\{\#3\}]*}
427 {\begin{lateximage}[\textbackslash{}newman\{\#3\}]*}
428 \group_begin:
429 \IfNoValueF {#1} { \chemmacros_set_keys:nn {newman} {#1} }

```

```

430 \IfNoValueTF {#2}
431 { \chemmacros_newman:nn { } {#3} }
432 { \chemmacros_newman:nn {#2} {#3} }
433 \group_end:
434 \end{lateximage}
435 }%
436
437 }{}% \ifchemm macros module loaded
438 }% AtBeginDocument

```

## § 190.12 Orbital

```

439 \AtBeginDocument{
440 \ifchemm macros module loaded{orbital}{%
441 \PackageInfo{lwarf}{Patching~chemm macros~module~orbital}
442
443 \RenewDocumentCommand \orbital {om}%
444 {
445 \IfValueTF{#1}%
446 {
447 \begin{lateximage}[%]
448 \textbackslash orbital{[]}\LWR@HTMLsanitize{#1}[]\{#2\}%
449]*[] [margin-left: 1em ; margin-right: 1em]
450 }
451 {
452 \begin{lateximage}[%]
453 \textbackslash orbital\{#2\}%
454]*[] [margin-left: 1em ; margin-right: 1em]
455 }
456 \group_begin:
457 \chemmacros_set_keys:nn {orbital/type} {#2}
458 \IfNoValueTF {#1}%
459 { \chemmacros_orbital:n { } }
460 { \chemmacros_orbital:n {#1} }
461 \group_end:
462 \end{lateximage}
463 }
464
465 }{}% \ifchemm macros module loaded
466 }% AtBeginDocument

```

## § 190.13 Reactions

```

\chemmacros_declare_reaction_env {<chem>} {<math>} {<args number>} {<argument list (#2/#3...)>}
467 \AtBeginDocument{
468 \ifchemm macros module loaded{reactions}{%
469 \PackageInfo{lwarf}{Patching~chemm macros~module~reactions}
470
471 \cs_gset_protected:Npn \chemmacros_declare_reaction_env:nnnn #1#2#3#4
472 {
473 \exp_args:Nnx \DeclareDocumentEnvironment {#1} { O{} \prg_replicate:nn {#3+0} {m} }%
474 {
475 \boolfalse{mathjax}%
476 \ifdefvoid{\LWR@ThisAltText}{%
 lwarf
 lwarf

```

```

477 \ThisAltText{-chemmacros-~reaction}%
478 }{}}% lwarf
479 \chemmacros_add_reaction_description:n {##1} lwarf
480 __chemmacros_begin_reaction:
481 \chemmacros_reaction_read:nw {#2} {#4}
482 }
483 {
484 __chemmacros_end_reaction:
485 \gdef\lWR@ThisAltText{}%
486 }
487 }
488 \cs_generate_variant:Nn \chemmacros_declare_reaction_env:nnnn {nnnV}
489
490 \RenewChemReaction {reaction} {equation}
491 \RenewChemReaction {reaction*} {equation*}
492 \RenewChemReaction {reactions} {align}
493 \RenewChemReaction {reactions*} {align*}
494
495 }{}}% @ifchemmacrosmoduleloaded
496 }% AtBeginDocument

```

#### § 190.14 Redox

```

497 \AtBeginDocument{
498 \@ifchemmacrosmoduleloaded{redox}{
499 \PackageInfo{lwarf}{Patching~chemmacros~module~redox}
500
501 \NewDocumentCommand \lWR@chemmacros@ox { s m >{\SplitArgument{1}{,}}m }
502 {
503 \IfBooleanTF {#1}
504 { \chemmacros_ox:nnnn {#1} {#2} #3 }
505 { \chemmacros_ox:nnnn { } {#2} #3 }
506 }
507
508 \RenewDocumentCommand \ox { s O{} m }
509 {
510 \begingroup
511 \boolfalse{mathjax}
512 \IfBooleanTF {#1}
513 {
514 \lWR@subsingle$*{ yes hash
515 \textbackslash{}ox*\{\lWR@HTMLsanitize{#3}\}%
516 }{%
517 star \protect\lWR@HTMLsanitize{\detokenize\expandafter{#2}}%
518 }{%
519 \lWR@chemmacros@ox* {#2} {#3}%
520 }%
521 }
522 {
523 \lWR@subsingle$*{ yes hash
524 \textbackslash{}ox*\{\lWR@HTMLsanitize{#3}\}%
525 }{%
526 \protect\lWR@HTMLsanitize{\detokenize\expandafter{#2}}%
527 }{%
528 \lWR@chemmacros@ox {#2} {#3}%
529 }%

```

```

530 }
531 \endgroup
532 }
533
534 }{}% \@ifchemmacrosmoduleloaded
535 }% AtBeginDocument

```

### § 190.15 Scheme

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```

536 \AtBeginDocument{
537 \@ifchemmacrosmoduleloaded{scheme}%
538 \PackageInfo{lwarf}{Patching~chemmacros~module~scheme}%
539
540 \ifdefstring{\schemename}{los}{%
541 \SetupFloatingEnvironment{scheme}{%
542 name = \chemmacros_translate:n {scheme-name}%
543 }%
544 }{}%
545
546 }{}% \@ifchemmacrosmoduleloaded
547 }% AtBeginDocument

```

### § 190.16 Spectroscopy

```

548 \AtBeginDocument{
549 \@ifchemmacrosmoduleloaded{spectroscopy}%
550 \PackageInfo{lwarf}{Patching~chemmacros~module~spectroscopy}%
551
552 \ChemCompatibilityTo{5.8}
553 \cs_gset_protected:Npn __chemmacros_nmr_base:nn #1#2
554 {
555 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
556 {
557 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
558 \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
559 }
560 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
561 % \chemmacros_chemformula:n { ^{#1} }
562 #1
563 \bool_if:NTF \l__chemmacros_nmr_parse_bool
564 { \chemformula_ch:nV {} \g__chemmacros_nmr_element_coupled_tl }
565 { \chemmacros_chemformula:V \g__chemmacros_nmr_element_coupled_tl }
566 \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
567 \tl_use:N \l__chemmacros_nmr_method_tl
568 }
569 \EndChemCompatibility
570 \ChemCompatibilityFrom{5.8}
571 \cs_gset_protected:Npn __chemmacros_nmr_base:nn #1#2
572 {
573 \group_begin:
574 \tl_use:N \l__chemmacros_nmr_base_format_tl
575 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
576 {

```

```
577 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
578 \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
579 }
580 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {\#2}
581 % \chemmacros_chemformula:n { ^{\#1} }
582 \#1
583 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
584 {
585 \bool_if:NTF \l__chemmacros_nmr_parse_bool
586 { \chemformula_ch:nV {} \g__chemmacros_nmr_element_coupled_tl }
587 { \chemmacros_chemformula:V \g__chemmacros_nmr_element_coupled_tl }
588 }
589 \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
590 \tl_use:N \l__chemmacros_nmr_method_tl
591 \group_end:
592 }
593 \EndChemCompatibility
594
595
596 \cs_gset_protected:Npn \chemmacros_nmr_position:n #1
597 {
598 \chemmacros_chemformula:x
599 {
600 \exp_not:V \g__chemmacros_nmr_element_tl
601 \bool_if:NF \l__chemmacros_nmr_position_side_bool
602 {
603 \tl_if_eq:NnTF \l__chemmacros_nmr_position_tl {^}\% lwarp
604 { \textsuperscript{\exp_not:n { \{#1\} }} }\% lwarp
605 { \textsubscript{\exp_not:n { \{#1\} }} }\% lwarp
606 % \exp_not:V \l__chemmacros_nmr_position_tl
607 % \exp_not:n { \{#1\} }
608 }
609 }
610 \bool_if:NT \l__chemmacros_nmr_position_side_bool
611 {
612 \tl_use:N \l__chemmacros_nmr_position_tl
613 __chemmacros_nmr_position:n {\#1}
614 }
615 }
616
617 \cs_gset_protected:Npn __chemmacros_nmr_coupling:w (#1;\#2)
618 {
619 \tl_set:Nn \l__chemmacros_nmr_coupling_bonds_tl
620 {
621 \l__chemmacros_nmr_coupling_bonds_pre_tl
622 #1
623 \l__chemmacros_nmr_coupling_bonds_post_tl
624 }
625 \bool_if:NTF \l__chemmacros_nmr_coupling_nuclei_sub_bool
626 {
627 \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
628 {
629 \c_math_subscript_token
630 \textsubscript{\% lwarp
631 {
```

```
632 \l_chemmacros_nmr_coupling_nuclei_pre_tl
633 \chemmacros_chemformula:n {#2}
634 \l_chemmacros_nmr_coupling_nuclei_post_tl
635 }
636 }
637 }
638 {
639 \tl_set:Nn \l_chemmacros_nmr_coupling_nuclei_tl
640 {
641 \l_chemmacros_nmr_coupling_nuclei_pre_tl
642 \chemmacros_chemformula:n {#2}
643 \l_chemmacros_nmr_coupling_nuclei_post_tl
644 }
645 }
646 __chemmacros_nmr_coupling_aux_i:w
647 }
648 \AfterEndPreamble{%
649 % \NMR{<num>,<elem>}(<num>,<unit>) [<solvent>] ALL arguments are optional
650 % \NMR* same but without ": $delta$" at end
651 \cs_gset_protected:Npn \chemmacros_nmr:nnnn #1#2#3#4
652 {
653 \bool_if:NT \l_chemmacros_nmr_list_bool { \item \scan_stop: }
654 \group_begin:
655
656 \mode_leave_vertical:
657
658 \bool_set_false:N \l_chemmacros_nmr_frequency_bool
659 \bool_set_false:N \l_chemmacros_nmr_solvent_bool
660 \tl_if_empty:nF {#3}
661 { \bool_set_true:N \l_chemmacros_nmr_frequency_bool }
662 \tl_if_empty:nF {#4}
663 { \bool_set_true:N \l_chemmacros_nmr_solvent_bool }
664 \bool_if:nT
665 {
666 \l_chemmacros_nmr_frequency_bool
667 ||
668 \l_chemmacros_nmr_solvent_bool
669 }
670 { \bool_set_true:N \l_chemmacros_nmr_delimiters_bool }
671 \bool_if:nT
672 {
673 \l_chemmacros_nmr_frequency_bool
674 &&
675 \l_chemmacros_nmr_solvent_bool
676 }
677 { \bool_set_true:N \l_chemmacros_nmr_comma_bool }
678 \tl_if_empty:nTF {#2}
679 {
680 __chemmacros_nmr_nucleus:VV
681 \l_chemmacros_nmr_isotope_default_tl
682 \l_chemmacros_nmr_element_default_tl
683 }
684 { __chemmacros_nmr_nucleus:w #2 \q_stop }
685 \mode_if_math:TF
686 {
687 \text
```

```
686 {
687 \group_begin:
688 \tl_use:N \l_chemmacros_nmr_format_tl
689 \LWR@textcurrentcolor{\LWR@textcurrentfont{%
690 \l_warp
691 \l_chemmacros_nmr_base:VV
692 \g_chemmacros_nmr_isotope_tl
693 \g_chemmacros_nmr_element_tl
694 \bool_if:NT \l_chemmacros_nmr_delimiters_bool
695 { ~ (} }
696 \bool_if:NT \l_chemmacros_nmr_frequency_bool
697 { \l_chemmacros_nmr_frequency:n {#3} }
698 \bool_if:NT \l_chemmacros_nmr_comma_bool
699 { , ~ } }
700 \bool_if:NT \l_chemmacros_nmr_solvent_bool
701 { \chemmacros_chemformula:n {#4} }
702 \bool_if:NT \l_chemmacros_nmr_delimiters_bool
703 {) } }
704 \tl_if_blank:nT {#1} {::}
705 \group_end:
706 }
707 \tl_if_blank:nT {#1}
708 {
709 \delta
710 \text { \l_chemmacros_nmr_delta_tl }
711 \bool_if:NT \l_chemmacros_nmr_use_equal_bool {=}
712 }
713 }
714 {
715 \group_begin:
716 \tl_use:N \l_chemmacros_nmr_format_tl
717 \LWR@textcurrentcolor{\LWR@textcurrentfont{%
718 \l_warp
719 \l_chemmacros_nmr_base:VV
720 \g_chemmacros_nmr_isotope_tl
721 \g_chemmacros_nmr_element_tl
722 \bool_if:NT \l_chemmacros_nmr_delimiters_bool
723 {~() }
724 \bool_if:NT \l_chemmacros_nmr_frequency_bool
725 { \l_chemmacros_nmr_frequency:n {#3} }
726 \bool_if:NT \l_chemmacros_nmr_comma_bool
727 {,~} }
728 \bool_if:NT \l_chemmacros_nmr_solvent_bool
729 {
730 \bool_if:NTF \l_chemmacros_nmr_parse_bool
731 { \chemformula_ch:nn { } {#4} }% original
732 {\ch{#4}}% l_warp
733 {#4}
734 }
735 \bool_if:NT \l_chemmacros_nmr_delimiters_bool
736 {() }
737 \tl_if_blank:nT {#1} {::}
738 \group_end:
739 \tl_if_blank:nT {#1}
```

```

740 {
741 \tl_use:N \c_space_tl
742 \c_math_toggle_token
743 \delta
744 \c_math_toggle_token
745 \l_chemmacros_nmr_delta_tl
746 \bool_if:NT \l_chemmacros_nmr_use_equal_bool {~=}
747 }
748 }
749 \group_end:
750 }
751 }% AfterEndPreamble
752
753
754 \RenewDocumentCommand \chemmacros_data:w { smo }
755 {
756 \bool_if:NT \l_chemmacros_nmr_list_bool { \item }
757 {
758 % \tl_use:N \l_chemmacros_nmr_format_tl #2
759 \tl_use:N \l_chemmacros_nmr_format_tl
760 \LWR@textcurrentcolor{\LWR@textcurrentfont}% lwarp
761 #2
762 \IfNoValueF {#3} { ~ (#3) }
763 \IfBooleanT {#1} { \bool_if:NT \l_chemmacros_nmr_use_equal_bool { : } }
764 }% lwarp
765 }
766 \IfBooleanF {#1} { \bool_if:NT \l_chemmacros_nmr_use_equal_bool { ~ = } }
767 }
768
769 }{}% \@ifchemmacrosmoduleloaded
770 }% AtBeginDocument

```

### §190.17 Thermodynamics

```

771 \AtBeginDocument{
772 \@ifchemmacrosmoduleloaded{thermodynamics}{%
773 \PackageInfo{lwarp}{Patching~chemmacros~module~thermodynamics}}
774
775 \cs_gset_protected:Npn \chemmacros_state:nn #1#2
776 {
777 \group_begin:
778 \boolfalse{mathjax}
779 \chemmacros_set_keys:nn {thermodynamics} {#1}
780 \LWR@singledollar*{ yes hashing
781 \textbackslash{}state\{\LWR@HTMLsanitize{#2}\}\% alt
782 }{%
783 chemmacros_state% add'l hashing
784 #1% options
785 LSP \tl_use:N \l_chemmacros_state_sp_left_tl% super/subscripts
786 LSB \tl_use:N \l_chemmacros_state_sb_left_tl
787 RSP \tl_use:N \l_chemmacros_state_sp_right_tl
788 RSB \tl_use:N \l_chemmacros_state_sb_right_tl
789 }
790 {
791 \LWR@origensuredmath{
792 \chemmacros_text:V \l_chemmacros_state_pre_tl

```

```

793 \c_math_superscript_token
794 { \chemmacros_text:V \l_chemmacros_state_sp_left_tl }

```

Only add the subscripts if they are being used. This avoids causing an incorrect depth, as the empty subscript will be measured by TeX but cropped out by *pdfcrop*.

```

795 \tl_if_empty:NTF \l_chemmacros_state_sb_left_tl
796 {}
797 {
798 \c_math_subscript_token
799 { \chemmacros_text:V \l_chemmacros_state_sb_left_tl }
800 }
801 #2
802 \c_math_superscript_token
803 { \chemmacros_text:V \l_chemmacros_state_sp_right_tl }
804 \tl_if_empty:NTF \l_chemmacros_state_sb_right_tl
805 {}
806 {
807 \c_math_subscript_token
808 { \chemmacros_text:V \l_chemmacros_state_sb_right_tl }
809 }
810 \chemmacros_text:V \l_chemmacros_state_post_tl
811 }
812 }
813 \group_end:
814 }
815 \cs_generate_variant:Nn \chemmacros_state:nn { nV }
816
817 \cs_gset_protected:Npn \chemmacros_declare_state:Nn #1#2
818 {
819 \chemmacros_define_keys:xn
820 {thermodynamics/\chemmacros_remove_backslash:N #1}
821 {
822 pre .meta:nn = {chemmacros/thermodynamics} { pre = ##1 } ,
823 post .meta:nn = {chemmacros/thermodynamics} { post = ##1 } ,
824 superscript-left .meta:nn = {chemmacros/thermodynamics} { superscript-left = ##1 } ,
825 superscript-right .meta:nn = {chemmacros/thermodynamics} { superscript-right = ##1 } ,
826 superscript .meta:n = { superscript-right = ##1 } ,
827 subscript-left .meta:nn = {chemmacros/thermodynamics} { subscript-left = ##1 } ,
828 subscript-right .meta:nn = {chemmacros/thermodynamics} { subscript-right = ##1 } ,
829 subscript .meta:n = { subscript-left = ##1 } ,
830 subscript-pos .choices:nn =
831 { left , right }
832 { \tl_set_eq:NN \l_chemmacros_state_sb_pos_tl \l_keys_choice_tl } ,
833 symbol .tl_set:N = \l_chemmacros_state_symbol_tl ,
834 unit .tl_set:N = \l_chemmacros_state_unit_tl
835 }
836 \DeclareDocumentCommand #1 { sO{}D(){}m }
837 {
838 \group_begin:
839 \chemmacros_set_keys:xn
840 {thermodynamics/\chemmacros_remove_backslash:N #1}
841 {[#2]}
842 \tl_if_blank:nF {##3}
843 {

```

```

844 \chemmacros_set_keys:nx {thermodynamics}
845 { subscript-\l_chemmacros_state_sb_pos_tl = \exp_not:n {##3} }
846 }
847 \chemmacros_state:nV {##2} \l_chemmacros_state_symbol_tl
848 \chemmacros_set_keys_groups:nnn {thermodynamics} {variables} {##2}
849 \IfBooleanF {##1} { = ~ \SI {##4} { \l_chemmacros_state_unit_tl } }
850 \group_end:
851 }
852 }

```

The pre-existing macros are redefined with the new definition:

```

853 \RenewChemState \enthalpy { symbol = H , unit = \kilo\joule\per\mole }
854 \RenewChemState \entropy { symbol = S , unit = \joule\per\kelvin\per\mole , pre = }
855 \RenewChemState \gibbs { symbol = G , unit = \kilo\joule\per\mole }
856
857 }{ }% \ifchemmacrosmoduleloaded
858 }% AtBeginDocument
859 \ExplSyntaxOff

```

### File 83 l warp-chemnum.sty

#### § 191 Package **chemnum**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemnum chemnum is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemnum}[2016/04/14]

```

2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemnum_compound_write:n #1
5 {
6 \chemnum_get_compound_property:nn {#1} {pre-main-label-code}
7 \group_begin:
8 \bool_if:NTF \l_chemnum_compound_local_bool
9 { \l_chemnum_local_label_format_tl }
10 { \chemnum_get_compound_property:nn {#1} {label-format} }
11 {
12 \LWR@textcurrentfont{
13 \chemnum_get_compound_property:nn {#1} {counter-representation}
14 }
15 }
16 \group_end:
17 \chemnum_get_compound_property:nn {#1} {post-main-label-code}
18 }
19
20 \cs_gset_protected:Npn \chemnum_subcompound_write:nn #1#2
21 {
22 \group_begin:
23 \bool_if:NTF \l_chemnum_compound_local_bool

```

---

```

24 { \l__chemnum_local_label_format_tl }
25 { \chemnum_get_compound_property:nn {#1} {label-format} }
26 {
27 \LWR@textcurrentfont{
28 \chemnum_get_subcompound_property:nnn {#1} {#2}
29 {counter-representation}
30 }
31 }
32 \group_end:
33 }
34
35 \ExplSyntaxOff

```

---

File 84 **l warp-chkfloat.sty**

§ 192 Package **chkfloat**

Pkg **chkfloat** **chkfloat** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

---

File 85 **l warp-chngpage.sty**

§ 193 Package **chngpage**

(Emulates or patches code by PETER WILSON.)

Pkg **chngpage** **chngpage** is ignored.

**for HTML output:** Discard all options for **l warp-chngpage**:

1 \LWR@ProvidesPackageDrop{chngpage}[2009/10/20]  
2 \LWR@origRequirePackage{l warp-changepage}

---

File 86 **l warp-cite.sty**

§ 194 Package **cite**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg **cite** **cite** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{cite}[2015/02/27]

For the [super] option, the \kern must be removed:

2 \def\LWRCT@biblabel#1{\@cites{#1}\kern-\labelsep\,}  
3

---

```

4 \ifdefstreq{\@biblabel}{\LWRCT@biblabel}
5 {
6 \def\@biblabel{\@citess{#1}}
7 }{}}

```

For the [super] option, `\textsuperscript` is used instead of math superscript:

```

8 \def\@citess{#1}
9
10 \DeclareDocumentCommand\citeref{}{\relax}

```

---

### File 87 **l warp-citeref.sty**

#### § 195 Package **citeref**

*(Emulates or patches code by BJÖRN BRIEL.)*

Pkg **citeref** **citeref** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{citeref}[1999/27/05]

```

2 \def\cprwrite#1=%
3 \write\auxout{\string\citepageref{#1}{\theLWR@previousautopagelabel}}%
4 }
5
6 \def\citepageref#1#2{%
7 \xdef\cpr@testa{\@nameuse{cpr@last@#1}}% letzte Zitatstelle
8 \xdef\cpr@testb{#2}% Seite dieser Zitatstelle
9 \ifx\cpr@testa\cpr@testb%
10 \relax% Konsekutive identische Seitenangaben weglassen
11 \else%
12 \namexdef{cpr@last@#1}{#2}%
13 \@ifundefined{cpr@#1}%
14 {\namexdef{cpr@#1}{\LWR@refwithsection{\BaseJobname-autopage-#2}}% l warp
15 \% l warp
16 \namexdef{cpr@#1}{\@nameuse{cpr@#1}, % space
17 \LWR@refwithsection{\BaseJobname-autopage-#2}}%
18 }%
19 \fi
20 }

```

---

### File 88 **l warp-CJK.sty**

#### § 196 Package **CJK**

Pkg **CJK** **CJK** does not work with **l warp** unless called from **ctex**.

**for HTML output:** 1 \@ifpackageloaded{xeCJK}{}{
2 \LWR@loadnever{CJK}{ctex, xeCJK}
3 }

---

```

4
5 \LWR@ProvidesPackagePass{CJK}[2015/04/18]

```

---

File 89 **l warp-CJKutf8.sty**

§ 197 Package **CJKutf8**

Pkg CJKutf8 CJKutf8 does not work with l warp unless called from ctex.

**for HTML output:**

```

1 \@ifpackageloaded{xeCJK}{}{
2 \LWR@loadnever{CJKutf8}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJKutf8}[2015/04/18]

```

---

File 90 **l warp-classicthesis.sty**

§ 198 Package **classicthesis**

(Emulates or patches code by ANDRÉ MIEDE AND IVO PLETIKOSIĆ.)

Pkg classicthesis classicthesis is emulated.

**for HTML output:** Discard all options for l warp-classicthesis:

```

1 \LWR@ProvidesPackageDrop{classicthesis}[2018/06/03]

2 \RequirePackage{scrlayer-scrpage} % provides headers and footers (KOMA Script)
3 \RequirePackage{scrrtime} % time access
4 \PassOptionsToPackage{titles}{tocloft}
5 \RequirePackage{textcase} % for \MakeTextUppercase
6 \RequirePackage[newparttoc]{titlesec} % newparttoc to write \part to .toc with \numberline
7 \RequirePackage{tocloft}
8 \PassOptionsToPackage{headinclude,footinclude}{typearea} % for classes other than KOMA
9 \RequirePackage{typearea}
10 \PassOptionsToPackage{marginal}{footmisc} % marginal flushmargin
11 \RequirePackage{footmisc}%
12 \RequirePackage{prelim2e}
13 \RequirePackage{remreset}%
14
15 \DeclareRobustCommand{\spacedallcaps}[1]{\textsc{\MakeTextUppercase{#1}}}
16 \DeclareRobustCommand{\spacedlowsmallcaps}[1]{\textsc{\MakeTextLowercase{#1}}}
17 \newcommand{\ctparttext}[1]{}
18 \newcommand{\tocEntry}[1]{}
19 \DeclareRobustCommand*\deactivateaddvspace{}%
20 \newlength{\beforebibskip}

```

---

File 91 **l warp-cleveref.sty**

§ 199      Package **cleveref**

*(Emulates or patches code by TOBY CUBITT.)*

Pkg **cleveref** **cleveref** is patched for `HTML`, and limited `MATHJAX` emulation is added.

- ⚠ **cleveref page numbers** **cleveref** and **varioref** are supported, but printed page numbers do not map to `HTML`, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See `\cpagerefFor` at page 741 to redefine the message which is printed for page number references.

Table 14 on page 501 shows the data structure of the label/reference system as revised by `lwarp` and `cleveref`.

For `MATHJAX`, each references is printed as an `\eqref`, without `cleveref`’s description text. Page references are also printed as simple `\eqrefs`. Multiple labels in a single `\cref` will print as (???) in `MATHJAX`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{cleveref}[2018/03/27]

The following patches are applied. Print-mode versions are not required since they all come down to `\ref` eventually, and `\ref` has a print-mode version.

\@@@setcref {*kindofref*} {*label*}

\@templabel becomes the section number.

```
2 \def\LWR@orig@@@setcref#1{\cref@getlabel{#2}{\@templabel}#1{\@templabel}{}{}}
3
4 \ifdefeql{\@@@setcref}{\LWR@orig@@@setcref}{% before v0.21
5 \renewcommand*{\@@@setcref}[2]{#1{\ref{#2}}{}{}}
6 }{
7 \ifdefeql{\@@@setcref}{\LWR@orig@@@setcref}{% as of v0.21
8 \renewcommand*{\@@@setcref}[2]{%
9 #1{\ref{#2}}{}{}}
10 }{
11 \PackageWarningNoLine{lwarp-cleveref}%
12 Unknown version of cleveref.
13 \protect\cref\space will fail.
14 }
15 }
16 }
```

\@@@setcrefrange {*text*} {*label*} {*label*}

```
17 \def\LWR@orig@@@setcrefrange#1#2#3{%
```

```

18 \cref@getlabel{#2}{\@labela}%
19 \cref@getlabel{#3}{\@labelb}%
20 #1{\@labela}{\@labelb}{\{}{\}}{%
21
22 \ifdefequal{\@setcrefrange}{\LWR@orig@@@setcrefrange}{%
23 \renewcommand{\@setcrefrange}[3]{%
24 #1{\ref{#2}}{\ref{#3}}{\{}{\}}{%
25 }%
26 }{%
27 \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{%
28 \renewcommand{\@@@setcrefrange}[3]{%
29 #1{\ref{#2}}{\ref{#3}}{\{}{\}}{%
30 }%
31 }{%
32 \PackageWarningNoLine{lwarp-cleveref}{%
33 Unknown version of cleveref.%
34 \protect\crefrange\space will fail.%
35 }%
36 }%
37 }

```

\cpagerefFor Redefinable word between “page(s)” and the page numbers.

```
38 \newcommand*{\cpagerefFor}{for}
```

\@@@setcpageref {\langle typeofref \rangle} {\langle label \rangle}, where typeofref is “page” or “pages”

```

39 \def\LWR@orig@@setcpageref#1#2{%
40 \cref@getpageref[#2]{\@temppage}#1{\@temppage}{\{}{\}}{%
41
42 \def\LWR@orig@@setcpageref#1#2{%
43 \cpageref@getlabel[#2]{\@temppage}#1{\@temppage}{\{}{\}}{%
44
45 \ifdefequal{\@setcpageref}{\LWR@orig@@setcpageref}{%
46 \renewcommand*{\@setcpageref}[2]{%
47 #1{\cpagerefFor}\ \cref{#2}{\{}{\}}{%
48 }%
49 }{%
50 \ifdefequal{\@@@setcpageref}{\LWR@orig@@setcpageref}{%
51 \renewcommand*{\@@@setcpageref}[2]{%
52 #1{\cpagerefFor}\ \cref{#2}{\{}{\}}{%
53 }%
54 }%
55 {%
56 \PackageWarningNoLine{lwarp-cleveref}{%
57 Unknown version of cleveref.%
58 \protect\cpageref\space will fail.%
59 }%
60 }%
61 }%

```

```
62 \def\LWR@orig@@setcpageref#1#2#3{%
63 \cref@getpageref[#2]{\@pagea}{%
```

```

4 \cref@getpageref{\#3}{\@pageb}%
5 #1{\@pagea}{\@pageb}{\{}{\}{}{\}}%
6
7 \def\LWR@orig@@@setcpagerefrange#1#2#3{%
8 \cpageref@getlabel{\#2}{\@pagea}%
9 \cpageref@getlabel{\#3}{\@pageb}%
10 #1{\@pagea}{\@pageb}{\{}{\}{}{\}}%
11
12 \ifdefequal{\@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}{%
13 \renewcommand*{\@setcpagerefrange}[3]{%
14 #1{\cpagerefFor\ \cref{\#2}}{\cref{\#3}}{\{}{\}{}{\}}%
15 }
16 }{
17 \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}{%
18 \renewcommand*{\@@@setcpagerefrange}[3]{%
19 #1{\cpagerefFor\ \cref{\#2}}{\cref{\#3}}{\{}{\}{}{\}}%
20 }
21 }
22 {
23 \PackageWarningNoLine{l warp-cleveref}{%
24 Unknown version of cleveref.%
25 \protect\cpagerefrange\space will fail.%
26 }
27 }
28 }
29
```

If `hyperref` is loaded, `cleveref` defines starred versions of the following, but since `hyperref` is only emulated, starred versions are defined here:

```
89 \LWR@absorbstar{cref}
90 \LWR@absorbstar{Cref}
91 \LWR@absorbstar{crefrange}
92 \LWR@absorbstar{Crefrange}
93 \LWR@absorbstar{cpageref}
94 \LWR@absorbstar{Cpageref}
95 \LWR@absorbstar{cpagerefrange}
96 \LWR@absorbstar{Cpagerefrange}
97 \LWR@absorbstar{labelcref}
98 \LWR@absorbstar{labelcpageref}
```

If `hyperref` is loaded, `cleveref` also defines starred versions of `variorref` macros, so they are defined here.

```
99 \@ifpackageloaded{variorref}{
100 \LWR@absorbstar{vref}
101 \LWR@absorbstar{Vref}
102 \LWR@absorbstar{vrefrange}
103 \LWR@absorbstar{Vrefrange}
104 \LWR@absorbstar{fullref}
105 \LWR@absorbstar{Fullref}
106 }\% variorref
```

```
107 \ifCLASSloaded{memoir}{
108 \AtBeginDocument{
109 \def\sf@memsub@Label{#1}\#2\%}
```

---

```

110 \protected@edef\mem@currentlabelname{#1}%
111 \sf@memsub@label{#2}%
112 }
113 }{ }

114 \@ifpackageloaded{subfig}{%
115 \def\sf@sub@label(#1){%
116 \ifhyperrefloaded
117 \protected@edef\@currentlabelname{%
118 \expandafter\strip@period #1\relax.\relax\@@@}%
119 \fi
120 \sf@sub@label{#2}%
121 }{ }

```

---

File 92 **lwarf-clrdblpg.sty**

§ 200 Package **clrdblpg**

Pkg **clrdblpg** **clrdblpg** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{clrdblpg}[2018/04/21]

---

File 93 **lwarf-cmbright.sty**

§ 201 Package **cmbright**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg **cmbright** **cmbright** is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored, and `\mathbold` is available.

The dedicated macros for upright Greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{cmbright}[2005/04/13]

```

2
3 \LWR@infoprocessingmathjax{cmbright}

4 \LWR@origRequirePackage{lwarf-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \@ifpackagewith{cmbright}{slantedGreek}
9 {
10 \LWR@mathjax@addgreek@u@it*{}{}}
11 }
12 {}

```

---

```

13
14 \LWR@mathjax@addgreek@u@up*{up}{}
15
16 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
17
18 \end{warpMathJax}
```

---

File 94 **l warp-cmdtrack.sty**

§ 202 Package **cmdtrack**

Pkg cmdtrack cmdtrack is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]

2 \newcommand{\untrack}[1]{}

---

File 95 **l warp-colonequals.sty**

§ 203 Package **colonequals**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg colonequals colonequals is used as-is for SVG math, and is emulated for MATHJAX.

Since UNICODE symbols are not available for each of the following, only two are used for the single and double colons, and the other symbols are derived in a consistent manner. Occasional negative space is added as well. This may need to be undone for some fonts.

**for HTML output:** 1 \LWR@ProvidesPackagePass{colonequals}[2016/05/16]

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{colonequals}
4
5 \CustomizeMathJax{\newcommand{\ratio}{\mathrel{\!{\scriptsize\texttt{\∶}\!}}}}
6 \CustomizeMathJax{\newcommand{\coloncolon}{\mathrel{\!{\scriptsize\texttt{\∷}\!}}}}
7 \CustomizeMathJax{\newcommand{\colonequals}{\mathrel{\!{\scriptsize\texttt{\∶}\!}\!=\!}}}
8 \CustomizeMathJax{\newcommand{\coloncoloncolonequals}{\mathrel{\!{\scriptsize\texttt{\∷}\!}\!=\!}}}
9 \CustomizeMathJax{\newcommand{\equalscolon}{\mathrel{\!=\!{\scriptsize\texttt{\∶}\!}}}}
10 \CustomizeMathJax{\newcommand{\equalscoloncolon}{\mathrel{\!=\!{\scriptsize\texttt{\∷}\!}}}}
11 \CustomizeMathJax{\newcommand{\colonminus}{\mathrel{\!{\scriptsize\texttt{\∶}\!}-\!}}}
12 \CustomizeMathJax{\newcommand{\coloncolonminus}{\mathrel{\!{\scriptsize\texttt{\∷}\!}-\!}}}
13 \CustomizeMathJax{\newcommand{\minuscolon}{\mathrel{-\!{\scriptsize\texttt{\∶}\!}}}}
14 \CustomizeMathJax{\newcommand{\minuscoloncolon}{\mathrel{-\!{\scriptsize\texttt{\∷}\!}}}}
15 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{\!{\scriptsize\texttt{\∶}\!}\!\approx\!}}}
16 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\mathrel{\!{\scriptsize\texttt{\∷}\!}\!\approx\!}}}
17 \CustomizeMathJax{\newcommand{\approxcolon}{\mathrel{\approx\!{\scriptsize\texttt{\∶}\!}}}}
18 \CustomizeMathJax{\newcommand{\approxcoloncolon}{\mathrel{\approx\!{\scriptsize\texttt{\∷}\!}}}}
19 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{\!{\scriptsize\texttt{\∶}\!}\!\sim\!}}}
20 \CustomizeMathJax{\newcommand{\coloncolonsim}{\mathrel{\!{\scriptsize\texttt{\∷}\!}\!\sim\!}}}
```

---

```

21 \CustomizeMathJax{\newcommand{\simcolon}{\mathrel{\sim}\! \unicode{x2236}}}
22 \CustomizeMathJax{\newcommand{\simcoloncolon}{\mathrel{\sim}\! \unicode{x2237}}}
23 \end{warpMathJax}
```

---

File 96 **l warp-color.sty**

§ 204 Package **color**

Pkg **color** Allowed but ignored. **xcolor** is then required as well.

**color** is superceded by **xcolor**, and **l warp** requires several of the features of **xcolor**. When **color** is requested, **xcolor** is loaded as well.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{color}[2016/07/10]
2 \RequirePackage{xcolor}
```

---

File 97 **l warp-colortbl.sty**

§ 205 Package **colortbl**

Pkg **colortbl** **colortbl** is used as-is for print output, and emulated for **HTML**.

⚠ **row/color** Only use **\rowcolor** and **\cellcolor** at the start of a row, in that order.

**colortbl** ignores the overhang arguments.

**for HTML output:** A placeholder definition is forgotten first:

```

1 \let\rowcolor\relax
2
3 \LWR@ProvidesPackagePass{colortbl}[2018/12/12]
```

The following **\LWR@HTML** versions are used inside an **HTML tabular**.

**\columncolor**  $[\langle model \rangle] \{ \langle color \rangle \} [\langle left overhang \rangle] [\langle right overhang \rangle]$   
**\LWR@getmynexttoken** is not used here because **\columncolor** is not used inside the data area of the tabular.

```

4 \NewDocumentCommand{\LWR@HTML@columncolor}{O{named} m o o}{%
5 \convertcolorspec{#1}{#2}{HTML}\LWR@columnHTMLcolor%
6 \LWR@addtabularcellcolor%
7 }
8
9 \AtBeginDocument{\LWR@formatted{columncolor}}
```

**\LWR@getmynexttoken** is used for **\rowcolor** because it is used inside the data area of the tabular.

**\rowcolor**  $[\langle model \rangle] \{ \langle color \rangle \} [\langle left overhang \rangle] [\langle right overhang \rangle]$

```

10 \NewDocumentCommand{\LWR@HTML@rowcolor}{O{named} m o o}{%
11 \convertcolorspec{#1}{#2}{HTML}\LWR@rowHTMLcolor%
12 \LWR@getmynexttoken%
13 }
14
15 \AtBeginDocument{\LWR@expandableformatted{rowcolor}}

```

\cellcolor [*model*] {*color*} [*left overhang*] [*right overhang*]

```

16 \NewDocumentCommand{\LWR@HTML@cellcolor}{O{named} m o o}{%
17 \convertcolorspec{#1}{#2}{HTML}\LWR@cellHTMLcolor%
18 \LWR@addtabularcellcolor%
19 }
20
21 \AtBeginDocument{\LWR@formatted{cellcolor}}

```

\arrayrulecolor [*model*] {*color*}

The **HTML** version for use outside a **tabular**. Inside a **tabular**, \LWR@HTML@arrayrulecolornexttoken is used instead.

```

22 \newcommand{\LWR@HTML@arrayrulecolor}[2][named]{%
23 \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
24 }
25
26 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolor}}

```

[*model*] {*color*}

The **HTML** version for use inside a **tabular**.

```

27 \newcommand{\LWR@HTML@arrayrulecolornexttoken}[2][named]{%
28 \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
29 \LWR@getmynexttoken%
30 }
31
32 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolornexttoken}}

```

\doublerulesepcolor [*model*] {*color*}

The version for use outside a **tabular**.

```

33 \newcommand{\LWR@HTML@doublerulesepcolor}[2][named]{}
34
35 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolor}}

```

[*model*] {*color*}

The version for use inside a **tabular**.

```

36 \newcommand{\LWR@HTML@doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
37
38 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolornexttoken}}

```

For **MATHJAX**, colors are discarded.

```
39 \begin{warpMathJax}
40 \CustomizeMathJax{\newcommand{\columncolor}[2][]{\LWRabsorbtwooptions}}
41 \CustomizeMathJax{\let\rowcolor\columncolor}
42 \CustomizeMathJax{\let\cellcolor\columncolor}
43 \end{warpMathJax}
```

---

**File 98 l warp-continue.sty****§ 206 Package continue**

Pkg **continue** **continue** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{continue}[2018/12/09]

```
2 \newcommand{\flagcont}{}
3 \newcommand{\flagend}{}
4 \newcommand{\flagword}{}
5 \newcommand{\preflagword}{}
6 \newcommand{\postflagword}{}
7 \newlength{\contsep}
8 \newlength{\contdrop}
```

---

**File 99 l warp-copyrightbox.sty****§ 207 Package copyrightbox**

(Emulates or patches code by THOMAS FISCHER, IVES VAN DER FLAAS.)

Pkg **copyrightbox** **copyrightbox** is emulated for use by **l warp**.

The entire copyright box is placed inside a <div> of class **copyrightbox**.

The contents are placed inside a <div> of class **copyrightboxcontents**.

The copyright notice is placed inside a <div> of class **copyrightboxnote**.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{copyrightbox}[2011/11/27]

```
2 \newcommand{\copyrightbox}[3][r]{%
3 \begin{BlockClass}[
4 display: inline-flex;
5 flex-direction: column ;
6]{\copyrightbox}
7 \begin{BlockClass}{copyrightboxcontents}
8 #2
9 \end{BlockClass}
10 \begin{BlockClass}{copyrightboxnote}
11 #3
12 \end{BlockClass}
13 \end{BlockClass}
14 }
```

---

```

15
16 \newcommand{\CRB@setcopyrightfont}{}
17 \newcommand{\CRB@setcopyrightparagraphstyle}{}

```

---

File 100 **l warp-crop.sty**

§ 208 Package **crop**

*(Emulates or patches code by MELCHIOR FRANZ.)*

Pkg **crop** **crop** is ignored.

**for HTML output:** Discard all options for **l warp-crop**:

```

1 \LWR@ProvidesPackageDrop{crop}[2003/05/20]

2 \newcommand*{\crop}[1][]{}
3 \newcommand*{\cropdef}[6][]{}

```

---

File 101 **l warp-ctable.sty**

§ 209 Package **ctable**

*(Emulates or patches code by WYBO DEKKER.)*

Pkg **ctable** **ctable** is patched for use by **l warp**.

⚠ **Misplaced alignment tab character &** Use **\StartDefiningTabulars** before one or more **\ctables**, and **\StopDefiningTabulars** after. These change the meaning of the ampersand & character.

**for HTML output:** 1 \LWR@ProvidesPackagePass{ctable}[2015/10/17]

The following is in the original:

```

2 \newcommand{\LWR@HTML@ctable}[4][]{%
3 \let@\CTtabofig\@dfldCTtabofig
4 \let@\CTalign\@dfldCTalign
5 \let@\CTsideways\@dfldCTsideways
6 \let@\CTcontinued\empty
7 \let@\CTpos\@dfldCTpos
8 \let@\CTcaption\empty
9 \let@\CTcap\undefined
10 \let@\CTLabel\empty
11 \let@\CTbotcap\@dfldCTbotcap
12 \let@\CTstarred\@dfldCTstarred
13 \let@\CTsuper\@dfldCTsuper
14 \let@\CTnotespar\@dfldCTnotespar
15 \let@\CTdoinside\@dfldCTdoinside
16 \let@\CTbgopacity\@dfldCTbgopacity
17 \let@\CTframerule\@dfldCTframerule
18 \let@\CTcaptionskip\@dfldCTcaptionskip

```

```

19 \@CTframesep \@dfltcTframesep
20 \@CTwidth \@dfltcTwidht
21 \@CTmaxwidth \@dfltcTmaxwidth
22 \@CTmincapwidth \@dfltcTmincapwidth
23 \@CTfooterwidth \@dfltcTfooterwidth
24 \def\@CTfactual {\dfltcTframefg}%
25 \def\@CTbactual {\dfltcTframebg}%
26 \def\@CTbeg {\begin{\@CTsideways\@CTtaborfig\@CTstarred}}%
27 \def\@CTbegin {\@CTbeg}%
28 \def\@CTend {\end{\@CTsideways\@CTtaborfig\@CTstarred}}%
29 \setkeys{CT}{#1}%
30 \ifx\@CTcap\undefined\let\@CTcap\@CTcaption\fi
31 \ifx\@CTcap\empty
32 \if@CTcaptionloaded\else
33 \PackageWarningNoLine{lwarp-ctable}{\MessageBreak
34 An empty cap= option prevents lot/loc entry only\MessageBreak
35 if the caption package is loaded!}
36 \fi
37 \fi
38 \if@CTinmemoir\else
39 \ifx\@CTbotcap\undefined
40 \PackageError{lwarp-ctable}{\MessageBreak
41 You can, currently, use the sidecap option only with\MessageBreak
42 memoir documents. Use topcap or botcap only}
43 \fi
44 \fi
45 \fi
46 \ifdim\@CTwidth=0pt\else
47 \ifdim\@CTmaxwidth=0pt\else
48 \PackageError{lwarp-ctable}{\MessageBreak
49 You may not use the width and maxwidth options together\MessageBreak
50 Use either width or maxwidth}
51 \fi
52 \fi
53 \fi
54 \ifx\@CTpos\empty
55 \ifx\@CTsideways\empty\else
56 \PackageError{lwarp-ctable}{\MessageBreak
57 You may not use the pos and sideways options together\MessageBreak
58 Rotated tables and figures are always typeset on a separate page}
59 \fi
60 \fi
61 \fi
62 \ifx\@CTcaption\empty
63 \ifx\@CTlabel\empty\else
64 \PackageError{lwarp-ctable}{\MessageBreak
65 You may not label a captionless table\MessageBreak
66 Such a label can't be referenced}
67 \fi
68 \fi
69 \fi

```

Some of the original, regarding computing the width of \CT@t, is removed here.

```
70 \@CTbegin
```

```

71 \ifx\@CTcontinued\empty\else\addtocounter{\@CTtaborfig}{-1}\fi
72 \@CTalign

```

l warp's patches begin here:

```

73 \begin{center}
74 \setlength{\fboxrule}{\@CTframerule}
75 \setlength{\fboxsep}{\@CTframesep}
76 \LWR@forceminwidth{\fboxrule}%
77 \convertcolorspec[named]{\@CTbgactual}{HTML}\LWR@tempcolor% l warp
78 \begin{BlockClass}[% l warp
79 border:
80 \LWR@printlength{\LWR@atleastonept}
81 solid
82 \LWR@colorstyle[named]{\@CTfgactual} ; %
83 padding:\LWR@printlength{\fboxsep} ; %
84 \ifdefstring{\LWR@tempcolor}{FFFFFF}{%
85 background: \LWR@colorstyle[named]{\@CTbgactual} ; %
86 }%
87]{fminipage}% l warp
88 \ifx\@CTbotcap\@CTfalse\@CTCaption\vskip\@CTcaptionskip\fi
89 \ifx\@CTbotcap\undefined%
90 \begin{sidecaption}[\@CTcap]{\@CTcaption}[\@CTLlabel]
91 \fi
92 \@CTdoinside
93 \begin{tabularx}{\linewidth}{#2}% l warp
94 #4%
95 \end{tabularx}% l warp
96 \def\@CTfootnotes{#3}%
97 \ifx\#3\empty\else% append footnotes, if any
98 \begin{BlockClass}{tnotes}% l warp
99 #3
100 \end{BlockClass}% l warp
101 }
102 \fi
103 \ifx\@CTbotcap\undefined\end{sidecaption}\fi
104 \ifx\@CTbotcap\@CTtrue\vskip\@CTcaptionskip\@CTCaption\fi
105 \end{BlockClass}
106 \end{center}
107 \@CTend
108 }
109 \LWR@formatted{ctable}

```

Required to properly detect the toprule:

```
110 \LetLtxMacro\FL\toprule
```

Table notes are redefined for HTML:

```

111 \newcommand{\LWR@HTML@tmark}[1][a]{%
112 \textsuperscript{\textrm{\textit{#1}}}}
113 }
114 \LWR@formatted{tmark}
115
116 \newcommand{\LWR@HTML@tnote}[2][a]{%

```

```
117 \tmark[#1]\,,#2\par
118 }
119 \LWR@formatted{tnote}
```

---

**File 102 l warp-cuted.sty****§ 210 Package cuted**

(Emulates or patches code by SIGITAS TOLUŠIS.)

Pkg cuted cuted is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{cuted}[2012/10/04]

```
2 \newenvironment{strip}{}{}
3 \newskip\stripsep
4 \def\oldcolsbreak#1{}
```

---

**File 103 l warp-cutwin.sty****§ 211 Package cutwin**

(Emulates or patches code by PETER WILSON AND ALAN HOENIG.)

Pkg cutwin cutwin is emulated.

**for HTML output:** Discard all options for l warp-cutwin:

```
1 \LWR@ProvidesPackageDrop{cutwin}[2010/09/29]
2 \newcommand*\opencutleft(){}
3 \newcommand*\opencutright){}
4 \newcommand*\opencutcenter){}
5 \newcommand*\cutfuzz){}
6
7 \newenvironment{cutout}[4]
8 {\marginpar{\windowpagestuff}}
9 {}
10
11 \newcommand*\windowpagestuff{}
12
13 \newcommand*\pageinwindow}{%
14 % \begin{minipage}{.3\linewidth}
15 \windowpagestuff
16 % \end{minipage}
17 }
18
19 \newenvironment{shapedcutout}[3]
20 {\marginpar{\picinwindow}}
21 {}
22
```

```
23 \newcommand*{\putstuffinpic}{}
24
25 \newcommand*{\picinwindow}{%
26 \begin{picture}(0,0)
27 \putstuffinpic
28 \end{picture}}
```

---

File 104 **lwarf-dblfloatfix.sty**

§ 212 Package **dblfloatfix**

Pkg **dblfloatfix** **dblfloatfix** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dblfloatfix}[2012/12/31]

---

File 105 **lwarf-dblfnote.sty**

§ 213 Package **dblfnote**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg **dblfnote** **dblfnote** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dblfnote}[1999/07/14]

```
2 \newcounter{DFNsloppiness}
3 \newdimen\DFNcolumnsep
4 \newdimen\DFNcolumnwidth
5 \def\DFNallowcbreak{}
6 \def\DFNinhibitcbreak{}
7 \def\DFNtrysingle{}
8 \def\DFNalwaysdouble{}
9 \def\DFNruleboth{}
10 \def\DFNruleleft{}
```

---

File 106 **lwarf-dcolumn.sty**

§ 214 Package **dcolumn**

Pkg **dcolumn** **dcolumn** is emulated by the **lwarf** core.

1 \LWR@ProvidesPackageDrop{dcolumn}[2014/10/28]

---

File 107 **lwarf-decimal.sty**

§ 215      Package **decimal**

*(Emulates or patches code by A. SYROPOULOS AND R. W. D. NICKALLS.)*

Pkg **decimal** **decimal** works as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{decimal}[2011/06/03]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\.{\mbox{.}}}
4 \end{warpMathJax}
```

---

File 108 **l warp-diagbox.sty**

§ 216      Package **diagbox**

*(Emulates or patches code by LEO LIU.)*

Pkg **diagbox** **diagbox** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{diagbox}[2016/12/28]

To restore print-mode inside a `lateximage`:

```
2 \LetLtxMacro{\LWR@origdiagbox@double}{\diagbox@double}
3 \LetLtxMacro{\LWR@origdiagbox@triple}{\diagbox@triple}
4
5 \appto{\LWR@restoreorigformatting}{%
6 \LetLtxMacro{\diagbox@double}{\LWR@origdiagbox@double}%
7 \LetLtxMacro{\diagbox@triple}{\LWR@origdiagbox@triple}%
8 }
```

\LWR@diagbox@AB     $\{\langle E/W \rangle\} \{\langle A \rangle\} \{\langle E/W \rangle\} \{\langle B \rangle\}$   
                       9 \newcommand{\LWR@diagbox@AB}[4]{  
 10 \begingroup%  
 11 \LetLtxMacro{\\\newline}{  
 12 \BlockClassSingle{\diagbox#1}{#2}}%  
 13 \BlockClassSingle{\diagbox#3}{#4}}%  
 14 \endgroup%  
 15 \LWR@stopars%  
 16 }

\LWR@diagboxNW     $\{\langle A \rangle\} \{\langle B \rangle\}$   
                       17 \newcommand{\LWR@diagboxNW}[2]{%  
 18 \LWR@diagbox@AB{E}{#2}{W}{#1}}%  
 19 }

Likewise for NE, SW, SE:

20 \newcommand{\LWR@diagboxNE}[2]{%

---

```

21 \LWR@diagbox@AB{W}{#1}{E}{#2}%
22 }
23
24 \let\LWR@diagboxSW\LWR@diagboxNE
25 \let\LWR@diagboxSE\LWR@diagboxNW

\diagbox@double {⟨keys⟩} {⟨A⟩} {⟨B⟩}
26 \def\diagbox@double#1#2#3{%
27 \setkeys{diagbox}{dir=NW,#1}%
28 \@nameuse{\LWR@diagbox\diagbox@dir}{#2}{#3}%
29 }
```

```

\LWR@diagboxTNW {⟨title⟩} {⟨A⟩} {⟨B⟩}
30 \newcommand{\LWR@diagboxTNW}[3]{%
31 \BlockClassSingle{diagboxtitleN}{#1}%
32 \LWR@diagboxNW{#2}{#3}%
33 }
```

Likewise for NE, SW, SE:

```

34 \newcommand{\LWR@diagboxTNE}[3]{%
35 \BlockClassSingle{diagboxtitleN}{#1}%
36 \LWR@diagboxNE{#2}{#3}%
37 }
38
39 \newcommand{\LWR@diagboxTSW}[3]{%
40 \LWR@diagboxSW{#2}{#3}%
41 \BlockClassSingle{diagboxtitleS}{#1}%
42 \LWR@stoppars%
43 }
44
45 \newcommand{\LWR@diagboxTSE}[3]{%
46 \LWR@diagboxSE{#2}{#3}%
47 \BlockClassSingle{diagboxtitleS}{#1}%
48 \LWR@stoppars%
49 }
```

```

\diagbox@triple {⟨keys⟩} {⟨A⟩} {⟨T⟩} {⟨B⟩}
50 \def\diagbox@triple#1#2#3#4{%
51 \setkeys{diagbox}{dir=NW,#1}%
52 \@nameuse{\LWR@diagboxT\diagbox@dir}{#3}{#2}{#4}%
53 }
```

---

### File 109 **lwarf-dingbat.sty**

§ 217      Package **dingbat**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg **dingbat** **dingbat** is patched for use by **lwarf**.

---

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{dingbat}[2001/04/27]

2 \newcommand*{\LWR@dingbatsymbol}[1]{\HTMLunicode{#1}}
3
4 \newcommand{\LWR@HTML@rightpointright}{\LWR@dingbatsymbol{261E}}
5 \newcommand{\LWR@HTML@leftpointright}{\LWR@dingbatsymbol{261E}}
6 \newcommand{\LWR@HTML@leftthumbsdown}{\LWR@dingbatsymbol{1F44E}}
7 \newcommand{\LWR@HTML@leftthumbsup}{\LWR@dingbatsymbol{1F44D}}
8 \newcommand{\LWR@HTML@rightpointleft}{\LWR@dingbatsymbol{261C}}
9 \newcommand{\LWR@HTML@rightthumbsdown}{\LWR@dingbatsymbol{1F44E}}
10 \newcommand{\LWR@HTML@rightthumbsup}{\LWR@dingbatsymbol{1F44D}}
11 \newcommand{\LWR@HTML@squarewithdots}{\LWR@dingbatsymbol{25C7}}
12 \newcommand{\LWR@HTML@filledsquarewithdots}{\LWR@dingbatsymbol{25C6}}
13 \newcommand{\LWR@HTML@Sborder}{\LWR@dingbatsymbol{271A}}
14 \newcommand{\LWR@HTML@Zborder}{\LWR@dingbatsymbol{274B}}
15 \newcommand{\LWR@HTML@largepencil}{\LWR@dingbatsymbol{270E}}
16 \newcommand{\LWR@HTML@anchor}{\LWR@dingbatsymbol{2693}}
17 \newcommand{\LWR@HTML@carriagereturn}{\LWR@dingbatsymbol{23CE}}
18 \newcommand{\LWR@HTML@checkmark}{\LWR@dingbatsymbol{2713}}
19 \newcommand{\LWR@HTML@eye}{\LWR@dingbatsymbol{1F441}}
20 \newcommand{\LWR@HTML@satellitedish}{\LWR@dingbatsymbol{1F4E1}}
21 \newcommand{\LWR@HTML@smallpencil}{\LWR@dingbatsymbol{270E}}
22
23 \LWR@formatted{rightpointright}
24 \LWR@formatted{leftpointright}
25 \LWR@formatted{leftthumbsdown}
26 \LWR@formatted{leftthumbsup}
27 \LWR@formatted{rightpointleft}
28 \LWR@formatted{rightthumbsdown}
29 \LWR@formatted{rightthumbsup}
30 \LWR@formatted{squarewithdots}
31 \LWR@formatted{filledsquarewithdots}
32 \LWR@formatted{Sborder}
33 \LWR@formatted{Zborder}
34 \LWR@formatted{largepencil}
35 \LWR@formatted{anchor}
36 \LWR@formatted{carriagereturn}
37 \LWR@formatted{checkmark}
38 \LWR@formatted{eye}
39 \LWR@formatted{satellitedish}
40 \LWR@formatted{smallpencil}

```

---

### File 110 l warp-DotArrow.sty

§ 218 Package **DotArrow**

(Emulates or patches code by SVEN SCHNEIDER.)

Pkg DotArrow **DotArrow** is patched for use by **l warp**, and emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{DotArrow}[2007/02/12]
```

---

The width must be recomputed each time, depending on print or HTML output.

```

2 \xpretocmd{\dotarrow}{\settowidth{\oneWidth}{\onePartX}}{}{}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\dotarrow}[1]{\stackrel{\#1}{\text{\scriptsize{\texttt{\{\\unicode{x21E2}\\}}}}}}}
6 \end{warpMathJax}
```

---

### File 111 **l warp-dotlessi.sty**

#### § 219 Package **dotlessi**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg **dotlessi** **dotlessi** is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **HTML \dotlessj** Use `\usepackage{cmap}` if `\dotlessj` does not appear in HTML in text mode. See section 7.4.

⚠ **not bold** For MATHJAX, use `\boldsymbol` instead of `\mathbf`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{dotlessi}[1999/10/12]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\dotlessi\imath}
4 \CustomizeMathJax{\let\dotlessj\jmath}
5 \end{warpMathJax}
```

---

### File 112 **l warp-dprogress.sty**

#### § 220 Package **dprogress**

Pkg **dprogress** **dprogress** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dprogress}[2008/02/21]

---

### File 113 **l warp-draftcopy.sty**

#### § 221 Package **draftcopy**

Pkg **draftcopy** **draftcopy** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftcopy}[2002/02/25]

---

```

2 \newcommand{\draftcopyVersion}[1]{}
3 \newcommand{\draftcopySetGrey}[1]{}
4 \newcommand{\draftcopySetScale}[1]{}
5 \newcommand{\draftcopySetScaleFactor}[1]{}
6 \newcommand{\draftcopyFirstPage}[1]{}
7 \newcommand{\draftcopyLastPage}[1]{}
8 \newcommand{\draftcopyName}[2]{}
9 \newcommand{\draftcopyPageTransform}[1]{}
10 \newcommand{\draftcopyBottomTransform}[1]{}
11 \newcommand{\draftcopyPageX}[1]{}
12 \newcommand{\draftcopyPageY}[1]{}
13 \newcommand{\draftcopyBottomX}[1]{}
14 \newcommand{\draftcopyBottomY}[1]{}

```

---

File 114 **l warp-draftfigure.sty**

§ 222 Package **draftfigure**

Pkg **draftfigure** **draftfigure** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{draftfigure}[2017/07/19]
2 \RequirePackage{xkeyval}

3 \define@key{draftfigure}{code}{}
4 \define@key{draftfigure}{noframe}[true]{}
5 \define@key{draftfigure}{filename}[true]{}
6 \define@key{draftfigure}{content}{}[]
7 \define@key{draftfigure}{style}[normal]{}
8 \define@key{draftfigure}{position}[left]{}
9 \define@key{draftfigure}{size}[normal]{}
10 \newcommand\setdf[1]{\setkeys{draftfigure}{#1}}

```

---

File 115 **l warp-draftwatermark.sty**

§ 223 Package **draftwatermark**

(Emulates or patches code by SERGIO CALLEGARI.)

Pkg **draftwatermark** **draftwatermark** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{draftwatermark}[2020/03/14]

2 \newcommand{\DraftwatermarkOptions}[1]{}
3 \newcommand{\DraftwatermarkStdMark}{}%
4 \newcommand{\SetWatermarkAngle}[1]{}%
5 \newcommand{\SetWatermarkColor}[1]{}%
6 \newcommand{\SetWatermarkLightness}[1]{}%
7 \newcommand{\SetWatermarkFontSize}[1]{}%
8 \newcommand{\SetWatermarkScale}[1]{}%
9 \newcommand{\SetWatermarkHorCenter}[1]{}%

```

---

```
10 \newcommand{\SetWatermarkVertCenter}[1]{}
11 \newcommand{\SetWatermarkText}[1]{}
```

---

File 116 **l warp-drftcite.sty**§ 224 Package **drftcite***(Emulates or patches code by DONALD ARSENEAU.)*

Pkg drftcite drftcite is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{drftcite}[1995/01/23]

```
2 \def\@lbibitem[#1]{\global\@HighCite\z@
3 \item[
4 \textsuperscript{\@nameuse{DCN@#2@\extra@b@citeb}}~\% l warp
5 \@biblabel{\@ifundefined{DCN@#2@\extra@b@citeb}{\@warning
6 {Reference '#2' on page \thepage\space was never cited}}{}%
7 \DC@llap{$^{\@nameuse{DCN@#2@\extra@b@citeb}}$}\ \ }%
8 @citereverb{#2}\hfil]\if@filesw{\def\protect##1{\string ##1\space}%
9 \immediate\write\auxout{\string\bibcite{#2}{#1}}}\fi\ignorespaces}
```

---

File 117 **l warp-easy-todo.sty**§ 225 Package **easy-todo***(Emulates or patches code by JUAN RADA-VILELA.)*

Pkg easy-todo easy-todo is patched for use by l warp.

To remove the “P.” heading for HTML:

\warpHTMLonly{\renewcommand{\todoindexpagetitle}{}}

**for HTML output:** 1 \LWR@ProvidesPackagePass{easy-todo}[2014/01/01]

\listoftodos Modified to correct buggy use of \flushright.

```
2 \let\LWR@easytodo@origlistoftodos\listoftodos
3
4 \renewcommand{\listoftodos}{%
5 \begingroup
6 \renewcommand{\flushright}{}
7 \LWR@easytodo@origlistoftodos
8 \endgroup
9 }
```

\todoii Modified to use \textcolor instead of \color.

---

```

10 \renewcommand{\todoii}[2]{%
11 \ifthenelse{\equal{@todoobeyfinal}{true}}{%
12 {%
13 \ifoptionfinal{\todoenable{false}}{\todoenable{true}}{%
14 }%
15 }%
16 \ifthenelse{\equal{\@todoenable}{true}}{%
17 {%
18 \refstepcounter{todos}%
19 \noindent{%
20 \todocolor{%
21 \LWR@textcurrentcolor{%
22 \normalfont\scriptsize{\bfseries{\thetodos.\#1}}%
23 }%
24 }%
25 \addcontentsline{lod}{todos}{\protect{\thetodos. }\LWR@isolate{\#2}}%
26 }%
27 }%
28 }

```

---

File 118 **l warp-ebook.sty**

§ 226 Package **ebook**

*(Emulates or patches code by JØRGEN STEENSGAARD.)*

Pkg **ebook** **ebook** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ebook}

```

2 \setcounter{secnumdepth}{0}
3 \setcounter{tocdepth}{2}
4
5 \providecommand{\pagefill}[1][0.001mm]{\noindent}
6
7 \providecommand{\ebook}{%
8 \setcounter{secnumdepth}{0}
9 \setcounter{tocdepth}{2}
10 }

```

---

File 119 **l warp-econometrics.sty**

§ 227 Package **econometrics**

*(Emulates or patches code by ERIK KOLE.)*

Pkg **econometrics** **econometrics** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{econometrics}% no date specified in the original

```

2 \LWR@origRequirePackage{l warp-common-mathjax-letters}

```

```
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{econometrics}
6
7 \CustomizeMathJax{\newcommand{\SC}{\mathbb{C}}}
8 \CustomizeMathJax{\newcommand{\SN}{\mathbb{N}}}
9 \CustomizeMathJax{\newcommand{\SQ}{\mathbb{Q}}}
10 \CustomizeMathJax{\newcommand{\SR}{\mathbb{R}}}
11 \CustomizeMathJax{\newcommand{\SZ}{\mathbb{Z}}}
12
13 \CustomizeMathJax{\newcommand{\calA}{\mathcal{A}}}
14 \CustomizeMathJax{\newcommand{\calB}{\mathcal{B}}}
15 \CustomizeMathJax{\newcommand{\calC}{\mathcal{C}}}
16 \CustomizeMathJax{\newcommand{\calD}{\mathcal{D}}}
17 \CustomizeMathJax{\newcommand{\calE}{\mathcal{E}}}
18 \CustomizeMathJax{\newcommand{\calF}{\mathcal{F}}}
19 \CustomizeMathJax{\newcommand{\calG}{\mathcal{G}}}
20 \CustomizeMathJax{\newcommand{\calH}{\mathcal{H}}}
21 \CustomizeMathJax{\newcommand{\calI}{\mathcal{I}}}
22 \CustomizeMathJax{\newcommand{\calJ}{\mathcal{J}}}
23 \CustomizeMathJax{\newcommand{\calK}{\mathcal{K}}}
24 \CustomizeMathJax{\newcommand{\call}{\mathcal{L}}}
25 \CustomizeMathJax{\newcommand{\calM}{\mathcal{M}}}
26 \CustomizeMathJax{\newcommand{\calN}{\mathcal{N}}}
27 \CustomizeMathJax{\newcommand{\calO}{\mathcal{O}}}
28 \CustomizeMathJax{\newcommand{\calP}{\mathcal{P}}}
29 \CustomizeMathJax{\newcommand{\calQ}{\mathcal{Q}}}
30 \CustomizeMathJax{\newcommand{\calR}{\mathcal{R}}}
31 \CustomizeMathJax{\newcommand{\calS}{\mathcal{S}}}
32 \CustomizeMathJax{\newcommand{\calT}{\mathcal{T}}}
33 \CustomizeMathJax{\newcommand{\calU}{\mathcal{U}}}
34 \CustomizeMathJax{\newcommand{\calV}{\mathcal{V}}}
35 \CustomizeMathJax{\newcommand{\calW}{\mathcal{W}}}
36 \CustomizeMathJax{\newcommand{\calX}{\mathcal{X}}}
37 \CustomizeMathJax{\newcommand{\calY}{\mathcal{Y}}}
38 \CustomizeMathJax{\newcommand{\calZ}{\mathcal{Z}}}
39
40 \LWR@mathjax@addlatin@u@bfit{m}% uppercase Latin, bold italic
41 \LWR@mathjax@addlatin@l@bfit{v}% lowercase Latin, bold italic
42
43 \LWR@mathjax@addgreek@l@bfit{v}{}% lowercase Greek bold italic
44 \LWR@mathjax@addgreek@u@bfit*{m}{}% uppercase Greek bold italic, capitalized macro names
45
46 \CustomizeMathJax{\newcommand{\rb}{\mathrm{b}}}
47 \CustomizeMathJax{\newcommand{\rB}{\mathrm{B}}}
48 \CustomizeMathJax{\newcommand{\rC}{\mathrm{C}}}
49 \CustomizeMathJax{\newcommand{\rD}{\mathrm{D}}}
50 \CustomizeMathJax{\newcommand{\rf}{\mathrm{f}}}
51 \CustomizeMathJax{\newcommand{\rF}{\mathrm{F}}}
52 \CustomizeMathJax{\newcommand{\rH}{\mathrm{H}}}
53 \CustomizeMathJax{\newcommand{\rL}{\mathrm{L}}}
54 \CustomizeMathJax{\newcommand{\rN}{\mathrm{N}}}
55 \CustomizeMathJax{\newcommand{\rt}{\mathrm{t}}}
56 \CustomizeMathJax{\newcommand{\rU}{\mathrm{U}}}
57 \CustomizeMathJax{\newcommand{\rGam}{\mathrm{Gam}}}
```

```
58 \CustomizeMathJax{\newcommand{\rBeta}{\mathrm{Beta}}}}
59
60 \CustomizeMathJax{\newcommand{\Bin}{\mathrm{Bin}}}
61 \CustomizeMathJax{\newcommand{\eu}{\mathrm{e}}}
62 \CustomizeMathJax{\newcommand{\iu}{\mathrm{i}}}
63 \CustomizeMathJax{\newcommand{\LN}{\mathrm{LN}}}
64 \CustomizeMathJax{\newcommand{\IN}{\mathrm{IN}}}
65
66 \CustomizeMathJax{\newcommand{\Poi}{\mathrm{Poi}}}
67
68 \CustomizeMathJax{\newcommand{\ped}[1]{\mathrm{\mathit{#1}}}}
69 \CustomizeMathJax{\newcommand{\ap}[1]{^{\mathrm{#1}}}}
70 \CustomizeMathJax{\renewcommand{\Re}{\mathrm{\mathit{Re}}}\nolimits}
71 \CustomizeMathJax{\renewcommand{\Im}{\mathrm{\mathit{Im}}}\nolimits}
72
73 \CustomizeMathJax{\newcommand{\deriv}[3][]{%
74 \frac{\mathrm{d}^{#1}\#2}{\mathrm{d}^{#3}\#1}%
75 } }
76 \CustomizeMathJax{\newcommand{\pderiv}[3][]{%
77 \frac{\partial^{#1}\#2}{\partial^{#3}\#1}%
78 } }
79
80 \CustomizeMathJax{\newcommand{\bias}{\operatorname{bias}}}
81 \CustomizeMathJax{\newcommand{\col}{\operatorname{col}}}
82 \CustomizeMathJax{\newcommand{\corr}{\operatorname{corr}}}
83 \CustomizeMathJax{\newcommand{\cov}{\operatorname{cov}}}
84 \CustomizeMathJax{\newcommand{\dg}{\operatorname{dg}}}
85 \CustomizeMathJax{\newcommand{\diag}{\operatorname{diag}}}
86 \CustomizeMathJax{\newcommand{\E}{\operatorname{E}}}
87 \CustomizeMathJax{\newcommand{\etr}{\operatorname{etr}}}
88 \CustomizeMathJax{\newcommand{\ip}{\mathrm{\mathit{int}}}\nolimits}
89 \CustomizeMathJax{\newcommand{\kur}{\operatorname{kur}}}
90 \CustomizeMathJax{\newcommand{\MSE}{\operatorname{MSE}}}
91 \CustomizeMathJax{\newcommand{\MSFE}{\operatorname{MSFE}}}
92 \CustomizeMathJax{\newcommand{\OLS}{\operatorname{OLS}}}
93 \CustomizeMathJax{\newcommand{\plim}{\operatorname{plim}}}
94 \CustomizeMathJax{\newcommand{\resid}{\operatorname{resid}}}
95 \CustomizeMathJax{\newcommand{\rk}{\operatorname{rk}}}
96 \CustomizeMathJax{\newcommand{\SE}{\operatorname{SE}}}
97 \CustomizeMathJax{\newcommand{\sgn}{\operatorname{sgn}}}
98 \CustomizeMathJax{\newcommand{\tr}{\operatorname{tr}}}
99 \CustomizeMathJax{\newcommand{\var}{\operatorname{var}}}
100 \CustomizeMathJax{\renewcommand{\vec}{\operatorname{vec}}}
101 \CustomizeMathJax{\newcommand{\vech}{\operatorname{vech}}}
102
103 \CustomizeMathJax{\newcommand{\distr}{\mathrm{\mathit{sim}}}}
104 \CustomizeMathJax{\newcommand{\adistr}{\mathrm{\mathit{stackrel{a}{distr}}}}}
105 \CustomizeMathJax{\newcommand{\diff}{\Delta}}
106 \CustomizeMathJax{\newcommand{\fdiff}{\mathrm{\mathit{diff_rf}}}}
107 \CustomizeMathJax{\newcommand{\bdiff}{\mathrm{\mathit{diff_rb}}}}
108
109 \CustomizeMathJax{\newcommand{\eps}{\epsilon}}
110 \CustomizeMathJax{\newcommand{\epsi}{\varepsilon}}
111
112 \CustomizeMathJax{\newcommand{\longto}{\rightarrow}}
```

---

```

113 \CustomizeMathJax{\newcommand{\pto}{\stackrel{p}{\longrightarrow}}}
114 \CustomizeMathJax{\newcommand{\dto}{\stackrel{d}{\longrightarrow}}}
115 \CustomizeMathJax{\newcommand{\wto}{\stackrel{w}{\longrightarrow}}}
116
117 \CustomizeMathJax{\newcommand{\Infmat}{\bm{\cal I}}}
118 \CustomizeMathJax{\newcommand{\Hesmat}{\bm{\cal H}}}
119 \CustomizeMathJax{\newcommand{\bcdot}{\bullet}}
120
121 \CustomizeMathJax{\newcommand{\vones}{\bm{\imath}}}
122 \CustomizeMathJax{\newcommand{\vzeros}{\boldsymbol{0}}}
123 \CustomizeMathJax{\newcommand{\mZeros}{\mathbf{0}}}
124
125 \CustomizeMathJax{\newcommand{\e}{\eu}}
126 \CustomizeMathJax{\newcommand{\mply}{\cdot}}
127 \CustomizeMathJax{\newcommand{\rW}{\ensuremath{\mathit{W}}}}
128 \end{warpMathJax}

```

---

File 120 **lwarf-ed.sty**§ 228 Package **ed**

(Emulates or patches code by MICHAEL KOHLHASE.)

Pkg **ed** **ed** is patched for use by **lwarf**.

for HTML output: 1 \LWR@ProvidesPackagePass{ed}[2012/01/29]

Bugs:

1. todolist fails with the hide option, as does \edexplanation.
2. \edstubURI is actually \edstuURI.

```

2 \RequirePackage{xcolor}
3
4 \renewenvironment{edstub}[2][The following blue text]
5 {%
6 \def\@test{\#1}%
7 \begin{center}%
8 \huge%
9 \textcolor{red}{%}
10 #1 is only a provisional stub\\Large
11 the Office document
12 \ifx\ed@stubURI\empty\else\ href{\ed@stubURI}{#2}\fi\
13 contains more text\\which will be merged for the final document%
14 }%
15 \end{center}%
16 \BlockClass{color:blue}{edstub}%
17 }
18 {\endBlockClass}

```

---

File 121 **lwarf-ellipsis.sty**

§ 229 Package **ellipsis**

(Emulates or patches code by PETER J. HESLIN.)

Pkg **ellipsis** **ellipsis** is emulated.

```
1 \LWR@ProvidesPackageDrop{ellipsis}[2004/09/28]
2
3 \newcommand{\ellipsisgap}{0.1em}
4
5 \newcommand*{\midwordellipsis}{\textellipsis}
```

File 122 **l warp-embrac.sty**

§ 230 Package **embrac**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg **embrac** **embrac** is patched for HTML and used as-is for print.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{embrac}[2017/07/04]

2 \ExplSyntaxOn
3 \RenewDocumentCommand{\embrac_kern:n}{m}{}%
4 \ExplSyntaxOff

5 \LetLtxMacro{\LWR@orig@HTML@emph}{\LWR@HTML@emph}
6 \RenewDocumentCommand{\LWR@HTML@emph}{s m}{\LWR@orig@HTML@emph{#2}}
7
8 \LetLtxMacro{\LWR@orig@HTML@textit}{\LWR@HTML@textit}
9 \RenewDocumentCommand{\LWR@HTML@textit}{s m}{\LWR@orig@HTML@textit{#2}}
10
11 \LetLtxMacro{\LWR@orig@HTML@textsl}{\LWR@HTML@textsl}
12 \RenewDocumentCommand{\LWR@HTML@textsl}{s m}{\LWR@orig@HTML@textsl{#2}}
13
14 \ifxetexorluatex
15 \LetLtxMacro{\LWR@orig@HTML@textsi}{\LWR@HTML@textsi}
16 \RenewDocumentCommand{\LWR@HTML@textsi}{s m}{%
17 \LWR@orig@HTML@textsi{#2}}
18 \fi
19
20 \AtBeginDocument{
21 \LWR@formatted{emph}
22 \LWR@formatted{textit}
23 \LWR@formatted{textsl}
24 \ifxetexorluatex
25 \LWR@formatted{textsi}
26 \fi
27 }
28
29 \newcommand{\LWR@HTML@EmbracOff}{}%
30 \LWR@formatted{EmbracOff}
```

```
31
32 \newcommand{\LWR@HTML@EmbracOn}{}
33 \LWR@formatted{EmbracOn}
```

---

### File 123 **l warp-emptypage.sty**

#### § 231 Package **emptypage**

Pkg **emptypage** **emptypage** is ignored.

**for HTML output:** Discard all options for **l warp-emptypage**:

```
1 \LWR@ProvidesPackageDrop{emptypage}[2010/05/30]
```

---

### File 124 **l warp-endfloat.sty**

#### § 232 Package **endfloat**

Pkg **endfloat** **endfloat** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{endfloat}[2019/04/15]

```
2 \newcommand\figureplace{}
3 \newcommand\tableplace{}
4 \newcommand\floatplace[1]{}
5 \newcounter{posttable}
6 \newcounter{postfigure}
7 \newcommand*\theposttbl{}
8 \newcommand*\thepostfig{}
9 \newcommand{\AtBeginFigures}[1]{}
10 \newcommand{\AtBeginTables}[1]{}
11 \newcommand{\AtBeginDelayedFloats}[1]{}
12 \newcommand*\processdelayedfloats{}
13 \newcommand*\efloatseparator{}
14 \def\efloattype{}
15 \providecommand\efloatheading[1]{}
16 \providecommand\efloatpreamble{}
17 \providecommand\efloatpostamble{}
18 \NewDocumentCommand{\addtodelayedfloat}{s m m}{}
19 \providecommand{\efloatbegin}{}
20 \providecommand{\efloatend}{}
21 \providecommand{\efloatbeginlist}{}
22 \providecommand{\efloatendlist}{}

```

### File 125 **l warp-endheads.sty**

#### § 233 Package **endheads**

Pkg **endheads** **endheads** is ignored.

---

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{endheads}[2017/04/06]

2 \newcommand{\changesinglepageabbrev}[1]{}
3 \newcommand{\changemultiplepageabbrev}[1]{}
4 \newcommand{\changetitlesname}[1]{}
5 \newcommand{\changetitlesheader}[1]{}
6 \newcommand{\changetitlescontentsname}[1]{}
7 \newcommand{\changechaptertitlesline}[1]{}
8 \newcommand{\checknoteheaders}{{}}
9 \newif\ifnotesincontents \notesincontentsfalse
10 \newcommand{\notesincontents}{\notesincontentstrue}
11 \newif\ifendnoteheaders \endnoteheadersfalse
12 \newcommand{\setupendnoteheaders}%
13 \endnoteheaderstrue%
14 }
15 \newif\iftitleinnotes \titleinnotestrue
16 \newcommand{\styleforchapternotebegin}{{}}
17 \newcommand{\styleforchapternoteend}{{}}
18 \newcommand{\setstyleforchapternotebegin}[1]{%
19 \renewcommand{\styleforchapternotebegin}{#1}%
20 }
21 \newcommand{\setstyleforchapternoteend}[1]{%
22 \renewcommand{\styleforchapternoteend}{#1}%
23 }
24 \newcommand{\resetendnotes}{{}}
25 \newif\ifnotesbychapteron \notesbychapteronfalse
26 \newcommand{\notesbychapter}{\notesbychapterontrue}

```

---

### File 126 lwarf-endnotes.sty

## § 234 Package **endnotes**

(Emulates or patches code by JOHN LAVAGNINO.)

Pkg endnotes Patched for HTML.

**table of contents** To place the endnotes in the TOC, use:

```

\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional

```

**HTML page** To additionally have the endnotes on their own HTML page, if `FileDepth` allows:

```

\ForceHTMLPage
\theendnotes

```

**⚠ \endnotemark numbering** If using MATHJAX, see section 8.5.4 regarding the use of `\endnotemark` and `\endnotetext`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{endnotes}

2 \def\enoteformat{%

```

```

3% \rightskip\z@ \leftskip\z@ \parindent=1.8em
4\leavevmode
5\llap{
6\makeenmark
7}
8

9\def\LWR@HTML{@makeenmark{\hbox{\LWR@html\span{sup}{\normalfont\theenmark}}}}
10\LWR@formatted{@makeenmark}
11
12\def\makeenmark{\@makeenmark}

```

For MATHJAX:

```

13\begin{warpMathJax}
14\def\endnotename{\endnote}
15\appto{\LWR@syncnotenumbers}{\LWR@syncnotenumber{\LWR@rendnote}{\theendnote}}
16\appto{\LWR@syncnotenames}{\LWR@syncnotename{\LWR@rendnote}{\endnotename}}
17\CustomizeMathJax{\def{\LWR@rendnote{1}}}
18\CustomizeMathJax{\newcommand{\endnote}[2][\LWR@rendnote]{{}^{\mathsf{#1}}}}
19\CustomizeMathJax{\newcommand{\endnotemark}[1][\LWR@rendnote]{{}^{\mathsf{#1}}}}
20\end{warpMathJax}

```

File 127 **lwarf-engtlc.sty**

§ 235 Package **engtlc**

*(Emulates or patches code by CLAUDIO FIANDRINO.)*

Pkg engtlc engtlc is patched for use by lwarf. MATHJAX is emulated.

⚠ For MATHJAX, \signt, \signf, \signn, and \signz do not force letter case as they do in SVG math.

**for HTML output:** 1 \LWR@ProvidesPackagePass{engtlc}[2012/12/18]

```

2\newcommand{\LWR@HTML@finees}{%
3\begin{BlockClass}[text-align:right]{exerend}%
4\HTMLUnicode{220E}%
5\end{BlockClass}%
6}
7\LWR@formatted{finees}
8
9\newcommand{\LWR@HTML@exerend}{\finees}
10\LWR@formatted{exerend}
11
12\begin{warpMathJax}
13\LWR@infoprocessingmathjax{engtlc}
14
15\CustomizeMathJax{\newcommand{\unit}[1]{\mathsf{#1}}}
16\CustomizeMathJax{\newcommand{\micro}{\mathsf{\scriptsize{unicode{x00B5}}}}}
17%

```

```
18 \CustomizeMathJax{\newcommand{\ho}{\unit{h}}}
19 \CustomizeMathJax{\newcommand{\s}{\unit{s}}}
20 \CustomizeMathJax{\newcommand{\ms}{\unit{ms}}}
21 \CustomizeMathJax{\newcommand{\us}{\unit{\micro s}}}
22 \CustomizeMathJax{\newcommand{\ns}{\unit{ns}}}
23 \CustomizeMathJax{\newcommand{\ps}{\unit{ps}}}
24 %
25 \CustomizeMathJax{\newcommand{\um}{\unit{\micro m}}}
26 \CustomizeMathJax{\newcommand{\mm}{\unit{mm}}}
27 \CustomizeMathJax{\newcommand{\cm}{\unit{cm}}}
28 \CustomizeMathJax{\newcommand{\dm}{\unit{dm}}}
29 \CustomizeMathJax{\newcommand{\m}{\unit{m}}}
30 \CustomizeMathJax{\newcommand{\km}{\unit{km}}}
31 %
32 \CustomizeMathJax{\newcommand{\MA}{\unit{MA}}}
33 \CustomizeMathJax{\newcommand{\kA}{\unit{kA}}}
34 \CustomizeMathJax{\newcommand{\A}{\unit{A}}}
35 \CustomizeMathJax{\newcommand{\mA}{\unit{mA}}}
36 \CustomizeMathJax{\newcommand{\uA}{\unit{\micro A}}}
37 \CustomizeMathJax{\newcommand{\nA}{\unit{nA}}}
38 %
39 \CustomizeMathJax{\newcommand{\MV}{\unit{MV}}}
40 \CustomizeMathJax{\newcommand{\kV}{\unit{kV}}}
41 \CustomizeMathJax{\newcommand{\V}{\unit{V}}}
42 \CustomizeMathJax{\newcommand{\mV}{\unit{mV}}}
43 \CustomizeMathJax{\newcommand{\uV}{\unit{\micro V}}}
44 %
45 \CustomizeMathJax{\newcommand{\mohm}{\unit{m\Omega}}}
46 \CustomizeMathJax{\newcommand{\ohm}{\unit{\Omega}}}
47 \CustomizeMathJax{\newcommand{\kohm}{\unit{k\Omega}}}
48 \CustomizeMathJax{\newcommand{\Mohm}{\unit{M\Omega}}}
49 %
50 \CustomizeMathJax{\newcommand{\pSi}{\unit{pS}}}
51 \CustomizeMathJax{\newcommand{\nSi}{\unit{nS}}}
52 \CustomizeMathJax{\newcommand{\uSi}{\unit{\micro S}}}
53 \CustomizeMathJax{\newcommand{\mSi}{\unit{mS}}}
54 \CustomizeMathJax{\newcommand{\Si}{\unit{S}}}
55 \CustomizeMathJax{\newcommand{\kSi}{\unit{kS}}}
56 \CustomizeMathJax{\newcommand{\MSi}{\unit{MS}}}
57 %
58 \CustomizeMathJax{\newcommand{\fFa}{\unit{fF}}}
59 \CustomizeMathJax{\newcommand{\pFa}{\unit{pF}}}
60 \CustomizeMathJax{\newcommand{\nFa}{\unit{nF}}}
61 \CustomizeMathJax{\newcommand{\uFa}{\unit{\micro F}}}
62 \CustomizeMathJax{\newcommand{\mFa}{\unit{mF}}}
63 \CustomizeMathJax{\newcommand{\Fa}{\unit{F}}}
64 %
65 \CustomizeMathJax{\newcommand{\fHe}{\unit{fH}}}
66 \CustomizeMathJax{\newcommand{\pHe}{\unit{pH}}}
67 \CustomizeMathJax{\newcommand{\nHe}{\unit{nH}}}
68 \CustomizeMathJax{\newcommand{\uHe}{\unit{\micro H}}}
69 \CustomizeMathJax{\newcommand{\mHe}{\unit{mH}}}
70 \CustomizeMathJax{\newcommand{\He}{\unit{H}}}
71 %
72 \CustomizeMathJax{\newcommand{\dB}{\unit{dB}}}
```

```
73 \CustomizeMathJax{\newcommand{\dBm}{\unit{dBm}}}
74 %
75 \CustomizeMathJax{\newcommand{\uW}{\unit{\micro W}}}
76 \CustomizeMathJax{\newcommand{\mW}{\unit{mW}}}
77 \CustomizeMathJax{\newcommand{\W}{\unit{W}}}
78 \CustomizeMathJax{\newcommand{\kW}{\unit{kW}}}
79 \CustomizeMathJax{\newcommand{\MW}{\unit{MW}}}
80 %
81 \CustomizeMathJax{\newcommand{\Hz}{\unit{Hz}}}
82 \CustomizeMathJax{\newcommand{\kHz}{\unit{kHz}}}
83 \CustomizeMathJax{\newcommand{\MHz}{\unit{MHz}}}
84 \CustomizeMathJax{\newcommand{\GHz}{\unit{GHz}}}
85 \CustomizeMathJax{\newcommand{\THz}{\unit{THz}}}
86 %
87 \CustomizeMathJax{\newcommand{\bit}{\unit{bit}}}
88 \CustomizeMathJax{\newcommand{\kbit}{\unit{Kib}}}
89 \CustomizeMathJax{\newcommand{\Mbit}{\unit{Mib}}}
90 \CustomizeMathJax{\newcommand{\Byte}{\unit{B}}}
91 \CustomizeMathJax{\newcommand{\kByte}{\unit{KiB}}}
92 \CustomizeMathJax{\newcommand{\MByte}{\unit{MiB}}}
93 \CustomizeMathJax{\newcommand{\GByte}{\unit{GiB}}}
94 \CustomizeMathJax{\newcommand{\TByte}{\unit{TiB}}}
95 \CustomizeMathJax{\newcommand{\bits}{\unit{bit/s}}}
96 \CustomizeMathJax{\newcommand{\kbites}{\unit{Kib/s}}}
97 \CustomizeMathJax{\newcommand{\Mbites}{\unit{Mib/s}}}
98 \CustomizeMathJax{\newcommand{\Bytes}{\unit{B/s}}}
99 \CustomizeMathJax{\newcommand{\kBytes}{\unit{KiB/s}}}
100 \CustomizeMathJax{\newcommand{\MBytes}{\unit{MiB/s}}}
101 \CustomizeMathJax{\newcommand{\GBytes}{\unit{GiB/s}}}
102 \CustomizeMathJax{\newcommand{\TBytes}{\unit{TiB/s}}}
103 \CustomizeMathJax{\newcommand{\chips}{\unit{chip/s}}}
104 \CustomizeMathJax{\newcommand{\kchips}{\unit{Ki\mkern2mu chip/s}}}
105 \CustomizeMathJax{\newcommand{\Mchips}{\unit{Mi\mkern2mu chip/s}}}
106 \CustomizeMathJax{\newcommand{\chipsubit}{\unit{chip/bit}}}
107 %
108 \CustomizeMathJax{\newcommand{\frecciadex}[1][0.5]{%
109 \hspace{.25cm}\Longrightarrow\hspace{.25cm}}}
110 }
111 \CustomizeMathJax{\newcommand{\varianzarumore}{\frac{N_0}{2}}}
112 %
113 \CustomizeMathJax{\newcommand{\etsymbolbracearg}[2]{%
114 #1\mathopen{}\left\lbracet\right\rbrace\mathclose{}}
115 }
116 \CustomizeMathJax{\newcommand{\fourier}[1]{\etsymbolbracearg{\mathcal{F}}{#1}}}
117 \CustomizeMathJax{\newcommand{\invfourier}[1]{\etsymbolbracearg{\mathcal{F}^{-1}}{#1}}}
118 \CustomizeMathJax{\newcommand{\partereale}[1]{\etsymbolbracearg{\textbf{Re}}{#1}}}
119 \CustomizeMathJax{\newcommand{\parteimm}[1]{\etsymbolbracearg{\textbf{Im}}{#1}}}
120 \CustomizeMathJax{\newcommand{\Info}[1]{I\left(\#1\right)}}
121 \CustomizeMathJax{\newcommand{\versore}[1]{\hat{#1}}}
122 \CustomizeMathJax{\newcommand{\vettore}[1]{\overrightarrow{#1}}}
123 \CustomizeMathJax{\newcommand{\coseno}[1]{\cos\left(2\pi#1t\right)}}
124 \CustomizeMathJax{\newcommand{\seno}[1]{\sin\left(2\pi#1t\right)}}
125 \CustomizeMathJax{\newcommand{\energia}[1]{\mathcal{E}_{#1}}}
126 \CustomizeMathJax{\newcommand{\moduloexp}[2]{\left|vert#1\right\rvert^{#2}}}
127 \CustomizeMathJax{\newcommand{\modulo}[1]{\left|vert#1\right\rvert}}
```

```

128 \CustomizeMathJax{\newcommand{\indB}[1]{%
129 \mathopen{}\left.\#1\right.\mathclose{}%}
130 \CustomizeMathJax{\newcommand{\for}[2]{\left.\#1\right.\mathclose{}%}
131 \CustomizeMathJax{\newcommand{\massimo}[1]{\etsymbolbracearg{\max}{#1}}}
132 \CustomizeMathJax{\newcommand{\minimo}[1]{\etsymbolbracearg{\min}{#1}}}
133 \CustomizeMathJax{\newcommand{\valc}{\cdotp{3}\cdotp{10^8}}}
134 \CustomizeMathJax{\newcommand{\loga}[2]{\log_{#1}{#2}}}
135 \CustomizeMathJax{\newcommand{\analitic}[1]{\mathring{#1}}}
136 \CustomizeMathJax{\newcommand{\diff}{\mathop{}\mathopen{\mathrm{d}}}}
137 \CustomizeMathJax{\newcommand{\intinf}[1]{\int_{-\infty}^{+\infty}{#1}}}
138 \CustomizeMathJax{\newcommand{\deltain}[1]{\delta_{\left.\#1\right.\mathclose{}}}}
139 \CustomizeMathJax{\newcommand{\iu}{\mathrm{j}}}
140 \CustomizeMathJax{\newcommand{\ex}[1]{\mathrm{e}^{#1}}}
141 %
142 \CustomizeMathJax{\newcommand{\gammatens}{\mathcal{V}\Gamma}}
143 \CustomizeMathJax{\newcommand{\gammacorr}{\mathcal{I}\Gamma}}
144 \CustomizeMathJax{\newcommand{\gammatensin}{\mathcal{V}\Gamma_\mathrm{in}}}
145 \CustomizeMathJax{\newcommand{\gammacorrin}{\mathcal{I}\Gamma_\mathrm{in}}}
146 \CustomizeMathJax{\newcommand{\gammain}{\Gamma_\mathrm{in}}}
147 \CustomizeMathJax{\newcommand{\gammak}{\mathcal{k}\Gamma}}
148 %
149 \CustomizeMathJax{\newcommand{\lbvt}{\lambda_0}}
150 \CustomizeMathJax{\newcommand{\lbg}{\lambda_g}}
151 \CustomizeMathJax{\newcommand{\lbvgt}{\lambda_{g_0}}}
152 %
153 \CustomizeMathJax{\newcommand{\potin}{P_\mathrm{in}}}
154 \CustomizeMathJax{\newcommand{\potdisp}{P_\mathrm{disp}}}
155 \CustomizeMathJax{\newcommand{\potDC}{P_\mathrm{DC}}}
156 \CustomizeMathJax{\newcommand{\potCC}{P_\mathrm{CC}}}
157 \CustomizeMathJax{\newcommand{\potirr}{P_\mathrm{irr}}}
158 \CustomizeMathJax{\newcommand{\potdiss}{P_\mathrm{diss}}}
159 \CustomizeMathJax{\newcommand{\potinc}{P_\mathrm{inc}}}
160 %
161 \CustomizeMathJax{\newcommand{\z}{Z_\mathrm{in}}}
162 \CustomizeMathJax{\newcommand{\znorm}{z_\mathrm{in}}}
163 \CustomizeMathJax{\newcommand{\y}{Y_\mathrm{in}}}
164 \CustomizeMathJax{\newcommand{\ynorm}{y_\mathrm{in}}}
165 \CustomizeMathJax{\newcommand{\zinf}{Z_\mathrm{inf}}}
166 \CustomizeMathJax{\newcommand{\zinfn}{z_\mathrm{inf}}}
167 \CustomizeMathJax{\newcommand{\yinf}{Y_\mathrm{inf}}}
168 \CustomizeMathJax{\newcommand{\yinfn}{y_\mathrm{inf}}}
169 \CustomizeMathJax{\newcommand{\zvt}{Z_\mathrm{vt}}}
170 \CustomizeMathJax{\newcommand{\yvt}{Y_\mathrm{vt}}}
171 %
172 \CustomizeMathJax{\newcommand{\campoe}{\underline{\mathcal{E}}(\underline{r},t)}}
173 \CustomizeMathJax{\newcommand{\campoefas}{\underline{E}(\underline{r})}}
174 \CustomizeMathJax{\newcommand{\campoh}{\underline{\mathcal{H}}(\underline{r},t)}}
175 \CustomizeMathJax{\newcommand{\campohfas}{\underline{H}(\underline{r})}}
176 %
177 \CustomizeMathJax{\newcommand{\signt}{\#1(t)}}
178 \CustomizeMathJax{\newcommand{\signf}{\#1(f)}}
179 \CustomizeMathJax{\newcommand{\signn}{\#1(n)}}
180 \CustomizeMathJax{\newcommand{\signz}{\#1(z)}}
181 %
182 \CustomizeMathJax{\newcommand{\prob}{\mathcal{P}}}

```

---

```

183 \CustomizeMathJax{\newcommand{\valatt}[1]{\mathbb{E}\left[#1\right]}}
184 \CustomizeMathJax{\newcommand{\var}[1]{\mathrm{Var}\left[#1\right]}}
185 \CustomizeMathJax{\newcommand{\comma}{, , ,}}
186 \CustomizeMathJax{\newcommand{\dato}{\textcolor{black}{, |, }}}
187 %
188 \CustomizeMathJax{\let\bfRe\partereale}
189 \CustomizeMathJax{\let\bfIm\parteimm}
190 \CustomizeMathJax{\let\noisevar\varianzarumore}
191 % \CustomizeMathJax{\let\exerend\finees}
192 \CustomizeMathJax{\let\Spimplies\frecciadex}
193 \CustomizeMathJax{\let\Downimplies\frecciadown}
194 \CustomizeMathJax{\let\unitvec\versore}
195 \CustomizeMathJax{\let\vector\vettore}
196 \CustomizeMathJax{\let\cosine\coseno}
197 \CustomizeMathJax{\let\sine\seno}
198 \CustomizeMathJax{\let\energy\energia}
199 \CustomizeMathJax{\let\Abs\modulo}
200 \CustomizeMathJax{\let\AbsPow\moduloexp}
201 \CustomizeMathJax{\let\Max\massimo}
202 \CustomizeMathJax{\let\Min\minimo}
203 \CustomizeMathJax{\let\clight\valc}
204 \CustomizeMathJax{\let\Log\loga}
205 \CustomizeMathJax{\let\analytic\analitic}
206 \CustomizeMathJax{\let\infint\intinf}
207 \CustomizeMathJax{\let\deltaimp\deltaimp}
208 \CustomizeMathJax{\let\Vgamma\gammatens}
209 \CustomizeMathJax{\let\Cgamma\gammacorr}
210 \CustomizeMathJax{\let\Vgammaint\gammatensin}
211 \CustomizeMathJax{\let\Cgammaint\gammacorrin}
212 \CustomizeMathJax{\let\Kgamma\gammak}
213 \CustomizeMathJax{\let\powerin\potin}
214 \CustomizeMathJax{\let\availpow\potdisp}
215 \CustomizeMathJax{\let\irrpow\potirr}
216 \CustomizeMathJax{\let\disspow\potdiss}
217 \CustomizeMathJax{\let\incpow\potinc}
218 \CustomizeMathJax{\let\potalim\potCC}
219 \CustomizeMathJax{\let\potDC\potCC}
220 \CustomizeMathJax{\let\Efield\campoe}
221 \CustomizeMathJax{\let\Hfield\campoh}
222 \CustomizeMathJax{\let\phasorEfield\campofas}
223 \CustomizeMathJax{\let\phasorHfiled\campohfas}
224 \CustomizeMathJax{\let\given\dato}
225 \CustomizeMathJax{\let\expval\valatt}
226 \CustomizeMathJax{\let\rmexp\ex}
227 \end{warpMathJax}

```

---

File 128 **lwarp-enotez.sty**

§ 236 Package **enotez**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg enotez enotez is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enotez}[2020/12/13]

Hyperref is emulated by **lwarp**, so it is forced on for **enotez**:

```
2 \ExplSyntaxOn
3 \AtBeginDocument{
4 \bool_set_true:N \l__enotez_hyperref_bool
5 \bool_set_true:N \l__enotez_hyperfootnotes_bool
6 }
```

Do not move or \hbox the \hypertarget:

```
7 % typeset the actual mark:
8 % #1: id
9 % #2: mark
10 \cs_gset_protected:Npn \enotez_write_mark:nn #1#2
11 {
12 \bool_if:NTF \l__enotez_hyperfootnotes_bool
13 {
14 \enotezwritemark { \hyperlink {enz.#1} { \enmarkstyle #2 } }
15 \bool_if:NT \l__enotez_hyperbackref_bool
16 {
17 \box_move_up:nn {1em} {
18 \hbox:n {
19 \hypertarget {enz.#1.backref} { }
20 }
21 }
22 }
23 }
24 { \enotezwritemark { \enmarkstyle #2 } }
25 }
26 \cs_generate_variant:Nn \enotez_write_mark:nn {x}
```

Do not move or \hbox the \hypertarget:

```
27 \cs_gset_protected:Npn \enotez_write_list_number:n #1
28 {
29 \bool_if:NT \l__enotez_hyperfootnotes_bool
30 {
31 \box_move_up:nn {1em} { \hbox:n {
32 \hypertarget {enz.#1} { }
33 } }
34 }
35 \tl_use:N \l__enotez_list_number_format_tl
36 \tl_if_eq:nxTF {a} { \prop_item:Nn \g__enotez_endnote_man_prop {#1} }
37 {
38 \bool_if:nTF
39 { \l__enotez_hyperfootnotes_bool && \l__enotez_hyperbackref_bool }
40 {
41 \exp_args:Nnx
42 \hyperlink {enz.#1.backref}
43 { \exp_not:V \l__enotez_endnote_mark_tl }
44 }
45 { \prop_item:Nn \g__enotez_endnote_mark_prop {#1} }
46 }
```

```

47 {
48 \bool_if:nTF
49 { \l__enotez_hyperfootnotes_bool && \l__enotez_hyperbackref_bool }
50 {
51 \exp_args:Nnx
52 \hyperlink {enz.\#1.backref}
53 { \exp_not:V \l__enotez_endnote_mark_tl }
54 }
55 { \tl_use:N \l__enotez_endnote_mark_tl }
56 }
57 }

```

Do not move the label to the left:

```

58 \DeclareTemplateCode {enotez-list} {paragraph} {1}
59 {
60 heading = \enotez_list_heading:n ,
61 format = \l__enotez_list_format_tl ,
62 number = \enotez_list_number:n ,
63 number-format = \l__enotez_list_number_format_tl ,
64 notes-sep = \l__enotez_list_notes_sep_dim
65 }
66 {
67 \AssignTemplateKeys
68 \enotez_set_totoc:
69 \enotez_list_heading:n { \l__enotez_list_name_tl }
70 \enotez_list_preamble:
71 \enotez_build_print_list:nnnn {\#1}
72 {}
73 {
74 \par\noindent
75 \group_begin:
76 \tl_use:N \l__enotez_list_format_tl
77 % \hbox_overlap_left:n
78 % {
79 % \enotez_list_number:n
80 % { \enotez_write_list_number:n {\#\#1} }
81 % \tl_use:N \c_space_tl
82 % }
83 % \cs_set:cpn {@currentlabel}
84 % { \p@endnote \l__enotez_endnote_mark_tl }
85 \tl_use:N \g__enotez_endnote_text_tl
86 \par
87 \dim_compare:nT { \l__enotez_list_notes_sep_dim != 0pt }
88 { \addvspace { \l__enotez_list_notes_sep_dim } }
89 \group_end:
90 {}
91 {}
92 \enotez_list_postamble:
93 }
94
95 \ExplSyntaxOff

```

For MATHJAX:

---

```

96 \begin{warpMathJax}
97 \def\endnotename{\endnote}
98 \appto\LWR@syncnotenumbers{\LWR@syncconenotenumber{\LWR@syncnote}{\theendnote}}
99 \appto\LWR@syncnotenames{\LWR@syncconenotename{\LWR@syncnote}{\endnotename}}
100 \CustomizeMathJax{\def\LWR@syncnote{1}}
101 \CustomizeMathJax{\newcommand{\endnote}[2][\LWR@syncnote]{\{}^{\mathsf{#1}}\}}
102 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWR@syncnote]{\}^{\mathsf{#1}}\}}
103 \end{warpMathJax}

```

---

File 129 **lwarf-enumerate.sty**§ 237 Package **enumerate**

Pkg **enumerate** **enumerate** is supported with no changes.

This package is only required because it was used in the past to drop and then emulate the package. It cannot be removed because an older version which dropped the package may still remain, for example in a local vs. distribution directory, but it is now supported directly by **lwarf** and thus must no longer be dropped.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enumerate}[2015/07/23]

---

File 130 **lwarf-enumitem.sty**§ 238 Package **enumitem**

(Emulates or patches code by JAVIER BEZOS.)

Pkg **enumitem** **enumitem** is supported with minor adjustments.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enumitem}[2018/11/30]

```
\newlist {\name} {\type} {\maxdepth}
\renewlist {\name} {\type} {\maxdepth}
```

For **enumitem** lists, new lists must have the start and end actions assigned to the new environment. Renewed lists already have their actions assigned, and thus need no changes.

```

2 \let\LWR@enumitem@orignewlist\newlist
3
4 \renewcommand*\newlist[3]{%
5 \LWR@enumitem@orignewlist[#1]{#2}{#3}%
6 \AtBeginEnvironment{#1}{\@nameuse{\LWR@#2start}}%
7 \AtEndEnvironment{#1}{\@nameuse{\LWR@#2end}}%
8 }
9
10 \def\DrawEnumitemLabel{}
```

---

File 131 **lwarf-epigraph.sty**

§ 239      Package **epigraph**

*(Emulates or patches code by PETER WILSON.)*

Pkg **epigraph** **epigraph** is emulated for HTML, and used as-is for print output.

Use css to format epigraphs.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epigraph}[2020/01/02]

```

2 \DeclareDocumentCommand{\LWR@HTML@qitem}{m m}
3 {%
4 \begin{BlockClass}{qitem}%
5 #1%
6 \LWR@stoppars%
7 \ifbool{FormatWP}%
8 {\begin{BlockClass}[border-top:1px solid gray]{epigraphsource}}%
9 {\begin{BlockClass}{epigraphsource}}%
10 #2%
11 \end{BlockClass}%
12 \end{BlockClass}%
13 }
14 \LWR@formatted{qitem}
```

**epigraph:** Added ARIA role.

```

15 \DeclareDocumentCommand{\LWR@HTML@epigraph}{m m}
16 {%
17 \begin{LWR@BlockClassWP}{\LWR@print@mbox{text-align:right}}{}(note){epigraph}%
18 \qitem{#1}{#2}%
19 \end{LWR@BlockClassWP}%
20 }
21 \LWR@formatted{epigraph}
22
23 \DeclareDocumentEnvironment{\LWR@HTML@epigraphs}{}
24 {\LWR@BlockClassWP{\LWR@print@mbox{text-align:right}}{}(note){epigraph}}%
25 {\end{LWR@BlockClassWP}}
26 \LWR@formattedenv{epigraphs}
```

The following cannot be used in print mode while generating HTML:

```

27 \renewcommand{\epigraphhead}[2][0]{#2}
28 \renewcommand{\dropchapter}[1]{}
29 \renewcommand*{\undodrop}{}
```

File 132 **l warp-epsf.sty**

§ 240      Package **epsf**

*(Emulates or patches code by TOM ROKICKI.)*

Pkg **epsf** **epsf** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epsf}% not date given

```

2 \xpreto{cmd}{\epsfsetgraph}
3 {\begin{lateximage}}
4 {}
5 {\LWR@patcherror{l warp-epsf}{\epsfsetgraph-begin}}
6
7 \xappto{cmd}{\epsfsetgraph}
8 {\end{lateximage}}
9 {}
10 {\LWR@patcherror{l warp-epsf}{\epsfsetgraph-end}}
```

### File 133 l warp-epsfig.sty

#### § 241 Package **epsfig**

Pkg epsfig **epsfig** is emulated for use by **l warp**.

⚠ Only the L<sup>A</sup>T<sub>E</sub>X2e syntax is emulated.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epsfig}[2017/06/25]

A few additional keys to capture the filename:

```

2 \RequirePackage{graphics}
3
4 \define@key{igraph}{file}{%
5 \xdef{\LWR@epsfig@filename}{#1}%
6 }
7
8 \define@key{igraph}{figure}{%
9 \xdef{\LWR@epsfig@filename}{#1}%
10 }
11
12 \define@key{igraph}{prolog}{}
13
14 \define@key{igraph}{silent}{}[]
```

The captured filename is used as the argument to `\includegraphics`:

```

15 \newcommand{\LWR@HTML@epsfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
16 \LWR@formatted{epsfig}
17
18 \newcommand{\LWR@HTML@psfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
19 \LWR@formatted{psfig}
```

### File 134 l warp-epstopdf.sty

#### § 242 Package **epstopdf**

Pkg epstopdf Previous versions of **l warp** had a nullified version, but now **epstopdf-base** is supported.

`l warp-epstopdf` becomes a placeholder to overwrite previous versions.

See package `epstopdf-base` for details.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epstopdf}[2020-01-24]

File 135 **l warp-epstopdf-base.sty**

§ 243 Package **epstopdf-base**

Pkg epstopdf-base

Images with an `.eps` extension will be converted to `.pdf`. The `HTML` output uses the `.svg` version, so use

⚠ Enter ⇒ `l warpmk pdftosvg <listofPDFfiles>`

to generate `.svg` versions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epstopdf-base}[2020-01-24]

Redefine to remember the image filename, replacing `.pdf` with `.svg`. Use the `epstopdf` print version inside a `lateximage`.

```
2 \newcommand*{\LWR@HTML@ETE@OrgGin@setfile}[3]{%
3 \edef\tempone{\#3}%
4 \StrSubstitute{\tempone}{.pdf}{.svg}[\tempone]%
5 \StrSubstitute{\tempone}{.PDF}{.SVG}[\tempone]%
6 \xdef\parsedfilename{\tempone}%
7 }%
8 %
9 \LWR@formatted{ETE@OrgGin@setfile}
```

`\includegraphics` in `HTML` mode redefines `\Gin@setfile` to be `\LWR@HTML@Gin@setfile`, which is now redirected to `epstopdf`'s version:

```
10 \renewcommand*{\LWR@HTML@Gin@setfile}[3]{%
11 \ETE@Gin@setfile{\#1}{\#2}{\#3}%
12 }
```

Allow `.eps` images to be found if a suffix is not provided:

```
13 \AtBeginDocument{%
14 \DeclareGraphicsExtensions{%
15 .eps,.EPS,.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
16 }%
17 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
18 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
19 }
```

Likewise when inside a `lateximage`:

```
20 \appto\restoreorigformatting{%
```

---

```

21 \DeclareGraphicsExtensions{%
22 .eps, .EPS, .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
23 }%
24 }

```

---

File 136 **l warp-eqlist.sty**

§ 244 Package **eqlist**

Pkg **eqlist** **eqlist** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{eqlist}[2002/08/15]

```

2 \newenvironment{eqlist}[1][] {\description}{\enddescription}
3 \newenvironment{eqlist*}[1][] {\description}{\enddescription}
4 \newenvironment{Eqlist}[2][] {\description}{\enddescription}
5 \newenvironment{Eqlist*}[2][] {\description}{\enddescription}
6 \newcommand*{\longitem}[1][]{\item[#1]}
7 \newcommand*{\eqlistinit} {}
8 \newcommand*{\eqliststarinit} {}
9 \newcommand*{\eqlistinitpar} {}
10 \def\eqlistlabel#1{#1}
11 \newcommand{\eqlistauto}[1]{}
12 \newcommand{\eqlistnoauto} {}

```

---

File 137 **l warp-eqparbox.sty**

§ 245 Package **eqparbox**

(Emulates or patches code by SCOTT PAKIN.)

Pkg **eqparbox** **eqparbox** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{eqparbox}[2017/09/03]

```

2 \NewDocumentCommand{\LWR@HTML@eqparbox}{O{t} O{} O{t} m +m}{%
3 {%
4 \minipage{fullwidth}%
5 \parbox[#1][#2][#3]{\linewidth}{#5}%
6 }%
7 }%
8 \LWR@formatted{eqparbox}%
9 %
10 \NewDocumentCommand{\LWR@HTML@eqmakebox}{o o m}{%
11 \makebox[#2]{#3}%
12 }%
13 \LWR@formatted{eqmakebox}%
14 %
15 \NewDocumentCommand{\LWR@HTML@eqframebox}{o o m}{%
16 \framebox[#2]{#3}%

```

```

17 }
18 \LWR@formatted{eqframebox}
19
20 \NewDocumentEnvironment{\LWR@HTML@eqminipage}{O{t} O{} O{t} m}
21 {%
22 \begingroup%
23 \minipagewidth%
24 \minipage[#1][#2][#3]{\linewidth}%
25 }%
26 {%
27 \endminipage%
28 \endgroup%
29 }
30
31 \newcommand*{\LWR@HTML@eqboxwidth}[1]{.25\linewidth}
32 \LWR@formatted{eqboxwidth}
33
34 \newcommand*{\LWR@HTML@eqsetminwidth}[2]{}
35 \newcommand*{\LWR@HTML@eqsetmaxwidth}[2]{}
36
37 \newcommand*{\LWR@HTML@eqsetminwidthto}[2]{}
38 \newcommand*{\LWR@HTML@eqsetmaxwidthto}[2]{}

```

---

### File 138 **l warp-errata.sty**

## § 246 Package **errata**

*(Emulates or patches code by MICHAEL KOHLHASE.)*

Pkg errata errata is patched for use by l warp.

This is for v0.3 of errata. A newer version of errata with more features is under development, at which time the l warp version will have to be updated.

**for HTML output:** Macros are being defined with the math dollar, so enable the HTML version during package loading:

```
1 \StartDefiningMath
```

Now load the package:

```
2 \LWR@ProvidesPackagePass{errata}[2006/11/12]
```

Patches for dynamic inline math:

```

3 \xpatchcmd{\erratumAdd}
4 {$_a^{\arabic{erratum}}$}
5 {\inlinemathother{_a^{\arabic{erratum}}}\inlinemathnormal}
6 {\textsubscript{a}\textsuperscript{\arabic{erratum}}}
7 {}
8 {\LWR@patcherror{erratum}{erratumAdd}}
9
10 \xpatchcmd{\erratumDelete}

```

```

11 {$_d^{\arabic{erratum}}$}
12 % {\inlinemathother$_d^{\arabic{erratum}}$\inlinemathnormal}
13 {\textsubscript{d}\textsuperscript{\arabic{erratum}}}
14 {}
15 {\LWR@patcherror{erratum}{erratumDelete}}
16
17 \xpatchcmd{\erratumReplace}
18 {$_r^{\arabic{erratum}}$}
19 % {\inlinemathother$_r^{\arabic{erratum}}$\inlinemathnormal}
20 {\textsubscript{r}\textsuperscript{\arabic{erratum}}}
21 {}
22 {\LWR@patcherror{erratum}{erratumReplace}}
23
24 \xpatchcmd{\erratum}
25 {$_a$}
26 % {\inlinemathother$_a$\inlinemathnormal}
27 {\textsubscript{a}}
28 {}
29 {\LWR@patcherror{erratum}{erratumDelete}}
30
31 \xpatchcmd{\erratum}
32 {$_d^{\@thefnmark}$}
33 % {\inlinemathother$_d^{\@thefnmark} $\inlinemathnormal}
34 {\textsubscript{d}@thefnmark}
35 {}
36 {\LWR@patcherror{erratum}{eDelete}}
37
38 \xpatchcmd{\erratum}
39 {$_r^{\@thefnmark}$}
40 % {\inlinemathother$_r^{\@thefnmark} $\inlinemathnormal}
41 {\textsubscript{r}@thefnmark}
42 {}
43 {\LWR@patcherror{erratum}{eReplace}}

```

Finish the current page's errata before closing and reloading the list:

```
44 \preto\PrintErrata{\LWR@maybe@orignewpage}
```

No longer defining math macros with the `HTML $`:

```
45 \StopDefiningMath
```

### File 139 **lwarf-eso-pic.sty**

§ 247 Package **eso-pic**

*(Emulates or patches code by ROLF NIEPRASCHK.)*

Pkg `eso-pic` **eso-pic** is ignored.

for **HTML output**: 1 `\LWR@ProvidesPackageDrop{eso-pic}[2018/04/12]`

```
2 \newcommand*{\LenToUnit}{}{}
```

---

```

3 \newcommand{\AtPageUpperLeft}[1]{}
4 \newcommand{\AtPageLowerLeft}[1]{}
5 \newcommand{\AtPageCenter}[1]{}
6 \newcommand{\AtStockLowerLeft}[1]{}
7 \newcommand{\AtStockUpperLeft}[1]{}
8 \newcommand{\AtStockCenter}[1]{}
9 \newcommand{\AtTextUpperLeft}[1]{}
10 \newcommand{\AtTextLowerLeft}[1]{}
11 \newcommand{\AtTextCenter}[1]{}
12 \NewDocumentCommand{\AddToShipoutPictureBG}{s +m}{}

13 \newcommand{\AddToShipoutPicture}{\AddToShipoutPictureBG}
14 \NewDocumentCommand{\AddToShipoutPictureFG}{s +m}{}
15 \newcommand*{\ClearShipoutPictureBG}={}
16 \newcommand*{\ClearShipoutPicture}={}
17 \newcommand*{\ClearShipoutPictureFG}={}
18 \newcommand{\gridSetup}[6][]{}

```

---

File 140 **lwarp-esvect.sty**

§ 248 Package **esvect**

(Emulates or patches code by EDDIE SAUDRAIS.)

Pkg esvect **esvect** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{esvect}% no date given

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWResvectvv}[1]{\overrightarrow{\#1}}}
4 \CustomizeMathJax{\newcommand{\LWResvectvvstar}[2]{\overrightarrow{\#1}\!_!\#2}}
5 \CustomizeMathJax{\newcommand{\vv}{\ifstar\LWResvectvvstar\!LWResvectvv}}
6 \end{warpMathJax}

```

---

File 141 **lwarp-etoc.sty**

§ 249 Package **etoc**

Pkg etoc **etoc** is ignored. All commands are nullified.

⚠ **\tableofcontents with \ref** The **etoc** package uses a non-standard syntax which looks ahead after a `\tableofcontents` for a following `\ref`. These `\refs` appear in the HTML result unless they are removed. Where a `\tableofcontents` is followed by `\ref`, and perhaps also `\label` as well, enclose all of them inside `\warpprintonly`:

```
\warpprintonly{\tableofcontents \ref{toc:abc} \label{toc:def}}
```

or place all code related to a local `\tableofcontents` inside a `warprint` environment.

⚠ **home page** Be sure to keep the initial `\tableofcontents` on the home page, perhaps in its own

\warpHTMLonly macro or warpHTML environment.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{etoc}[2019/11/17]

```
2 \def\etocsetlevel#1#2{}
3 \def\etocskipfirstprefix{}
4 \let\etocthename \@empty
5 \let\etocthenumber \@empty
6 \let\etocthepage \@empty
7 \let\etocthelinkedname \@empty
8 \let\etocthelinkednumber \@empty
9 \let\etocthelinkedpage \@empty
10 \let\etocthelink \@firstofone % prior to 1.08j its was \let to \@empty
11 \DeclareRobustCommand*{\etocname} {}
12 \DeclareRobustCommand*{\etocnumber}{}
13 \DeclareRobustCommand*{\etocpage} {}
14 \DeclareRobustCommand*{\etoclink} {\@firstofone}
15 \DeclareRobustCommand*{\etocifnumbered}{\@firstoftwo}
16 \DeclareRobustCommand*{\etociffirst}{\@firstoftwo}
17 \DeclareRobustCommand*\etocifwasempty{\@firstoftwo}
18 \let\etocaftertitlehook \@empty
19 \let\etocaftercontentshook \@empty
20 \def\etoctableofcontents{}
21 \newcommand*\localtableofcontents{}
22 \newcommand*\localtableofcontentswithrelativedepth[1]{}
23 \newcommand\etocsettocstyle[2]{}
24 \long\def\etocsetstyle#1#2#3#4#5{}
25 \def\etocfontminustwo {\normalfont \LARGE \bfseries}
26 \def\etocfontminusone {\normalfont \large \bfseries}
27 \def\etocfontzero {\normalfont \large \bfseries}
28 \def\etocfontone {\normalfont \normalsize \bfseries}
29 \def\etocfonttwo {\normalfont \normalsize}
30 \def\etocfontthree {\normalfont \footnotesize}
31 \def\etocsepminustwo {4ex \@plus .5ex \@minus .5ex}
32 \def\etocsepminusone {4ex \@plus .5ex \@minus .5ex}
33 \def\etocsepzero {2.5ex \@plus .4ex \@minus .4ex}
34 \def\etocsepone {1.5ex \@plus .3ex \@minus .3ex}
35 \def\etocseptwo {.5ex \@plus .1ex \@minus .1ex}
36 \def\etocsepthree {.25ex \@plus .05ex \@minus .05ex}
37 \def\etocbaselinespreadminustwo {1}
38 \def\etocbaselinespreadminusone {1}
39 \def\etocbaselinespreadzero {1}
40 \def\etocbaselinespreadone {1}
41 \def\etocbaselinespreadtwo {1}
42 \def\etocbaselinespreadthree {.9}
43 \def\etocminustwoleftmargin {1.5em plus 0.5fil}
44 \def\etocminustworightmargin {1.5em plus -0.5fil}
45 \def\etocminusoneleftmargin {1em}
46 \def\etocminusonerightmargin {1em}
47 \def\etococlineleaders
48 {\hbox{\normalfont\normalsize\hb@xt@2ex {\hss.\hss}}}
49 \def\etocabrevpagename {p.~}
50 \def\etocpartname {Part}% modified 1.08b
51 \def\etocbookname {Book}
52 \def\etocdefaultlines{}
53 \def\etocabovetocskip{3.5ex \@plus 1ex \@minus .2ex}
```

```
54 \def\etocbelowtocskip{3.5ex \@plus 1ex \@minus .2ex}
55 \def\etoccolumnsep{2em}
56 \def\etocmulticolsep{0ex}
57 \def\etocmulticolpretolerance{-1}
58 \def\etocmulticoltolerance{200}
59 \def\etocdefaultnbcoll{2}
60 \def\etocinnertopsep{2ex}
61 \newcommand\etocmulticolstyle[2][]{}
62 \def\etocinnerbottomsep{3.5ex}
63 \def\etocinnerleftsep{2em}
64 \def\etocinnersrightsep{2em}
65 \def\etocoprule{\hrule}
66 \def\etocleftrule{\vrule}
67 \def\etocrightrule{\vrule}
68 \def\etocbottomrule{\hrule}
69 \def\etocoprulecolorcmd{\relax}
70 \def\etocbottomrulecolorcmd{\relax}
71 \def\etocleftrulecolorcmd{\relax}
72 \def\etocrightrulecolorcmd{\relax}
73 \newcommand*\etocruledstyle[2][]{}
74 \def\etocframedmphook{\relax}
75 \long\def\etocbkgcolorcmd{\relax}
76 \newcommand*\etocframedstyle[2][]{}
77 \def\etocmulticol{}
78 \def\etocruled{}
79 \def\etocframed{}
80 \def\etoclocalmulticol{}
81 \def\etoclocalruled{}
82 \def\etoclocalframed{}
83 \def\etocarticlestyle{}
84 \def\etocarticlestylenomarks{}
85 \def\etocbookstyle{}
86 \def\etocbookstylenomarks{}
87 \let\etoreportstyle\etocbookstyle
88 \let\etoreportstylenomarks\etocbookstylenomarks
89 \def\etocmemoirtotoc tocfcmt #1#2{}
90 \def\etocmemoirstyle{}
91 \def\etocscrartclstyle{}
92 \let\etocscrbookstyle\etocscrartclstyle
93 \let\etocscrreprtstyle\etocscrartclstyle
94 \def\etocstandarddisplaystyle{\etocarticlestyle}
95 \newcommand*\etocmarkboth[1]({})
96 \newcommand*\etocmarkbothonuc[1]({})
97 \newcommand\etocstyle[3][section]({})
98 \newcommand\etocstylewithmarks[4][section]({})
99 \newcommand\etocstylewithmarksnouc[4][section]({})
100 \def\etocignoretoctocdepth{}
101 \def\etocsettocdepth[1]({})
102 \def\etocdepthtag {\#1{\Etoc@depthtag}}
103 \def\Etoc@depthtag {\#1{}}
104 \def\etocignoreddepthtags {}
105 \def\etocobeydepthtags {}
106 \def\etocsettagdepth {\#1#2{}}
107 \def\invisibletableofcontents {}
108 \def\invisiblelocaltableofcontents {}
```

```
109 \def\etocsetnexttocdepth #1{}
110 \def\etocsetlocaltop #1{\Etoc@set@localtop}
111 \def\Etoc@set@localtop #1{}
112 \def\etocstandardlines {}
113 \def\etoctoclines {}
114 \let\etocaftertohook \@empty
115 \let\etocbeforetitlehook \@empty
116 \appto\tableofcontents{\def\tableofcontents{}}
```

---

**File 142 l warp-eurosym.sty****§ 250 Package eurosym**

(Emulates or patches code by HENRIK THEILING.)

Pkg eurosym eurosym is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{eurosym}[1998/08/06]

```
2 \renewrobustcmd\official euro{\HTMLentity{euro}}
3 \let\geneuro\official euro
4 \let\geneuronarrow\official euro
5 \let\geneurowide\official euro
6 \let\eurow\official euro
7 \renewrobustcmd\eurobars{}
8 \renewrobustcmd\europbarsnarrow{}
9 \renewrobustcmd\europbarswide{}
```

---

**File 143 l warp-everypage.sty****§ 251 Package everypage**

(Emulates or patches code by SERGIO CALLEGARI.)

Pkg everypage everypage is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{everypage}[2007/06/20]

```
2 \newcommand*\AddEverypageHook[1]{}
3 \newcommand*\AddThispageHook[1]{}
```

---

**File 144 l warp-everyshi.sty****§ 252 Package everyshi**

(Emulates or patches code by MARTIN SCHRÖDER.)

Pkg everyshi ignored.

**for HTML output:** Discard all options for `l warp-everyshi`:

```

1 \LWR@ProvidesPackageDrop{everyshi}[2001/05/15]

2 \let\EveryShipout\relax
3 \newcommand*\EveryShipout[1]{}
4
5 \let\AtNextShipout\relax
6 \newcommand*\AtNextShipout[1]{}
```

---

#### File 145 **l warp-extarrows.sty**

##### § 253 Package **extarrows**

(Emulates or patches code by HUYNH KY ANH.)

Pkg `extarrows` **extarrows** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{extarrows}[2008/05/15]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\Newextarrow\xLongleftarrow{10,10}{0x21D0}}
4 \CustomizeMathJax{\Newextarrow\xLongrightarrow{10,10}{0x21D2}}
5 \CustomizeMathJax{\Newextarrow\xLongleftrightarrow{10,10}{0x21D4}}
6 \CustomizeMathJax{\Newextarrow\xLeftrightarrow{10,10}{0x21D4}}
7 \CustomizeMathJax{\Newextarrow\xlongleftrightarrow{10,10}{0x2194}}
8 \CustomizeMathJax{\Newextarrow\xleftrightarrow{10,10}{0x2194}}
9 \CustomizeMathJax{\let\xlongleftarrow\xleftarrow}
10 \CustomizeMathJax{\let\xlongrightarrow\xrightarrow}
11 \end{warpMathJax}
```

---

#### File 146 **l warp-extremarks.sty**

##### § 254 Package **extremarks**

(Emulates or patches code by PIET VAN OOSTRUM.)

Pkg `extremarks` **extremarks** is ignored.

**for HTML output:** Discard all options for `l warp-extremarks`:

```

1 \LWR@ProvidesPackageDrop{extremarks}[2019/01/31]

2 \newcommand*\extremarks[2] {}
3 \newcommand*\firstleftxmark {}
4 \newcommand*\lastleftxmark {}
5 \newcommand*\firstrightxmark {}
6 \newcommand*\lastrightxmark {}
7 \newcommand*\firstxmark {}
8 \newcommand*\lastxmark {}
9 \newcommand*\topxmark {}
```

---

```

10 \newcommand*\{topleftxmark}{}
11 \newcommand*\{toprightxmark}{}
12 \newcommand*\{firstleftmark}{}
13 \newcommand*\{lastrightmark}{}
14 \newcommand*\{firstrightmark}{}
15 \newcommand*\{lastleftmark}{}

```

---

File 147 **l warp-fancybox.sty**

§ 255 Package **fancybox**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

Pkg **fancybox** **fancybox** is supported with some patches.

**framed equation example** **fancybox**'s documentation has an example `FramedEqn` environment which combines `math`, `\Sbox`, a `minipage`, and an `\fbox`. This combination requires that the entire environment be enclosed inside a `lateximage`, which is done by adding `\lateximage` at the very start of `FramedEqn`'s beginning code, and `\endlateximage` at the very end of the ending code. Unfortunately, the `HTML alt` attribute is not used here.

```

\newenvironment{FramedEqn}
{
 \lateximage% NEW
 \setlength{\fboxsep}{15pt}
 . . .
 [\fbox{\TheSbox}]
 \endlateximage% NEW
}

```

**framing alternatives** `\fbox` works with **fancybox**. Also see **l warp**'s `\fboxBlock` macro and `fminipage` environment for alternatives to `\fbox` for framing environments.

**framed table example** The **fancybox** documentation's example of a framed table using an `\fbox` containing a `tabular` does not work with **l warp**, but the `FramedTable` environment does work if `\fbox` is replaced by `\fboxBlock`. This method does lose some `HTML` formatting. A better method is to enclose the table's contents inside a `fminipage` environment. The caption may be placed either inside or outside the `fminipage`:

```

\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
. . .
\end{tabular}
\end{fminipage}
\end{table}

```

**⚠️ framed verbatim** **l warp** does not support the `verbatim` environment inside a `span`, `box`, or **fancybox**'s `\Sbox`, but a `verbatim` may be placed inside a `fminipage`. The **fancybox** documentation's example `FramedVerb` may be defined as:

---

```
\newenvironment{FramedVerb}[1] % width
{
 \VerbatimEnvironment
 \fminipage{#1}
 \begin{Verbatim}
}{%
 \end{Verbatim}
 \endfminipage
}
```

**framed \VerbBox** *fancybox*'s \VerbBox may be used inside \fbox.

**indented alignment** LVerbatim, \LVerbatimInput, and \LUseVerbatim indent with horizontal space which may not line up exactly with what *pdftotext* detects. Some lines may be off slightly in their left edge.

**fancybox, fancyvrb** If using *fancybox* or *fancyvrb* with \VerbatimFootnotes, and using footnotes in a sectioning command or display math, use \footnotemark and \footnotetext:

**⚠ \VerbatimFootnotes**

```
\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbtim+.}
```

**⚠ sectioning or displaymath** and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when \VerbatimFootnotes are selected. The browser usually compensates.

1 \LWR@ProvidesPackagePass{fancybox}[2010/05/15]

After the preamble is loaded, after any patches to Verbatim:

2 \AfterEndPreamble{  
3 \LWR@traceinfo{Patching fancybox.}}

**\VerbatimFootnotes** Patched to use the new version.

4 \def\VerbatimFootnotes{%
5 \let@\footnotetext{\V@footnotetext}%
6 \let\LWR@footnotetext{\V@footnotetext% lwarp
7 }

**\V@footnotetext** Patches in a subset of *lwarp*'s \LWR@footnotetext to the *fancyvrb* version of \V@footnotetext.

8 \def\V@footnotetext{%
9 \LWR@traceinfo{\V@footnotetext}%
}

Place an autopage marker so that back references to citations inside a footnote will link closer to the footnote text, if possible.

10 \LWR@newautopagelabel{page}%

Take the current footnote box, then append:

11 \global\setbox\LWR@footnotebox=\vbox\bgroup%

Add to any current footnotes:

```
12 \unvbox\LWR@footnotebox%
```

Remember the footnote number for \ref:

```
13 \protected@edef\@currentlabel{%
14 \csname p@footnote\endcsname\@thefnmark%
15 }% \@currentlabel
```

Use HTML superscripts in the footnote even inside a `lateximage`:

```
16 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
17 \ifthenelse{%
18 \boolean{\LWR@doingstartpars} \AND%
19 \cnttest{\value{\LWR@lateximagedepth}}{=}{0}%
20 }%
21 {}%
22 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
```

Append the footnote to the list:

```
23 \@makefntext{}
```

The footnote text will follow after \V@@@footnotetext has completed.

```
24 \bgroup%
25 \aftergroup{\V@@@footnotetext}%
```

Do not generate autopages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```
26 \let\newautopagelabel\LWR@null@newautopagelabel%
```

```
27 \ignorespaces%
28 }%
```

```
29 }% AfterEndPreamble
```

```
30 \renewcommand*{\@shadowbox}[1]{%
31 \ifbool{FormatWP}{%
32 {\InlineClass[border:1px solid black]{shadowbox}{#1}}%
33 {\InlineClass{shadowbox}{#1}}%
34 }%
35 %
36 \renewcommand*{\@doublebox}[1]{%
37 \ifbool{FormatWP}{%
38 {\InlineClass[border:1px double black]{doublebox}{#1}}%
39 {\InlineClass{doublebox}{#1}}%
40 }%
41 %
42 \renewcommand*{\@ovalbox}[2]{%
43 \ifbool{FormatWP}{%
44 {\InlineClass[border:1px solid black; border-radius:1ex]{ovalbox}{#2}}%
45 {%
46 \ifthenelse{\isequivalentto{#1}{\thinlines}}{%
47 {\InlineClass{ovalbox}{#2}}%
48 {\InlineClass{Ovalbox}{#2}}%
```

```
49 }%
50 }
```

Convert minipages, parboxes, and lists into linear text using the `LWR@nestspan` environment:

```
51 \let\LWR@origSbox\Sbox
52
53 \def\Sbox{\LWR@origSbox\LWR@nestspan}
54
55
56 \let\LWR@origendSbox\endSbox
57
58 \def\endSbox{\endLWR@nestspan\LWR@origendSbox}
```

`Beqnarray` is adapted for MATHJAX or enclosed inside a `lateximage`:

```
59 \RenewEnviron{Beqnarray}{%
60 {\LWR@eqnarrayfactor}%
61
62 \csgpreto{Beqnarray*}{\boolfalse{LWR@numbereqnarray}}}
```

`\GenericCaption` is enclosed in an `HTML` block:

```
63 \renewcommand{\GenericCaption}[1]{%
64 \LWR@figcaption%
65 \LWR@isolate{\#1}%
66 \endLWR@figcaption%
67 }
```

`Btrivlist` is enclosed in an `HTML` block. This is a tabular, and does not use `\item`.

```
\trivlist {\langle l/c/r\rangle} [\langle t/c/b\rangle]
68 \RenewDocumentEnvironment{Btrivlist}{m o}
69 {%
70 \LWR@stoppars%
71 \begin{BlockClass}{Btrivlist}%
72 \tabular{\#1}%
73 }
74 {%
75 \endtabular%
76 \end{BlockClass}%
77 \LWR@startpars%
78 }
```

`Btrivlist` is also neutralized when used inside a span:

```
79 \AtBeginEnvironment{LWR@nestspan}{%
80 \RenewDocumentEnvironment{Btrivlist}{m o}{}{}%
81 }
```

`lwarp`'s handling of `\item` is patched to accept `fancybox`'s optional arguments:

```

82 \let\LWRFB@origitemizeitem\LWR@itemizeitem
83 \let\LWRFB@origdescitem\LWR@descitem
84
85 \RenewDocumentCommand{\LWR@itemizeitem}{d()o}{%
86 \IfValueTF{#2}{%
87 \LWRFB@origitemizeitem[#2]%
88 }{%
89 \LWRFB@origitemizeitem%
90 }%
91 }
92
93 \RenewDocumentCommand{\LWR@descitem}{d()o}{%
94 \IfValueTF{#2}{%
95 \LWRFB@origdescitem[#2]\sim%
96 }{%
97 \LWRFB@origdescitem%
98 }%
99 }

100 \RenewDocumentCommand{\LWR@nestspanitem}{d()}{%
101 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
102 \LWR@origitem%
103 }

```

The various boxed lists become regular lists:

```

104 \renewenvironment{Bitemize}[1][]{{\begin{itemize}}}{\end{itemize}}
105 \renewenvironment{Benumerate}[1][]{{\begin{enumerate}}}{\end{enumerate}}
106 \renewenvironment{Bdescription}[1][]{{\begin{description}}}{\end{description}}

```

\boxput simply prints one then the other argument, side-by-side instead of above and behind:

```

107 \RenewDocumentCommand{\boxput}{s d() m m}{%
108 \IfBooleanTF{#1}{#3\quad\#4\quad\#4\quad\#3}{%
109 }

```

Neutralized commands:

```

110 \RenewDocumentCommand{\fancyput}{s d() m}{}
111 \RenewDocumentCommand{\thisfancyput}{s d() m}{}
112
113 \RenewDocumentCommand{\fancypage}{m m}{}
114 \RenewDocumentCommand{\thisfancypage}{m m}{}
115
116 \def\LandScape#1{}
117 \def\endLandScape{}
118 \def\@Landscape#1#2#3{}
119 \def\endLandscape{}

```

Low-level patches for UseVerbatim and friends:

```

120 \let\LWRFB@UseVerbatim\UseVerbatim

```

---

```

121 \renewcommand*\UseVerbatim}[1]{%
122 \LWR@atbeginverbatim{Verbatim}%
123 \LWRFB@UseVerbatim{#1}%
124 \LWR@afterendverbatim%
125 }
126
127 \let\LWRFB@LUseVerbatim\LUseVerbatim
128
129 \renewcommand*\LUseVerbatim}[1]{%
130 \LWR@atbeginverbatim{LVerbatim}%
131 \noindent%
132 \LWRFB@LUseVerbatim{#1}%
133 \LWR@afterendverbatim%
134 }
135
136 \def\@BUseVerbatim[#1]#2{%
137 \LWR@atbeginverbatim{BVerbatim}%
138 \LWRFB@UseVerbatim{#2}%
139 \LWR@afterendverbatim%
140 }

```

---

File 148 **l warp-fancyhdr.sty**

§ 256      Package **fancyhdr**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

Pkg **fancyhdr** **fancyhdr** is ignored.

**for HTML output:** Discard all options for **l warp-fancyhdr**:

```

1 \LWR@ProvidesPackageDrop{fancyhdr}[2021/01/04]

2 \newcommand*\fancyhead}[2][]{}
3 \newcommand*\fancyfoot}[2][]{}
4 \newcommand*\fancyhf}[2][]{}
5
6 \newcommand*\lhead}[2][]{}
7 \newcommand*\chead}[2][]{}
8 \newcommand*\rhead}[2][]{}
9 \newcommand*\lfoot}[2][]{}
10 \newcommand*\cfoot}[2][]{}
11 \newcommand*\rfoot}[2][]{}
12 \newcommand*\headrulewidth}{}
13 \newcommand*\footrulewidth}{}
14 \providecommand{\headruleskip}{0pt}
15 \providecommand{\footruleskip}{0pt}
16 \newcommand{\plainheadrulewidth}{0pt}
17 \newcommand{\plainfootrulewidth}{0pt}
18 \def\fancyplain#1#2{#1}
19 \newcommand*\headrule}{}
20 \newcommand*\footrule}{}
21 \newlength{\headwidth}

```

---

```

22 \newcommand{\fancycenter}[1][1em]{}
23 \newcommand{\fancyheadoffset}[2][]{}
24 \newcommand{\fancyfootoffset}[2][]{}
25 \newcommand{\fancyhoffset}[2][]{}
26 \newcommand{\fancyheadinit}[1]{}
27 \newcommand{\fancyfootinit}[1]{}
28 \newcommand{\fancyhinit}[1]{}
29 \newcommand{\iffloatpage}[2]{#2}
30 \newcommand{\ifftopfloat}[2]{#2}
31 \newcommand{\iffbotfloat}[2]{#2}
32 \newcommand{\iffootnote}[2]{#2}
33
34 \newcommand{\fancypagestyle}[1]{%
35 \@ifnextchar[\f@nch@pagestyle{#1}]{\f@nch@pagestyle{#1}[]}{%
36 }
37 \long\def\f@nch@pagestyle#1[#2]{#3}}

```

---

File 149 **l warp-fancyref.sty**

§ 257 Package **fancyref**

*(Emulates or patches code by AXEL REICHERT.)*

Pkg **fancyref** **fancyref** is modified for HTML output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fancyref}[1999/02/03]

To remove the margin option, if \fancyrefhook is anything other than the paren option, then force it to the default instead. (Comparing to the margin option was not possible since l warp has revised the meaning of \mbox so the comparison failed.)

```

2 \newcommand{\LWRfref@parenfancyrefhook}[1]{(#1)}
3
4 \ifdefstrelax{\fancyrefhook}{\LWRfref@parenfancyrefhook}
5 {}{
6 \renewcommand{\fancyrefhook}[1]{#1}
7 }

```

---

File 150 **l warp-fancytabs.sty**

§ 258 Package **fancytabs**

Pkg **fancytabs** **fancytabs** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fancytabs}[2016/03/29]

```

2 \newcommand{\fancytab}[3][RIGHT]{}
3 \newcommand{\fancytabsStyle}[1]{}
4 \newcommand{\fancytabsHeight}[1]{}
5 \newcommand{\fancytabsWidth}[1]{}

```

---

```

6 \newcommand{\fancytabsCount}[1]{}
7 \newcommand{\fancytabsLeftColor}[1]{}
8 \newcommand{\fancytabsRightColor}[1]{}
9 \newcommand{\fancytabsTop}[1]{}
10 \newcommand{\fancytabsTextVPos}[1]{}
11 \newcommand{\fancytabsTextHPos}[1]{}
12 \newcommand{\fancytabsGap}[1]{}
13 \newcommand{\fancytabsFloor}[1]{}
14 \newcommand{\fancytabsRotate}[1]{}

```

---

File 151 **l warp-fancyvrb.sty**

§ 259 Package **fancyvrb**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

Pkg **fancyvrb** **fancyvrb** is supported with some patches.

**HTML classes** The fancy verbatim environment is placed inside a <div> of class `fancyvrb`. The label is placed inside a <div> of class `fancyvrblabel`. The verbatim text itself is placed inside a <div> of class `verbatim`.

**fancybox, fancyvrb**

⚠ **\VerbatimFootnotes**  
⚠ **sectioning or displaymath**

If using `fancybox` or `fancyvrb` with `\VerbatimFootnotes`, and using footnotes in a sectioning command or display math, use `\footnotemark` and `\footnotetext`:

```

\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbatim+.}

```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when `\VerbatimFootnotes` are selected. The browser usually compensates.

```

1 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{fancyvrb}[2008/02/07]

```

Initial default patch for `fancyvrb`:

```
4 \fvset{frame=none}%
```

After the preamble is loaded, after any patches to `Verbatim`:

```

5 \AfterEndPreamble{
6 \LWR@traceinfo{Patching fancyvrb. }

```

`\VerbatimFootnotes` Patched to use the new version.

```

7 \def\VerbatimFootnotes{%
8 \let\@footnotetext\@footnotetext%
9 \let\footnote\@footnote%

```

```
10 \let\LWR@footnotetext\V@footnotetext% lwarp
11 }
```

\V@footnotetext Patches in a subset of `lwarp`'s `\LWR@footnotetext` to the `fancyvrb` version of `\V@footnotetext`.

```
12 \def\V@footnotetext{%
13 \LWR@traceinfo{\V@footnotetext}%

```

Place an autopage marker so that back references to citations inside a footnote will link closer to the footnote text, if possible.

```
14 \LWR@newautopagelabel{page}%

```

Take the current footnote box, then append:

```
15 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
16 \unvbox\LWR@footnotebox%
```

Remember the footnote number for `\ref`:

```
17 \protected@edef@\currentlabel{%
18 \csname p@footnote\endcsname\@thefnmark%
19 }% @currentlabel
```

Use HTML superscripts in the footnote even inside a `lateximage`:

```
20 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
21 \ifthenelse{%
22 \boolean{\LWR@doingstartpars} \AND%
23 \cnttest{\value{\LWR@lateximagedepth}}{=}{0}%
24 }%
25 {}%
26 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
```

Append the footnote mark to the list:

```
27 \@makefnlist{}
```

The footnote text will follow after `\V@@@footnotetext` has completed.

```
28 \bgroup%
29 \aftergroup{\V@@@footnotetext}%
```

Do not generate autopages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```
30 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

```
31 \ignorespaces%
32 }%
```

```
33 \preto\FVB@Verbatim{\LWR@forcenewpage}
```

```
34 \preto\FVB@LVerbatim{\LWR@forcenewpage}
```

```
35 % \preto\FVB@BVerbatim{\LWR@forcenewpage}% Fails, so done below.
```

Simplified to remove PDF formatting:

```

36 \def\FV@BeginListFrame@Single{%
37 \FV@SingleFrameLine{\z@}%
38 }
39
40 \def\FV@EndListFrame@Single{%
41 \FV@SingleFrameLine{\@ne}%
42 }
43
44 \def\FV@BeginListFrame@Lines{%
45 \FV@SingleFrameLine{\z@}%
46 }
47
48 \def\FV@EndListFrame@Lines{%
49 \FV@SingleFrameLine{\@ne}%
50 }
51
52 \renewcommand*\FV@SingleFrameSep{}}

```

Adds HTML formatting:

```

53 \def\FV@BUseVerbatim#1{%
54 \FV@BVerbatimBegin#1\FV@BVerbatimEnd%
55 }

```

\LWR@FVstyle Holds the style of the verbatim.

```
56 \newcommand*\LWR@FVstyle{}
```

The following patches to Verbatim are executed at the start and end of the environment, depending on the choice of frame. Original code is from the `fancyvrb` package.

```

57 \newcommand*\LWR@fvstartnone{%
58 \LWR@traceinfo{fvstartnone}%
59 % \hbox to\z@{
60 \BlockClass[\LWR@FVstyle]{fancyvrb}%
61 \LWR@stoppars
62 \ifx\FV@LabelPositionTopLine\relax\else
63 \ifx\FV@LabelBegin\relax\else
64 \FancyVerbRuleColor{\LWR@FVfindbordercolor}%
65 \LWR@htmltagc{%
66 div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space
67 style=\textquotedbl{}color: \LWR@origpound\LWR@tempcolor\textquotedbl%
68 }
69 \LWR@print@textrm{\FV@LabelBegin}\% \textrm preserves emdash
70 \LWR@htmltagc{/div}\LWR@orignewline%
71 \fi
72 \fi
73 \LWR@atbeginverbatim{verbatim}%
74 % }%
75 }
76
77 \newcommand*\LWR@fvendnone{%

```

```

78 \LWR@traceinfo{fvendnone}%
79 % \hbox to\z@{
80 \LWR@afterendverbatim%
81 \LWR@stoppars%
82 \ifx\FV@LabelPositionBottomLine\relax\else
83 \ifx\FV@LabelEnd\relax\else
84 \FancyVerbRuleColor{\LWR@FVfindbordercolor}
85 \LWR@htmltagc{%
86 div class=\textquotedbl{}fancyvrlabel\textquotedbl\ % space
87 style=\textquotedbl{}color: \LWR@origpound\LWR@tempcolor\textquotedbl%
88 }
89 \LWR@print@textrm{\FV@LabelEnd}
90 \LWR@htmltagc{/div}\LWR@orignewline%
91 \fi
92 \fi
93 \endBlockClass
94 }
95
96 \newcommand*{\LWR@fvstartsingle}{%
97 \LWR@traceinfo{fvstartsingle}%
98 \LWR@fvstartnone%
99 \FV@BeginListFrame@Single%
100 }
101
102 \newcommand*{\LWR@fvendsingle}{%
103 \LWR@traceinfo{fvendsingle}%
104 \FV@EndListFrame@Single%
105 \LWR@fvendnone%
106 }
107
108 \newcommand*{\LWR@fvstartline}{%
109 \LWR@traceinfo{fvstartline}%
110 \LWR@fvstartnone%
111 % \setlength{\LWR@templengthone}{\baselineskip}%
112 \FV@BeginListFrame@Lines%
113 % \setlength{\baselineskip}{\LWR@templengthone}%
114 % \setlength{\baselineskip}{5pt}%
115 }
116
117 \newcommand*{\LWR@fvendline}{%
118 \LWR@traceinfo{fvendline}%
119 \FV@EndListFrame@Lines%
120 \LWR@fvendnone%
121 }

```

The following patches select the start/left/right/end behaviors depending on `frame`. Original code is from the `fancyvrb` package.

```

122 \newcommand*{\LWR@FVfindbordercolor}{%
123 \FancyVerbRuleColor%
124 \LWR@findcurrenttextcolor%
125 \color{black}%
126 }
127
128 % border width of \FV@FrameRule

```

```
129 \newcommand*{\LWR@FVborderstyle}[1]{%
130 padding#1: \strip@pt\dimexpr \FV@FrameSep\relax\relax pt ; % space
131 \LWR@FVfindbordercolor\LWR@indentHTMLtwo%
132 border#1: \strip@pt\dimexpr \FV@FrameRule\relax\relax pt % space
133 solid {\FancyVerbRuleColor{\LWR@origpound\LWR@tempcolor}} ; % space
134 }
135
136 \def\FV@Frame@none{%
137 \renewcommand*{\LWR@FVstyle}{\LWR@currenttextcolorstyle}%
138 \let\FV@BeginListFrame\LWR@fvstartnone%
139 \let\FV@LeftListFrame\relax%
140 \let\FV@RightListFrame\relax%
141 \let\FV@EndListFrame\LWR@fvendnone}
142
143 \FV@Frame@none% default values
144
145 \def\FV@Frame@single{%
146 \renewcommand*{\LWR@FVstyle}{%
147 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
148 \LWR@FVborderstyle{}%
149 }%
150 \let\FV@BeginListFrame\LWR@fvstartsingl%
151 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
152 \let\FV@RightListFrame\FV@RightListFrame@Single%
153 \let\FV@EndListFrame\LWR@fvendsingle}
154
155 \def\FV@Frame@lines{%
156 \renewcommand*{\LWR@FVstyle}{%
157 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
158 \LWR@FVborderstyle{-top}%
159 \LWR@indentHTMLtwo%
160 \LWR@FVborderstyle{-bottom}%
161 }%
162 \let\FV@BeginListFrame\LWR@fvstartline%
163 \let\FV@LeftListFrame\relax%
164 \let\FV@RightListFrame\relax%
165 \let\FV@EndListFrame\LWR@fvendline}
166
167 \def\FV@Frame@topline{%
168 \renewcommand*{\LWR@FVstyle}{%
169 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
170 \LWR@FVborderstyle{-top}%
171 }%
172 \let\FV@BeginListFrame\LWR@fvstartline%
173 \let\FV@LeftListFrame\relax%
174 \let\FV@RightListFrame\relax%
175 \let\FV@EndListFrame\LWR@fvendnone}
176
177 \def\FV@Frame@bottomline{%
178 \renewcommand*{\LWR@FVstyle}{%
179 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
180 \LWR@FVborderstyle{-bottom}%
181 }%
182 \let\FV@BeginListFrame\LWR@fvstartnone%
183 \let\FV@LeftListFrame\relax%
```

```

184 \let\fv@RightListFrame\relax%
185 \let\fv@EndListFrame\lwr@fvendline}

```

Seems to be required in some situations:

```

186 \def\fv@FrameFillLine{}%
187 \def\fv@Frame@leftline{%
188 \renewcommand*{\lwr@fvstyle}{%
189 \lwr@currenttextcolorstyle\lwr@indentHTMLtwo%
190 \lwr@fvborderstyle{-left}%
191 }%
192 % To define the \fv@FrameFillLine macro (from \fv@BeginListFrame)
193 \ifx\fancyverbfillcolor\relax%
194 \let\fv@FrameFillLine\relax%
195 \else%
196 @tempdima\fv@FrameRule\relax%
197 \multiply@tempdima-\tw@%
198 \edef\fv@FrameFillLine{%
199 {\noexpand\fancyverbfillcolor{\vrule\@width\number@tempdima sp}%
200 \kern-\number@tempdima sp}}%
201 \fi%
202 \let\fv@BeginListFrame\lwr@fvstartnone%
203 \let\fv@LeftListFrame\fv@LeftListFrame@Single%
204 \let\fv@RightListFrame\relax%
205 \let\fv@EndListFrame\lwr@fvendnone}

```

Adds the optional label to the top and bottom edges. Original code is from the `fancyvrb` package.

```

206 \def\fv@SingleFrameLine#1{%
207 % \hbox{#1}%
208 % \kern\leftmargin
209 \ifnum#1=\z@\relax
210 \let\fv@Label\fv@LabelBegin
211 \else
212 \let\fv@Label\fv@LabelEnd
213 \fi
214 \ifx\fv@Label\relax
215 % \FancyVerbRuleColor{\vrule\@width\linewidth\@height\fv@FrameRule}%
216 \else
217 \ifnum#1=\z@
218 % \setbox\z@\hbox{\strut\enspace\fv@LabelBegin\enspace\strut}%
219 \ifx\fv@LabelPositionTopLine\relax
220 \else
221 \fi
222 \else
223 % \setbox\z@\hbox{\strut\enspace\fv@LabelEnd\enspace\strut}%
224 \ifx\fv@LabelPositionBottomLine\relax
225 \else
226 \fi
227 \fi
228 \fi
229 % \hss
230 }

```

---

231 }

Processes each line, adding optional line numbers. Original code is from the **fancyvrb** package.

```

232 \def\FV@ListProcessLine#1{%
233 \hbox to \hsize{%
234 % \kern\leftmargin
235 \hbox to \VerbatimHTMLWidth {%
236 \ifcsvoid{\FV@LeftListNumber}{}{\kern 2.5em}%
237 \FV@LeftListNumber%
238 % \FV@LeftListFrame
239 \FancyVerbFormatLine{#1}%
240 \hss%
241 % \FV@RightListFrame
242 \FV@RightListNumber%
243 }%
244 \hss% required to avoid underfull hboxes
245 }
246 }

247 \def\FV@ListProcessLine@i#1{%
248 % \hbox{%
249 \ifvoid\@labels\else
250 \hbox to \z@\kern\@totalleftmargin\box\@labels\hss}%
251 \fi
252 \FV@ListProcessLine{#1}%
253 % }%
254 \let\FV@ProcessLine\@FV@ListProcessLine@ii%
255 }

256 \def\@FV@ListProcessLastLine{}
```

Env **BVerbatim**

```

257
258 \xpretocmd{\FV@BeginVBox}
259 {%
260 \LWR@forcenewpage% instead of \preto
261 \LWR@atbeginverbatim{bverbatim}%
262 }
263 {}
264 {\LWR@patcherror{fancyvrb}{\FV@BeginVBox}}
265
266 \xapptocmd{\FV@EndVBox}
267 {%
268 \LWR@afterendverbatim%
269 }
270 {}
271 {\LWR@patcherror{fancyvrb}{\FV@EndVBox}}
```

End of the modifications to make at the end of the preamble:

```
272 } % \AfterEndPreamble
```

---

File 152 **l warp-fbox.sty**

§ 260 Package **fbox**

*(Emulates or patches code by HERBERT VOSS.)*

Pkg fbox fbox is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{fbox}[2020/06/22]

This will be \LWR@formatted when \AtBeginDocument:

2 \LetLtxMacro{\LWR@HTML}{\fbox\fbox}

Instead of using the original, the new version is used with all borders:

3 \renewcommand\*{\orig@fbox}{\FBox@i[tblr]}

\WR@fboxpkg@border {<1: top/bottom/left/right>} {<2: padding, or empty>}

Accumulates HTML styles for border, and padding if given:

```
4 \newcommand*{\LWR@fboxpkg@border}[2]{%
5 \appto{\LWR@tempone}{%
6 border-#1: % space
7 \LWR@printlength{\LWR@atleastonept} % space
8 solid \LWR@origpound\LWR@tempcolor ;\LWR@indentHTML
9 }%
10 \ifblank{#2}{}{%
11 \appto{\LWR@tempone}{%
12 padding-#1: \LWR@printlength{#2} ;\LWR@indentHTML
13 }%
14 }%
15 }
```

A hack to reuse the same code for inline and blocks:

```
16 \newbool{\LWR@fboxpkg@ispar}
17 \boolfalse{\LWR@fboxpkg@ispar}
```

Accumulate HTML styles for left and right padding, depending on \if@fbox@space@left, \if@fbox@space@right:

```
18 \newcommand{\LWR@fboxpkg@lrpadding}[1]{%
19 \csuse{\if@fbox@space@#1}{%
20 \appto{\LWR@tempone}{%
21 padding-#1: \LWR@printlength{\fbox@sep};\LWR@indentHTML
22 }%
23 \else%
24 \appto{\LWR@tempone}{%
25 padding-#1: 0pt;\LWR@indentHTML
26 }%
27 \fi%
28 }%
```

```

26 }
27 \fi%
28 }

```

The HTML version, modified to use `HTML` styles and either an `\InlineClass` or `\BlockClass`:

```
29 \newcommand{\LWR@HTML@FBox@iii}[1]{%
```

Find and set the text color, rule width, margin:

```

30 \LWR@forceminwidth{\fbox@@rule}%
31 \LWR@findcurrenttextcolor%
32 \def\LWR@tempone{%
33 color: \LWR@origpound\LWR@tempcolor ; \LWR@indentHTML
34 margin: 1ex ; \LWR@indentHTML
35 }%

```

Add left/right padding:

```

36 \LWR@fboxpkg@lrpadding{left}%
37 \LWR@fboxpkg@lrpadding{right}%

```

Per the original to decode the borders, in a new way:

```

38 \ifnum\the\@tempcntb>8\relax
39 \advance\@tempcntb by -8
40 \LWR@fboxpkg@border{top}{\fbox@@sep}%
41 \fi
42 \ifnum\@tempcntb>3
43 \advance\@tempcntb by -4
44 \LWR@fboxpkg@border{left}{ }%
45 \fi
46 \ifnum\@tempcntb>1
47 \LWR@fboxpkg@border{right}{ }%
48 \fi
49 \ifodd\@tempcntb
50 \LWR@fboxpkg@border{bottom}{\fbox@@sep}%
51 \fi

```

Generate a `\BlockClass` or `\InlineClass` with the contents:

```

52 \color@begingroup
53 \ifbool{\LWR@fboxpkg@ispar}{%
54 {%
55 \begin{\BlockClass}[\LWR@tempone]{fboxpkg}%
56 #1%
57 \end{\BlockClass}%
58 }%
59 {%
60 \begin{\InlineClass}[\LWR@tempone]{fboxpkg}%
61 #1%
62 \end{\InlineClass}%
63 }%
64 }%
65 \color@endgroup
66 \boolfalse{\LWR@fboxpkg@ispar}%
67 globally

```

```

66 }
67 \LWR@formatted{FBox@iii}

```

For `\fparbox`, set the use of `BlockClass`, then reuse the above:

```

68 \long\def\LWR@HTML@FParBox@i[#1]{%
69 \booltrue{\LWR@fboxpkg@ispar}%
70 \FBox@i[#1]{#2}%
71 }
72 \LWR@formatted{FParBox@i}
73
74 \long\def\LWR@HTML@FParBox@ii[#1]{%
75 \booltrue{\LWR@fboxpkg@ispar}%
76 \FBox@i[tblr]{#1}%
77 }
78 \LWR@formatted{FParBox@ii}

```

For `MATHJAX`, absorb and ignore star and optional arguments:

```

79 \CustomizeMathJax{\let\LRorigfbox\fbox}
80 \CustomizeMathJax{\newcommand{\LWRfboxpghtwo}[2][]{\LRorigfbox{#2}}}
81 \CustomizeMathJax{\renewcommand{\fbox}{\ifstar{\LWRfboxpghtwo}{\LWRfboxpghtwo}}}
82 \CustomizeMathJax{\newcommand{\fparbox}{\fbox}}

```

---

### File 153 **l warp-fewerfloatpages.sty**

#### § 261 Package **fewerfloatpages**

Pkg `fewerfloatpages` `fewerfloatpages` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{fewerfloatpages}[2020/02/14]

2 \newcommand\floatpagekeepfraction{\textfraction}
3 \newcounter{floatpagedeferlimit}
4 \newcounter{floatpagekeeplimit}

```

---

### File 154 **l warp-figcaps.sty**

#### § 262 Package **figcaps**

(Emulates or patches code by PATRICK W. DALY.)

Pkg `figcaps` `figcaps` is ignored.

**for HTML output:** Discard all options for `l warp-figcaps`:

```

1 \LWR@ProvidesPackageDrop{figcaps}[1999/02/23]

2 \newcommand*\figcapson(){}
3 \newcommand*\figcapsoff(){}

```

---

```

4 \newcommand*\printfigures(){}
5 \newcommand*\figmarkon(){}
6 \newcommand*\figmarkoff(){}
7 \def\figurecapname{Figure Captions}
8 \def\tablepagename{Tables}
9 \def\figurepagename{Figures}

```

---

File 155 **l warp-figsize.sty**

§ 263 Package **figsize**

*(Emulates or patches code by ANTHONY A. TANBAKUCHI.)*

Pkg **figsize** **figsize** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{figsize}[2002/03/18]

Emulates a virtual 6×9 inch textsize.

```

2 \newlength{\figwidth}
3 \newlength{\figheight}
4
5 \newcommand{\SetFigLayout}[3][0]{%
6 \setlength{\figheight}{8in}%
7 \setlength{\figheight}{\figheight / #2}%
8 %
9 \setlength{\figwidth}{5.5in}%
10 \setlength{\figwidth}{\figwidth / #3}%
11 }

```

---

File 156 **l warp-fitbox.sty**

§ 264 Package **fitbox**

Pkg **fitbox** **fitbox** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fitbox}[2019/02/20]

```

2 \NewDocumentCommand{\fitbox}{s o m}{%
3 \begin{BlockClass}{fitbox}
4 #3
5 \end{BlockClass}
6 }
7
8 \newcommand*\fitboxset[1]{}
9
10 \newdimen\fitboxnatheight
11 \newdimen\fitboxnatwidth
12
13 \newcommand\SetFitboxLayout[3][]{}

```

---

File 157 **l warp-fix2col.sty**

§ 265 Package **fix2col**

Pkg fix2col fix2col is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fix2col}[2015/11/13]

---

File 158 **l warp-fixmath.sty**

§ 266 Package **fixmath**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg fixmath fixmath is used as-is for SVG math, and emulated for MATHJAX.

⚠ limitations MATHJAX does not have full font support for bold italic Greek.

for HTML output: 1 \LWR@ProvidesPackagePass{fixmath}[2000/04/11]

```
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@mathjax@addgreek@u@it*{}{}
6 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\delta}{0394}
7 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\omega}{03A9}
8 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
9 \end{warpMathJax}
```

---

File 159 **l warp-fixme.sty**

§ 267 Package **fixme**

(Emulates or patches code by DIDIER Verna.)

Pkg fixme fixme is patched for use by l warp.

⚠ external layouts External layouts (\fxloadlayouts) are not supported.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after fixme is loaded:

```
\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

for HTML output: 1 \LWR@ProvidesPackagePass{fixme}[2017/03/05]

Restore lwarf's version of \@wrindex, ignoring the fixme package's target option:

```
2 \let\@wrindex\LWR@wrindex
```

Float-related macros required by lwarf:

```
3 \newcommand{\ext@fixme}{lox}
4
5 \renewcommand{\l@fixme}[2]{%
6 \hypertocfloat{1}{fixme}{lox}%
7 {\LWR@nameref{\BaseJobname-autopage-\arabic{LWR@nextautopage}} --- #1}%
8 {#2}%
9 }
```

Other modifications:

```
10 \def\FXFaceInlineHTMLStyle{font-weight:bold}
11
12 \renewcommand*\FXLayoutInline[3]{ %
13 \InlineClass[\FXFaceInlineHTMLStyle]{fixmeinline}%
14 {@fxtextrstd{#1}{#2}{#3}}%
15 }
16
17 \def\FXFaceEnvHTMLStyle{font-weight:bold}
18
19 \renewcommand*\FXEnvLayoutPlainBegin[2]{%
20 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}%
21 \ignorespaces#2 \fxnotename{#1}: \ignorespaces}%
22
23 \renewcommand*\FXEnvLayoutPlainEnd[2]{\endBlockClass}%
24
25 \renewcommand*\FXEnvLayoutSignatureBegin[2]{%
26 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}%
27 \fxnotename{#1}: \ignorespaces}%
28
29 \renewcommand*\FXEnvLayoutSignatureEnd[2]{\@fxsignature{#2}\endBlockClass}%
30
31 \def\FXFaceSignatureHTMLStyle{font-style:italic}
32
33 \DeclareRobustCommand*\@fxsignature[1]{%
34 \ifthenelse{\equal{#1}{}}{%
35 {}%
36 { -- \InlineClass[\FXFaceSignatureHTMLStyle]{fixmesignature}{#1}}%
37 }%
38
39
40 \def\FXFaceTargetHTMLStyle{font-style:italic}
41
42 \renewcommand\FXTargetLayoutPlain[2]{%
43 \InlineClass[\FXFaceTargetHTMLStyle]{fixmetarget}{#2}%
44 }
```

§ 268      Package **fixmetodonotes**

*(Emulates or patches code by GIOELE BARABUCCI.)*

Pkg fixmetodonotes fixmetodonotes is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fixmetodonotes}[2013/04/28]

```

2 \renewcommand{\NOTES@addtolist}[2]{%
3 \refstepcounter{NOTES@note}%
4 % \phantomsection% REMOVED
5 \addcontentsline{notes}{NOTES@note}{%
6 \protect\numberline{\theNOTES@note}{\#1}: {\#2}}%
7 }%
8 }
9
10 \renewcommand{\NOTES@marker}[2]{\fbox{%
11 \textcolor{#2}{% WAS \color
12 \textbf{\#1}}%
13 }}%
14
15 \renewcommand{\NOTES@colorline}[2]{%
16 \bgroup%
17 \ULon{\LWR@backgroundcolor{\#1}{\#2}}%
18 }
```

File 161 **l warp-flafter.sty**

§ 269      Package **flafter**

Pkg flafter flafter is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{flafter}[2018/01/08]
 2 \providecommand\fl@trace[1]{}

File 162 **l warp-flippdf.sty**

§ 270      Package **flippdf**

Pkg flippdf flippdf is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]
 2 \newcommand\FlipPDF{}
 3 \newcommand\UnFlipPDF{}

File 163 **l warp-float.sty**

§ 271      Package **float**

(Emulates or patches code by ANSELM LINGNAU.)

Pkg **float** **float** is emulated.

Float styles boxed and ruled are emulated by css and a float class according to style.

The HTML `<figure>` class is set to the float type, so css may also be used to format the float and its caption, according to float type. Furthermore, an additional class is set to the float style: plain, plaintop, boxed, or ruled, so css may be used to format by float style as well. Default formatting by css is provided for ruled and boxed styles.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{float}[2001/11/08]

\LWR@floatstyle The default float style:

2 \newcommand\*{\LWR@floatstyle}{plain}

\newfloat {<1: type>} {<2: placement>} {<3: ext>} [<4: within>]

Emulates the `\newfloat` command from the **float** package.

“placement” is ignored.

```
3 \NewDocumentCommand{\newfloat}{m m m o}{%
4 \IfValueTF{#4}{%
5 {\DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}}%
6 {\DeclareFloatingEnvironment[fileext=#3]{#1}}%
```

Remember the float style:

7 \csedef{\LWR@floatstyle@#1}{\LWR@floatstyle}%

**newfloat** package automatically creates the `\listof` command for new floats, but **float** does not, so remove `\listof` here in case it is manually created later.

```
8 \cslet{\listof#1s}\relax%
9 \cslet{\listof#1es}\relax%
```

Likesize, **newfloat** also creates `\l@<type>`, but **float** does not, so remove it here:

```
10 \cslet{\l@#1}\relax%
11 }
```

\floatname {<type>} {<name>}

Sets the text name of the float, such as “Figure”. Avoids trying to set a recursive name, from **trivfloat**.

```
12 \NewDocumentCommand{\floatname}{m +m}{%
13 \def\LWR@tempone{#2}%
14 \def\LWR@temptwo{@nameuse{#1name}}%
15 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{%
16 \SetupFloatingEnvironment{#1}{name=#2}%
17 }%
18 }
```

---

```
\floatplacement {⟨type⟩} {⟨placement⟩}
Float placement is ignored.

19 \newcommand*{\floatplacement}[2]{%
20 \SetupFloatingEnvironment{#1}{placement=#2}%
21 }
```

  

```
\floatstyle {⟨style⟩}
Remember the style for future floats:

22 \newcommand{\floatstyle}[1]{%
23 \def\LWR@floatstyle{#1}%
24 }
```

  

```
\restylefloat * {⟨type⟩}
Remember the style for this float:

25 \NewDocumentCommand{\restylefloat}{s m}{%
26 \csedef{\LWR@floatstyle@#2}{\LWR@floatstyle}%
27 }
```

  

```
\listof See section 78.2 for the \listof command in the l warp core.
```

---

File 164 **l warp-floatflt.sty**

§ 272 Package **floatflt**

(Emulates or patches code by MATS DAHLGREN.)

Pkg **floatflt** **floatflt** is emulated.  
**for HTML output:** Discard all options for **l warp-floatflt**:

```
1 \LWR@ProvidesPackageDrop{floatflt}[1997/07/16]
```

---

```
Env [⟨⟩] offset {⟨type⟩} {⟨width⟩} Borrowed from the l warp version of keyfloat:
2 \NewDocumentEnvironment{KFLTfloatflt@marginfloat}{O{-1.2ex} m m}
3 {%
4 \begin{\LWR@setvirtualpage}*
5 \ifblank{#3}{%
6 \LWR@BlockClassWP{%
7 float:right; %
8 width: 1.5in; % reasonable dummy width for word processor
9 margin:10pt%
10 }{%
11 (note)%
12 {marginblock}%
13 }{%
14 \setlength{\LWR@templengthone}{#3}%
15 }%
16 }%
17 }
```

---

```

15 \LWR@BlockClassWP{%
16 float:right; %
17 width:\LWR@printlength{\LWR@templengthone}; % extra space
18 margin:10pt%
19 }{%
20 width:\LWR@printlength{\LWR@templengthone}%
21 }%
22 (note)%
23 {marginblock}%
24 }%
25 \renewcommand*\{@capttype}{#2}%
26 }
27 {%
28 \endLWR@BlockClassWP%
29 \end{\LWR@setvirtualpage}%
30 }

```

**Env** floatingfigure  $[\langle placement \rangle] \{\langle width \rangle\}$

```

31 \DeclareDocumentEnvironment{floatingfigure}{o m}
32 {\begin{KFLTfloatfltno@marginfloat}{figure}{#2}}
33 {\end{KFLTfloatfltno@marginfloat}}

```

**Env** floatingtable  $[\langle placement \rangle]$

```

34 \DeclareDocumentEnvironment{floatingtable}{o}
35 {\begin{KFLTfloatfltno@marginfloat}{table}{}}
36 {\end{KFLTfloatfltno@marginfloat}}

```

---

### File 165 **lwarf-floatpag.sty**

#### § 273 Package **floatpag**

(Emulates or patches code by VYTAS STATULEVIČIUS AND SIGITAS TOLUŠIS.)

**Pkg** floatpag **floatpag** is ignored.

**for HTML output:** Discard all options for **lwarf-floatpag**:

```

1 \LWR@ProvidesPackageDrop{floatpag}[2012/05/29]

2 \newcommand*\{@floatpagestyle}[1]{}
3 \newcommand*\{@rotfloatpagestyle}[1]{}
4 \newcommand*\{@thisfloatpagestyle}[1]{}

```

---

### File 166 **lwarf-floatrow.sty**

#### § 274 Package **floatrow**

(Emulates or patches code by OLGA LAPKO.)

Pkg floatrow floatrow is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{floatrow}[2008/08/02]

⚠ Misplaced alignment tab character & Use \StartDefiningTabulars and \StopDefiningTabulars before and after defining macros using \ttabbox with a tabular inside. See section 8.10.1.

⚠ subfig package When combined with the subfig package, while inside a subfloatrow \ffigbox and \ttabbox must have the caption in the first of the two of the mandatory arguments.

⚠ \FBwidth, \FBheight The emulation of floatrow does not support \FBwidth or \FBheight. These values are pre-set to .3\linewidth and 2in. Possible solutions include:

- Use fixed lengths. l warp will scale the HTML lengths appropriately.
- Use warpprint and warpHTML environments to select appropriate values for each case.
- Inside a warpHTML environment, manually change \FBwidth or \FBheight before the \ffigbox or \ttabbox. Use \FBwidth or \FBheight normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

After everything has loaded, remember whether subcaption was loaded. If not, it is assumed that subfig is used instead:

```
2 \newbool{\LWR@subcaptionloaded}
3
4 \AtBeginDocument{
5 \@ifpackageloaded{subcaption}
6 {\booltrue{\LWR@subcaptionloaded}}
7 {\boolfalse{\LWR@subcaptionloaded}}
8 }
```

\floatbox [⟨1 preamble⟩] {⟨2 captype⟩} [⟨3 width⟩] [⟨4 height⟩] [⟨5 vert pos⟩] {⟨6 caption⟩} {⟨7 object⟩}

Only parameters for captype, width, caption, and object are used.

LWR@insubfloatrow is true if inside a subfloatrow environment.

There are two actions, depending on the use of subcaption or subfig.

```
9 \NewDocumentCommand{\floatbox}{o m o o o +m}{%
10 \ifbool{\LWR@subcaptionloaded}{%
11 {%
12 \ifbool{\LWR@insubfloatrow}{%
13 {%
14 \IfValueTF{#3}{%
15 {\@nameuse{sub#2}{#3}}{%
16 }%
17 }%
18 }%
19 }%
20 }%
21 }%
```

For subcaption:

```
12 \ifbool{\LWR@insubfloatrow}{%
13 {%
14 \IfValueTF{#3}{%
15 {\@nameuse{sub#2}{#3}}{%
16 }%
17 }%
18 }%
19 }%
```

subfigure and subtable environments take width as an argument.

```
14 \IfValueTF{#3}{%
15 {\@nameuse{sub#2}{#3}}{%
16 }%
17 }%
```

```

16 {\@nameuse{sub#2}{\linewidth}}%
17 }% subcaption in a subfloatrow
18 {%

```

figure and table environments do not take a width argument.

```

19 \@nameuse{#2}%
20 }% subcaption not in subfloatrow
21 #6
22
23 #7

```

End the environments:

```

24 \ifbool{LWR@insubfloatrow}%
25 {\@nameuse{endsub#2}}%
26 {\@nameuse{end#2}}%
27 }% subcaption
28 {%

```

For **subfig**:

```

29 \ifbool{LWR@insubfloatrow}%
30 {%

```

\subfloat is a macro, not an environment.

Package **subfig**'s \subfloat command takes an optional argument which is the caption, but \floatbox argument #6 contains commands to create the caption and label, not the caption itself. Thus, \caption is temporarily disabled to return its own argument without braces.

```

31 \begingroup
32 \let\caption\@firstofone
33 \subfloat[#6]{#7}
34 \endgroup
35 }% subfig in a subfloatrow
36 {%

```

figure and table are environments:

```

37 \@nameuse{#2}
38 #6
39
40 #7
41 \@nameuse{end#2}
42 }% subfig package, but not a subfig
43 }% assume subfig
44 }

```

Not used:

```

45 \newcommand*\nocapbeside(){}
46 \newcommand*\capbeside(){}
47 \newcommand*\capttop(){}
48 \newlength{\FBwidth}
49 \setlength{\FBwidth}{.3\linewidth}
50 \newlength{\FBheight}
51 \setlength{\FBheight}{2in}
52 \newcommand*\useFCwidth(){}

```

---

```

53 \newcommand{\floatsetup}[2][]{}
54 \newcommand{\thisfloatsetup}[1]{}
55 \newcommand{\clearfloatsetup}[1]{}
56 \newcommand*{\killfloatstyle}{}{}
```

\newfloatcommand { { } } [ { } ] [ { } ] [ { } ]
Preamble and default width are ignored.

```

57 \NewDocumentCommand{\newfloatcommand}{m m o o}{%
58 @namedef{#1}{%
59 \floatbox{#2}{%
60 }%
61 }}
```

\renewfloatcommand { { } } [ { } ] [ { } ] [ { } ]
Preamble and default width are ignored.

```

62 \NewDocumentCommand{\renewfloatcommand}{m m o o}{%
63 @namedef{#1}{%
64 \floatbox{#2}{%
65 }%
66 }}
```

\ffigbox [ { } ] [ { } ] [ { } ] { { } } { { } }
67 \newfloatcommand{ffigbox}{figure}{\nocapbeside}[]

\ttabbox [ { } ] [ { } ] [ { } ] { { } } { { } }
68 \newfloatcommand{ttabbox}{table}{\captop}[\FBwidth]

\fcapside [ { } ] [ { } ] [ { } ] { { } } { { } }
69 \newfloatcommand{fcapside}{figure}{\capbeside}[]

**Env** floatrow [ { } ]
The row of floats is placed into a <div> of class floatrow.

```

70 \newenvironment*{floatrow}[1][2]
71 {%
72 \begin{LWR@setvirtualpage}%
73 \BlockClass{floatrow}%
74 }%
75 {%
76 \endBlockClass%
77 \end{LWR@setvirtualpage}%
78 }
```

Keys for \DeclareNewFloatType:

```

79 \newcommand*{\LWR@frowkeyplacement}{}{}
80 \newcommand*{\LWR@frowkeyname}{}{}
81 \newcommand*{\LWR@frowkeyfileext}{}{}
```

```

82 \newcommand*{\LWR@frowkeywithin}{}%
83 \newcommand*{\LWR@frowkeycapstyle}{}%
84
85 \define@key{frowkeys}{placement}{}%
86 \define@key{frowkeys}{name}{\renewcommand{\LWR@frowkeyname}{#1}}%
87 \define@key{frowkeys}{fileext}{\renewcommand{\LWR@frowkeyfileext}{#1}}%
88 \define@key{frowkeys}{within}{\renewcommand{\LWR@frowkeywithin}{#1}}%
89 \define@key{frowkeys}{relatedcapstyle}{}%

```

\DeclareNewFloatType {⟨type⟩} {⟨options⟩}

Use \listof{type}{Title} to print a list of the floats.

```
90 \newcommand*{\DeclareNewFloatType}[2]{%
```

Reset key values:

```

91 \renewcommand*{\LWR@frowkeyplacement}{}%
92 \renewcommand*{\LWR@frowkeyname}{}%
93 \renewcommand*{\LWR@frowkeyfileext}{}%
94 \renewcommand*{\LWR@frowkeywithin}{}%
95 \renewcommand*{\LWR@frowkeycapstyle}{}%

```

Read new key values:

```

96 \LWR@traceinfo{about to setkeys frowkeys}%
97 \setkeys{frowkeys}{#2}%
98 \LWR@traceinfo{finished setkeys frowkeys}%

```

Create a new float with optional [within]:

```

99 \ifthenelse{\equal{\LWR@frowkeywithin}{}}
100 {%
101 \DeclareFloatingEnvironment[
102 placement=\LWR@frowkeyplacement,
103 fileext=\LWR@frowkeyfileext
104]{#1}%
105 }%
106 {%
107 \DeclareFloatingEnvironment[
108 placement=\LWR@frowkeyplacement,
109 fileext=\LWR@frowkeyfileext,
110 within=\LWR@frowkeywithin
111]{#1}%
112 \% \LWR@traceinfo{finished newfloat #1}%
113 }%

```

Rename the float if a name was given:

```

114 \ifthenelse{\equal{\LWR@frowkeyname}{}}
115 {%
116 \%
117 \SetupFloatingEnvironment[#1]{name=\LWR@frowkeyname}%
118 }%
119 }%

```

Not used:

```
120 \newcommand{\buildFBBOX}[2]{}
```

```

121 \newcommand*\CenterFloatBoxes(){}
122 \newcommand*\TopFloatBoxes(){}
123 \newcommand*\BottomFloatBoxes(){}
124 \newcommand*\PlainFloatBoxes(){}
125
126 \newcommand{\capsubrowsettings}{}
127
128 \NewDocumentCommand{\RawFloats}{o o}{}

```

\RawCaption {⟨text⟩}

To be used inside a minipage or parbox.

```
129 \newcommand{\RawCaption}[1]{#1}
```

\floatfoot {⟨text⟩}

Places additional text inside a float, inside a css <div> of class floatfoot.

```

130 \NewDocumentCommand{\floatfoot}{s +m}{%
131 \begin{BlockClass}{floatfoot}
132 #2
133 \end{BlockClass}
134 }
```

Used to compute \linewidth.

```

135 \newbool{LWR@insubfloatrow}
136 \boolfalse{LWR@insubfloatrow}
```

Env subfloatrow [⟨num\_floats⟩]

```
137 \newenvironment*{subfloatrow}[1][2]
138 {
```

The row of floats is placed into a <div> of class floatrow:

```

139 \LWR@forcenewpage
140 \BlockClass{floatrow}
```

While inside the floatrow, LWR@insubfloatrow is set true, which tells \floatbox to use \subfigure or \subtable.

```

141 \begingroup%
142 \booltrue{LWR@insubfloatrow}%
143 }
144 {%
145 \endgroup%
146 \endBlockClass%
147 \boolfalse{LWR@insubfloatrow}%
148 }
```

§ 275      Package    **fltrace**

Pkg fltrace fltrace is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fltrace}[2018/01/08]

```
2 \def\tracefloats{}
3 \def\tracefloatsoff{}
4 \def\tracefloatvals{}
```

---

File 168 **l warp-flushend.sty**

§ 276      Package    **flushend**

(Emulates or patches code by SIGITAS TOLUŠIS.)

Pkg flushend flushend is ignored.

**for HTML output:** Discard all options for l warp-flushend:

```
1 \LWR@ProvidesPackageDrop{flushend}[2017/03/27]

2 \newcommand*\{\flushend}{}
3 \newcommand*\{\raggedend}{}
4 \newcommand*\{\flushcsend}{}
5 \newcommand*\{\raggedcsend}{}
6 \newcommand*\{\atColsBreak}[1]{}
7 \newcommand*\{\atColsEnd}[1]{}
8 \newcommand*\{\showcsendrule}{}

```

File 169 **l warp-fnbreak.sty**

§ 277      Package    **fnbreak**

Pkg fnbreak fnbreak is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnbreak}[2012/01/01]

```
2 \newcommand*\{\fnbreakverbose}{}
3 \newcommand*\{\fnbreaknonverbose}{}
4 \newcommand*\{\fnbreaklabel}{}
5 \newcommand*\{\fnbreaknolabel}{}

```

File 170 **l warp-fncychap.sty**

§ 278      Package    **fncychap**

(Emulates or patches code by ULF A. LINDGREN.)

Pkg fncychap fncychap is ignored.

for HTML output: Discard all options for l warp-fncychap:

```
1 \LWR@ProvidesPackageDrop{fncychap}[2007/07/30]

2 \def\mghrulefill#1{}
3 \def\ChNameLowerCase{}
4 \def\ChNameUpperCase{}
5 \def\ChNameAsIs{}
6 \def\ChTitleLowerCase{}
7 \def\ChTitleUpperCase{}
8 \def\ChTitleAsIs{}
9 \newcommand{\ChRuleWidth}[1]{}
10 \newcommand{\ChNameVar}[1]{}
11 \newcommand{\ChNumVar}[1]{}
12 \newcommand{\ChTitleVar}[1]{}
13 \newcommand{\TheAlphaChapter}{}
14 \newcommand{\DOCH}{}
15 \newcommand{\DOTI}[1]{}
16 \newcommand{\DOTIS}[1]{}
17 \newlength{\mylen}
18 \newlength{\myhi}
19 \newlength{\px}
20 \newlength{\py}
21 \newlength{\pyy}
22 \newlength{\pxx}
23 \newlength{\RW}
24 \newcommand{\FmN}[1]{#1}
25 \newcommand{\FmTi}[1]{#1}
```

---

#### File 171 l warp-fnlineno.sty

§ 279 Package **fnlineno**

Pkg fnlineno fnlineno is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnlineno}[2011/01/07]

---

#### File 172 l warp-fnpara.sty

§ 280 Package **fnpara**

Pkg fnpara fnpara is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnpara}

---

#### File 173 l warp-fnpos.sty

§ 281      Package **fnpos**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg fnpos fnpos is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnpos}[1999/07/14]

```
2 \newcommand*\makeFNbottom{}
3 \newcommand*\makeFNmid{}
4 \newcommand*\makeFNbelow{}
5 \newcommand*\makeFNabove{}
```

---

File 174 **l warp-fontawesome.sty**

§ 282      Package **fontawesome**

(Emulates or patches code by XAVIER DANAUX.)

Pkg fontawesome fontawesome is patched for use by l warp.

Hashed inline images are used, as there may not be Unicode support for all icons.

⚠ **poppler** syntax warning If using pdf $\text{\LaTeX}$ , *poppler* may issue a syntax warning regarding parsing a ligature component. X $\text{\LaTeX}$  or Lua $\text{\LaTeX}$  may be used to avoid this warning.

In the following, the general strategy is to intercept \symbol and embed it inside a lateximage. These changes are done inside a local group.

For pdf $\text{\LaTeX}$ , the alt tag includes the icon (symbol) number. For X $\text{\LaTeX}$  and Lua $\text{\LaTeX}$ , the alt tag is generic.

for HTML output: 1 \LWR@ProvidesPackagePass{fontawesome}[2016/05/15]

```
2 \LetLtxMacro\orig@symbol\symbol
3
4 \ifxetexorluatex
5
6 \newfontfamily{\orig@FA}{FontAwesome}
7
8 \newcommand*\fontawesome@xelatex@symbol[1]{%
9 \LWR@findcurrenttextcolor%
10 \begin{lateximage}*[icon][fontawesomexetex#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
```

- 11 \csuse{\LWR@font@size}%
- 12 \LWR@orig@FA%
- 13 \LWR@orig@symbol{#1}%
- 14 \end{lateximage}%

```
15 }
16
17 \RenewDocumentCommand{\FA}{}{
18 \LetLtxMacro\symbol\orig@fontawesome@xelatex@symbol%
19 }
20
```

```

21 \else
22
23 \newcommand*{\LWR@fontawesome@symbolX}[2]{%
24 \LWR@findcurrenttextcolor%
25 \begin{lateximage}*[icon #1][fontawesome#2#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
26 \csuse{\LWR@font@size}%
27 \fontencoding{U}\fontfamily{fontawesome#2}\selectfont%
28 \LWR@orig@symbol{#1}%
29 \end{lateximage}%
30 }
31
32 \newcommand*{\LWR@fontawesome@symbolone}[1]{%
33 \LWR@fontawesome@symbolX{#1}{one}%
34 }
35
36 \newcommand*{\LWR@fontawesome@symboltwo}[1]{%
37 \LWR@fontawesome@symbolX{#1}{two}%
38 }
39
40 \newcommand*{\LWR@fontawesome@symbolthree}[1]{%
41 \LWR@fontawesome@symbolX{#1}{three}%
42 }
43
44 \renewrobustcmd\FAone{%
45 \LetLtxMacro\symbol\LWR@fontawesome@symbolone%
46 }
47
48 \renewrobustcmd\FAtwo{%
49 \LetLtxMacro\symbol\LWR@fontawesome@symboltwo%
50 }
51
52 \renewrobustcmd\FAthree{%
53 \LetLtxMacro\symbol\LWR@fontawesome@symbolthree%
54 }
55 \fi

```

---

File 175 **l warp-fontawesome5.sty**

§ 283 Package **fontawesome5**

*(Emulates or patches code by MARCEL KRÜGER.)*

Pkg fontawesome5 **fontawesome5** is patched for use by **l warp**.

Hashed inline images are used, as there may not be Unicode support for all icons.

The alt tag has the name of the icon.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontawesome5}[2018/07/27]

```

2 \ExplSyntaxOn
3 \cs_set:Nn\fontawesome_use_icon:nn{%
4 \LWR@findcurrenttextcolor

```

---

```

5 \cs_if_exist:cTF{c__fontawesome_slot_#2_tl}{
6 \begin{latentimage}*[#2][fontawesome5#1SZ\lwr@font@size{}CL\lwr@tempcolor]
7 \csuse{\lwr@font@size}
8 \exp_last_unbraced:Nv
9 __fontawesome_icon_at:nnnn
10 {c__fontawesome_slot_#2_tl}
11 {#1}{#2}
12 \end{latentimage}
13 }{
14 \msg_error:nxx{fontawesome5}{icon-not-found}{#2}{#1}
15 }
16 }
17 \ExplSyntaxOff

```

---

File 176 **l warp–fontaxes.sty**

§ 284 Package **fontaxes**

(Emulates or patches code by ANDREAS BÜHMANN, MICHAEL UMMELS.)

Pkg **fontaxes** **fontaxes** is emulated for HTML, and used as-is for print output.

Functionality for small caps is in the **l warp** core. Swashes and figure styles are ignored for HTML.

**for HTML output:** 1 \lwr@ProvidesPackagePass{fontaxes}[2014/03/23]

```

2 \ifdef{\lwr@HTML@swshape}{}{%
3 \newcommand{\lwr@HTML@swshape}{}%
4 \lwr@formatted{swshape}%
5 \newrobustcmd{\lwr@HTML@textsw}[1]{#1}%
6 \lwr@formatted{textsw}%
7 \filenameNullify{%
8 \LetLtxMacro\swshape\empty%
9 \LetLtxMacro\textsw\firstofone%
10 }%
11 }%
12 }%
13 }

```

---

File 177 **l warp–fontenc.sty**

§ 285 Package **fontenc**

Pkg **fontenc** If using pdftEX, **l warp** used to require **fontenc** be loaded before **l warp**, but now **l warp** itself loads \fontenc with T1 encoding, which **l warp** requires. **fontenc** is now allowed to be loaded with another encoding after **l warp**.

**l warp–fontenc** is no longer necessary, but is still provided to overwrite older versions.

**for HTML output:** 1 \lwr@ProvidesPackagePass{fontenc}[2017/04/05]

---

File 178 **l warp-footmisc.sty**

§ 286 Package **footmisc**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg **footmisc** **footmisc** is emulated.

**l warp** incidentally happens to emulate the **stable** option.

```
1 \LWR@ProvidesPackageDrop{footmisc}[2011/06/06]
```

Some nullified commands:

```
2 \newcommand{\footnotelayout}{}
3 \newcommand{\setfnsymbol}[1]{}
4 \NewDocumentCommand{\DefineFNsymbols}{s m o m}{}
5
6 \newdimen\footnotemargin
7 \footnotemargin1.8em\relax
8
9 \newcommand*\hangfootparskip{0.5\baselineskip}
10 \newcommand*\hangfootparindent{0em}%
11
12 \let\pagefootnoterule\footnoterule
13 \let\mpfootnoterule\footnoterule
14 \def\splitfootnoterule{\kern-3\p@\hspace{0pt}\kern2.6\p@}
15
16 \providecommand*\multiplefootnotemarker{3sp}
17 \providecommand*\multfootsep{,}
```

Using **cleveref**. **\labelcref** only prints the number of the object, not its type.

```
18 \providecommand*\footref[1]{\labelcref{#1}}
```

The following work as-is:

```
19 \newcommand\mpfootnotemark[%
20 \@ifnextchar[%
21 \xmpfootnotemark%
22 {
23 \stepcounter\mpfn%
24 \protected@xdef\thefnmark{\thempfn}%
25 \footnotemark%
26 }%
27 }
28 \def\xmpfootnotemark[#1]{%
29 \begingroup%
30 \csname c@\mpfn\endcsname #1\relax%
31 \unrestored@protected@xdef\thefnmark{\thempfn}%
32 \endgroup%
```

---

```

33 \@footnotemark%
34 }

```

---

File 179 **l warp-footnote.sty**

§ 287 Package **footnote**

*(Emulates or patches code by MARK WOODING.)*

Pkg **footnote** **footnote** is used with minor patches.

**for HTML output:** 1 \LWR@ProvidesPackagePass{footnote}[1997/01/28]

Removed print-version formatting:

```

2 \def\fn@startnote{%
3 % \parboxrestore%
4 \protected@edef\@currentlabel{\csname p@\@mpfn\endcsname\@thefnmark}%
5 % \color@begingroup% *** conflicts with l warp
6 }
7
8 % \let\fn@endnote\color@endgroup% *** conflicts with l warp
9 \def\fn@endnote{%
10 \LWR@htmltagc{/ \LWR@tagregularparagraph}%
11 \LWR@orignewline%
12 }

```

Removed print-version formatting:

```

13 \def\fn@startfntext{%
14 \setbox\z@\vbox\bgroup%
15 \fn@startnote%
16 \ignorespaces%
17 }

```

Removed print-version formatting, added closing paragraph tag:

```

18 \def\fn@endfntext{%
19 \LWR@htmltagc{/ \LWR@tagregularparagraph}%
20 \LWR@orignewline%
21 \egroup%
22 \begingroup%
23 \let\@makefntext\empty%
24 \let\@finalstrut\gobble%
25 \LetLtxMacro\rule\gobbletwo% *8* also the optional argument?
26 \@footnotetext{\unvbox\z@}%
27 \endgroup%
28 }

```

These have been redefined, so re-\let them again:

```

29 \let\endfootnote\fn@endfntext
30 \let\endfootnotetext\endfootnote

```

---

File 180 **l warp-footnotebackref.sty**

§ 288 Package **footnotebackref**

Pkg footnotebackref footnotebackref is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{footnotebackref}[2012/07/01]

---

File 181 **l warp-footnotehyper.sty**

§ 289 Package **footnotehyper**

Pkg footnotehyper footnotehyper is a hyperref-safe version of footnote. For l warp, footnotehyper is emulated.

for HTML output: Discard all options for l warp-footnotehyper:

1 \RequirePackage{footnote}  
2 \LWR@ProvidesPackageDrop{footnotehyper}[2018/01/23]

---

File 182 **l warp-footnoterange.sty**

§ 290 Package **footnoterange**

(Emulates or patches code by H.-MARTIN MÜNCH.)

Pkg footnoterange footnoterange is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{footnoterange}[2012/02/17]

2 \csletcs{footnoterange}{footnoterange\*}  
3 \csletcs{endfootnoterange}{endfootnoterange\*}

---

File 183 **l warp-footnpag.sty**

§ 291 Package **footnpag**

Pkg footnpag footnpag is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{footnpag}

---

File 184 **l warp-foreign.sty**

§ 292      Package **foreign**

*(Emulates or patches code by PHILIP G. RATCLIFFE.)*

Pkg **foreign** **foreign** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{foreign}[2012/09/25]

2 \renewcommand\foreignabrbfont{\emph}

---

File 185 **l warp-forest.sty**

§ 293      Package **forest**

*(Emulates or patches code by SAŠO ŽIVANOVIĆ.)*

Pkg **forest** **forest** is patched for use by **l warp**.

⚠ **\Forest\*** The starred version of the macro **\Forest\*** is not supported. **l warp** encases each **lateximage** in an environment, so the global results of the starred **\Forest\*** are lost.

for HTML output: 1 \LWR@ProvidesPackagePass{forest}[2017/07/14]

```

2 \BeforeBeginEnvironment{forest}{%
3 \begin{lateximage}[-forest-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{forest}{\end{lateximage}}
7
8 \RenewDocumentCommand{\Forest}{s D(){} m}{%
9 \forest@config{#2}%
10 \IfBooleanTF{#1}{%
11 \PackageError{l warp-forest}%
12 {\protect\Forest* is not supported}%
13 {L warp uses an environment for images,\MessageBreak
14 but \protect\Forest* cannot work in an environment.}%
15 \let\forest@next\forest@env%
16 {\let\forest@next\forest@groupp@env}%
17 \begin{lateximage}[-forest-~\PackageDiagramAltText]%
18 \forest@next{#3}%
19 \end{lateximage}%
20 } l warp
 }
```

---

File 186 **l warp-fouridx.sty**

§ 294      Package **fouridx**

*(Emulates or patches code by STEFAN KARRMANN.)*

Pkg **fouridx** **fouridx** works as-is with SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fouridx}[2013/11/21]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \newcommand{\fourIdx}[5]{%
5 \vphantom{#5}^{(\!\!#1)}_{(\!\!#2)}\hphantom{#5}^{#3}_{#4}%
6 }%
7 }%
8 \end{warpMathJax}
```

---

File 187 **l warp-fourier.sty**

## § 295 Package **fourier**

(Emulates or patches code by MICHEL BOVANI.)

Pkg **fourier** **fourier** is used as-is for SVG math, and is emulated for MATHJAX.

**⚠ limitations** The MATHJAX emulation ignores all package options, except `sloped` and `upright` are honored for Greek characters, but MATHJAX cannot yet honor these for Latin characters.

The dedicated macros for `upright` and `italic` Greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fourier}[2020/03/03]

```

2
3 \LWR@infoprocessingmathjax{fourier}

4 \LWR@origRequirePackage{l warp-common-mathjax-letters}
5
6 \LWR@origRequirePackage{l warp-common-mathjax-overlaysymbols}
7
8 \begin{warpMathJax}
9
10 \@ifpackagewith{fourier}{sloped}
11 {
12 \LWR@mathjax@addgreek@l@up{other}{}%
13 \LWR@mathjax@addgreek@u@it*{other}{}%
14 }% sloped
15 {%
16 \@ifpackagewith{fourier}{upright}
17 {%
18 \LWR@mathjax@addgreek@l@up{}%
19 \LWR@mathjax@addgreek@u@up*{}%
20 \LWR@mathjax@addgreek@l@it{other}{}%
21 \LWR@mathjax@addgreek@u@it*{other}{}%
22 }%
23 {%
24 \LWR@mathjax@addgreek@l@up{other}{}%
25 \LWR@mathjax@addgreek@u@it*{other}{}%
26 }%
27 }
```

```

28
29 \CustomizeMathJax{\newcommand{\othergreek}[1]{#1}}
30 \CustomizeMathJax{\let\varvarrho\varrho}
31 \CustomizeMathJax{\let\varvarpi\varpi}
32 \CustomizeMathJax{\let\othervarvarpi\othervarpi}
33 \CustomizeMathJax{\let\othervarvarrho\othervarrho}
34 \CustomizeMathJax{\let\varpartial\partial}

```

`l warp_mathjax.txt` adds `\left/`/`\right.` support for delimiters.

```

35 \CustomizeMathJax{\let\llbracket\lBrack}
36 \CustomizeMathJax{\let\rrbracket\rBrack}
37 \CustomizeMathJax{\let\dblbrackleft\lBrack}
38 \CustomizeMathJax{\let\dblbrackright\rBrack}
39
40 \CustomizeMathJax{\let\VERT|}
41
42 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\text{\scriptsize\texttt{\<}}}}}
43 \CustomizeMathJax{\newcommand{\thething}{\mathord{\text{\scriptsize\texttt{\>}}}}}
44 \CustomizeMathJax{\newcommand{\nparallelslant}{%
45 \mathrel{\text{\LWRoverlaysymbols{\text{\scriptsize\texttt{\>}}}{\text{\scriptsize\texttt{\<}}}}\text{\scriptsize\texttt{\>}}}}%
46 }
47 \CustomizeMathJax{\newcommand{\xswordsup}{\mathord{\text{\scriptsize\texttt{\>}}}}}
48 \CustomizeMathJax{\newcommand{\xswordsdown}{\mathord{\text{\scriptsize\texttt{\<}}}}}% up
49 \CustomizeMathJax{\newcommand{\notowns}{\mathrel{\text{\scriptsize\texttt{\>}}}}}
50
51 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\text{\scriptsize\texttt{\>}}}\limits}}
52 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\text{\scriptsize\texttt{\>}}}\limits}}
53 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\text{\scriptsize\texttt{\>}}}\limits}}
54 \CustomizeMathJax{\let\oiintop\oint}
55 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\text{\scriptsize\texttt{\>}}}\limits}}
56 \CustomizeMathJax{\let\oiintop\oiint}
57 \CustomizeMathJax{\newcommand{\slashint}{\mathop{\text{\scriptsize\texttt{\>}}}\limits}}
58 \CustomizeMathJax{\let\slashintop\slashint}
59
60 \CustomizeMathJax{\let\overgroup\overparen}
61 \CustomizeMathJax{\let\wideparen\overparen}
62 \CustomizeMathJax{\let\widearc\overparen}
63 \CustomizeMathJax{\let\wideOarc\overrightarrow}
64 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\text{\scriptsize\texttt{\>}}}{#1}}}
65
66 \end{warpMathJax}

```

### File 188 **l warp-framed.sty**

§ 296      Package **framed**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg **framed** **framed** is supported and patched by **l warp**.

**for HTML output:** Accept all options for **l warp-framed**:

```
1 \LWR@ProvidesPackagePass{framed}[2011/10/22]
2 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec

3
4 \renewenvironment{framed}{%
5 \LWR@forcenewpage
6 \BlockClass{framed}%
7 }
8 {\endBlockClass}
9
10 \renewenvironment{oframed}{%
11 \LWR@forcenewpage
12 \BlockClass{framed}%
13 }
14 {\endBlockClass}
15
16
17 \renewenvironment{shaded}{%
18 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
19 \LWR@forcenewpage
20 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
21 }
22 {\endBlockClass}
23
24 \renewenvironment{shaded*}{%
25 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
26 \LWR@forcenewpage
27 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
28 }
29 {\endBlockClass}
30
31
32 \renewenvironment{leftbar}{%
33 \LWR@forcenewpage
34 \BlockClass{framedleftbar}
35 \def\FrameCommand{}%
36 \MakeFramed {}
37 }%
38 {\endMakeFramed\endBlockClass}
39
40
41 \renewenvironment{snugshade}{%
42 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
43 \LWR@forcenewpage
44 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
45 }
46 {\endBlockClass}
47
48 \renewenvironment{snugshade*}{%
49 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
50 \LWR@forcenewpage
51 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
52 }
53 {\endBlockClass}
54
```

```
55 \let\oframed\framed
56 \let\endoframed\endframed
57
58
59 \RenewEnviron{titled-frame}[1]{%
60 \CustomFBox{\#1}{}{0pt}{0pt}{0pt}{0pt}{\BODY}
61 }

\CustomFBox {\langle toptitle\rangle} {\langle bottitle\rangle} {\langle thickness top\rangle} {\langle bottom\rangle} {\langle left\rangle} {\langle right\rangle} {\langle text contents\rangle}

62 \renewcommand{\CustomFBox}[7]{%
63 \convertcolorspec[named]{TFFrameColor}{HTML}\LWR@tempcolor%
64 \LWR@forcenewpage
65 \begin{BlockClass}[border: 3px solid \LWR@origpound\LWR@tempcolor]{framed}%
66 \ifthenelse{\isempty{\#1}}{}{%
67 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
68 \textcolor{TFTTitleColor}{\textbf{\#1}}%
69 \end{BlockClass}%
70 }% not empty
71
72 #7
73
74 \ifthenelse{\isempty{\#2}}{}{%
75 \convertcolorspec[named]{TFFrameColor}{HTML}\LWR@tempcolor%
76 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
77 \textcolor{TFTTitleColor}{\textbf{\#2}}%
78 \end{BlockClass}%
79 }% not empty
80 \end{BlockClass}
81 }

\TitleBarFrame [\langle marker\rangle] {\langle title\rangle} {\langle contents\rangle}

82 \renewcommand{\TitleBarFrame}[3][]{%
83 \CustomFBox
84 {\#2}{}%
85 \fboxrule\fboxrule\fboxrule\fboxrule
86 {\#3}%
87 }

88 \renewcommand{\TF@Title}[1]{\#1}

MakeFramed {\langle settings\rangle}

89 \let\MakeFramed\relax
90 \let\endMakeFramed\relax
91
92 \NewEnviron{MakeFramed}[1]{%
93 \FrameCommand{\begin{minipage}{\linewidth}\BODY\end{minipage}}%
94 }

\fb@put@frame {\langle frame cmd no split\rangle} {\langle frame cmd split\rangle}
```

```
95 \renewcommand*\{\\fb@put@frame}{2}{%
96 \relax%
97 \\@tempboxa%
98 }
```

---

File 189 **l warp-ftcap.sty**

§ 297 Package **ftcap**

Pkg **ftcap** **ftcap** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{ftcap}

---

File 190 **l warp-ftnright.sty**

§ 298 Package **ftnright**

Pkg **ftnright** **ftnright** is ignored.

for HTML output: Discard all options for **l warp-ftnright**:

```
1 \LWR@ProvidesPackageDrop{ftnright}[2014/10/28]
```

---

File 191 **l warp-fullminipage.sty**

§ 299 Package **fullminipage**

Pkg **fullminipage** **fullminipage** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]

```
2 \\newenvironment{fullminipage}[1]{}{}{}
```

---

File 192 **l warp-fullpage.sty**

§ 300 Package **fullpage**

Pkg **fullpage** **fullpage** is ignored.

for HTML output: Discard all options for **l warp-fullpage**:

```
1 \LWR@ProvidesPackageDrop{fullpage}[1994/06/01]
```

---

File 193 **l warp-fullwidth.sty**

§ 301 Package **fullwidth**

(Emulates or patches code by MARCO DANIEL.)

Pkg **fullwidth** **fullwidth** is emulated.

A minipage is used, of no HTML width.

for HTML output: 1 \LWR@ProvidesPackageDrop{fullwidth}[2011/11/18]

```
2 \newenvironment*{fullwidth}[1][]{%
3 \minipage{fullwidth}%
4 \minipage{\linewidth}%
5 }%
6 {%
7 \endminipage%
8 }
```

---

File 194 **l warp-fvextra.sty**

§ 302 Package **fvextra**

(Emulates or patches code by GEOFFREY M. POORE.)

Pkg **fvextra** **fvextra** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{fvextra}[2019/02/04]

Ignored are `highlight`, `showtabs`, `obeytabs`, `tab`, `tabcolor`. Also ignored are all options regarding line breaking except `breaklines`, which is emulated as true.

`tabsize` is honored.

If line numbers on the right side are used along with `breaklines`, the line numbers will not be aligned.

```
2
3 \define@booleankey{FV}{obeytabs}%
4 % {\let\FV@ObeyTabsInit\FV@@ObeyTabsInit}%
5 {\let\FV@ObeyTabsInit\relax}
6 {\let\FV@ObeyTabsInit\relax}
7
8 \define@key{FV}{tabcolor}%
9 {}
10
11 \define@key{FV}{tab}{}
```

```
13 \define@booleankey{FV}{showtabs}%
14 % {\def\FV@TabChar{\FV@TabColor{\FancyVerbTab}}}
15 {\let\FV@TabChar\relax}
16 {\let\FV@TabChar\relax}
17
18 \newbool{LWR@FV@breaklines}
19
20 \define@booleankey{FV}{breaklines}%
21 {\FV@BreakLinesfalse
22 \booltrue{LWR@FV@breaklines}
23 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
24 {\FV@BreakLinesfalse
25 \boolfalse{LWR@FV@breaklines}
26 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
27 % \fvset{breaklines}
28
29 \define@key{FV}{breakanywheresymbolpre}{\def\FancyVerbBreakAnywhereSymbolPre{}}
30 \fvset{breakanywheresymbolpre={}}
31
32 \define@key{FV}{breakanywheresymbolpost}{\def\FancyVerbBreakAnywhereSymbolPost{}}
33 \fvset{breakanywheresymbolpost={}}
34
35 \define@key{FV}{breakbeforesymbolpre}{\def\FancyVerbBreakBeforeSymbolPre{}}
36 \fvset{breakbeforesymbolpre={}}
37
38 \define@key{FV}{breakbeforesymbolpost}{\def\FancyVerbBreakBeforeSymbolPost{}}
39 \fvset{breakbeforesymbolpost={}}
40
41 \define@key{FV}{breakaftersymbolpre}{\def\FancyVerbBreakAfterSymbolPre{}}
42 \fvset{breakaftersymbolpre={}}
43
44 \define@key{FV}{breakaftersymbolpost}{\def\FancyVerbBreakAfterSymbolPost{}}
45 \fvset{breakaftersymbolpost={}}
46
47 \define@key{FV}{breaksymbolleft}{\def\FancyVerbBreakSymbolLeft{}}
48
49 \define@key{FV}{breaksymbol}{\fvset{breaksymbolleft={}}}
50
51 \fvset{breaksymbolleft={}}
52
53 \define@key{FV}{breaksymbolright}{\def\FancyVerbBreakSymbolRight{}}
54 \fvset{breaksymbolright={}}
55
56 \def\FV@ListProcessLine@NoBreak#1{%
57 % \hbox to \hsize{%
58 % \kern\leftmargin
59 % \hbox to \linewidth{%
60 % \FV@LeftListNumber%
61 % \FV@LeftListFrame%
62 % \FancyVerbFormatLine{%
63 % \FancyVerbHighlightLine{%
64 % \FV@ObeyTabs{\FancyVerbFormatText{#1}}}}}\hss
65 % \FV@RightListFrame%
66 % \FV@RightListNumber%
67 % }%
```

```
68 % \hss}%
69 \null\par% lwarp
70 }
71
72
73 \newcommand*{\LWR@FV@linethensep}{%
74 \ifbool{\LWR@FV@breaklines}{%
75 {\theFancyVerbLine\kern\FV@NumberSep}%
76 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}%
77 }%
78
79 \newcommand*{\LWR@FV@septhenline}{%
80 \ifbool{\LWR@FV@breaklines}{%
81 {\kern\FV@NumberSep\theFancyVerbLine}%
82 {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}%
83 }%
84
85 \xpatchcmd{\FV@Numbers@left}{%
86 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}%
87 {\LWR@FV@linethensep}%
88 {}%
89 {\LWR@patcherror{fvextra}{FV@Numbers@left A}}%
90
91 \xpatchcmd{\FV@Numbers@left}{%
92 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}%
93 {\LWR@FV@linethensep}%
94 {}%
95 {\LWR@patcherror{fvextra}{FV@Numbers@left B}}%
96
97 \xpatchcmd{\FV@Numbers@left}{%
98 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}%
99 {\LWR@FV@linethensep}%
100 {}%
101 {\LWR@patcherror{fvextra}{FV@Numbers@left C}}%
102
103 \xpatchcmd{\FV@Numbers@right}{%
104 {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}%
105 {\LWR@FV@septhenline}%
106 {}%
107 {\LWR@patcherror{fvextra}{FV@Numbers@right A}}%
108
109 \xpatchcmd{\FV@Numbers@right}{%
110 {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}%
111 {\LWR@FV@septhenline}%
112 {}%
113 {\LWR@patcherror{fvextra}{FV@Numbers@right B}}%
114
115 \xpatchcmd{\FV@Numbers@right}{%
116 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}%
117 {\LWR@FV@linethensep}%
118 {}%
119 {\LWR@patcherror{fvextra}{FV@Numbers@right C}}%
120
121 \xpatchcmd{\FV@Numbers@both}{%
122 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}%
```

```

123 {\LWR@FV@linethensep}
124 {}
125 {\LWR@patcherror{fvextra}{FV@Numbers@both A}}
126
127 \xpatchcmd{\FV@Numbers@both}
128 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
129 {\LWR@FV@linethensep}
130 {}
131 {\LWR@patcherror{fvextra}{FV@Numbers@both B}}
132
133 \xpatchcmd{\FV@Numbers@both}
134 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
135 {\LWR@FV@linethensep}
136 {}
137 {\LWR@patcherror{fvextra}{FV@Numbers@both C}}
138
139 \xpatchcmd{\FV@Numbers@both}
140 {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}
141 {\LWR@FV@septthenline}
142 {}
143 {\LWR@patcherror{fvextra}{FV@Numbers@both D}}
144
145 \xpatchcmd{\FV@Numbers@both}
146 {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}
147 {\LWR@FV@septthenline}
148 {}
149 {\LWR@patcherror{fvextra}{FV@Numbers@both E}}
150
151 \xpatchcmd{\FV@Numbers@both}
152 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
153 {\LWR@FV@linethensep}
154 {}
155 {\LWR@patcherror{fvextra}{FV@Numbers@both F}}

```

File 195 **lwarp-fwlw.sty**§ 303 Package **fwlw**

Pkg fwlw fwlw is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fwlw}

```

2 \newbox\FirstWordBox \global\setbox\FirstWordBox\hbox{}
3 \newbox\NextWordBox \global\setbox\NextWordBox\hbox{}
4 \newbox\LastWordBox \global\setbox\LastWordBox\hbox{}
5 \def\ps@fwlwhead{}
6 \def\ps@NextWordFoot{}

```

File 196 **lwarp-gensymb.sty**

§ 304      Package **gensymb**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg gensymb **gensymb** works as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```
1 \LWR@ProvidesPackagePass{gensymb}[2003/07/02]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
4 \CustomizeMathJax{\newcommand{\celsius}{\text{\textnormal{\'{e}}}\text{\textnormal{c}}\text{\textnormal{el}\textnormal{s}\textnormal{i}\textnormal{u}\textnormal{s}}}}
5 \CustomizeMathJax{\newcommand{\perthousand}{\text{\textnormal{p}\textnormal{e}\textnormal{r}\textnormal{t}\textnormal{h}\textnormal{o}\textnormal{u}\textnormal{s}\textnormal{a}\textnormal{n}\textnormal{d}}}}
6 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
7 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\mu}}}
8 \end{warpMathJax}
```

---

File 197 **l warp-gentombow.sty**

§ 305      Package **gentombow**

Pkg gentombow **gentombow** is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{gentombow}[2018/05/17]

2 \newcommand{\settombowbanner}[1]{}
3 \newcommand{\settombowbannerfont}[1]{}
4 \newcommand{\settombowwidth}[1]{}
5 \newcommand{\settombowbleed}[1]{}
6 \newcommand{\settombowcolor}[1]{}
```

---

File 198 **l warp-geometry.sty**

§ 306      Package **geometry**

*(Emulates or patches code by HIDEO UMEKI.)*

Pkg geometry **geometry** is preloaded by **l warp**, but must be nullified as seen by the user's source code.

for HTML output:

```
1 \LWR@ProvidesPackageDropA{geometry}[2018/04/16]
```

If **geometry** is never loaded by the user, it will be loaded by **l warp** \AtBeginDocument. If this is the case, the page layout should not be changed but the user macros should still be nullified.

```
2 \ifbool{\LWR@allowanothergeometry}{%
```

Assign and set the selected geometry with `reset` prepended. `\AtEndPreamble` `l warp` will save this, then set its own geometry.

```
3 \edef\LWR@tempone{reset,\optionlist{\currname.\currext}}%
4 \expandafter\LWR@origgeometry\expandafter{\LWR@tempone}%
5 }{}% LWR@allowanothergeometry
```

The user-level commands are nullified:

```
6 \renewcommand*\geometry}[1]{}%
7 \renewcommand*\newgeometry}[1]{}%
8 \renewcommand*\restoregeometry{}%
9 \renewcommand*\savegeometry}[1]{}%
10 \renewcommand*\loadgeometry}[1]{}%
```

### File 199 **l warp-ghsystem.sty**

## § 307 Package **ghsystem**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg `ghsystem` `ghsystem` is patched for use by `l warp`.

⚠ `\ghspic` images Images must be provided in SVG format, unless JPG is specified. It is recommended to create a local `images` directory, copy into it the relevant PDF `ghsystem` images, and then convert them with

Enter ⇒ `l warpmk pdftosvg images/*.pdf`

for HTML output: 1 `\LWR@ProvidesPackagePass{ghsystem}[2020/02/17]`

```
2 \ExplSyntaxOn
3
4 \cs_set_protected:Npn \ghsystem_filler:n #1
5 { \emph { \textless#1 \textgreater } }
6
7 \cs_set_protected:Npn \ghsystem_pic:n #1
8 {
9 __ghsystem_includegraphics:xn
10 {
11 scale = \fp_to_tl:N \l__ghsystem_picture_scale_fp
12 width = 1.25cm
13 \exp_not:V \l__ghsystem_picture_includegraphics_tl
14 }
15 { \ghsystem_#1 . \l__ghsystem_picture_type_tl }
16 }
17
18 \ExplSyntaxOff
```

### File 200 **l warp-gindex.sty**

§ 308      Package **gindex**

(Emulates or patches code by JAVIER BEZOS.)

Pkg gindex gindex is patched for use by l warp.

See section 8.6.15.

for HTML output: 1 \LWR@ProvidesPackagePass{gindex}[2019/10/07]

Set the index page and range separators. These are set \AtBeginDocument to allow the user to change them. They are then protected so that the l warp core looks for the tokens instead of their expanded contents, since the \*.ind files will contain \indexpagessep and \indexrangesep instead of their literal contents. Finally, l warp is told of the gindex macros.

```
2 \AtBeginDocument{
3 \robustify{\indexpagessep}
4 \robustify{\indexrangesep}
5 \renewcommand*\IndexPageSeparator{\indexpagessep}
6 \renewcommand*\IndexRangeSeparator{\indexrangesep}
7 }
```

\hyperindexref is added:

```
8 \def\addindexitem#1#2{%
9 \indexflushitem
10 \gix@getspecial#1\indexspecial\indexspecial@@\indexitem{\hyperindexref{#2}}}
11
12 \def\addindexsubitem#1#2{%
13 \stepcounter{indexsubitems}%
14 \gix@getspecial#1\indexspecial\indexspecial@@\indexsubitem{\hyperindexref{#2}}}
15
16 \def\addindexsubsubitem#1#2{%
17 \gix@getspecial#1\indexspecial\indexspecial@@\indexsubsubitem{\hyperindexref{#2}}}
```

Uses a <div> of class indexheading:

```
18 \renewcommand\indexheading[1]{%
19 \begin{BlockClass}{indexheading}
20 \MakeUppercase{#1}%
21 \end{BlockClass}
22 }
```

File 201 **l warp-gloss.sty**

§ 309      Package **gloss**

(Emulates or patches code by JOSE LUIS DÍAZ, JAVIER BEZOS.)

Pkg gloss gloss is patched for use by l warp.

To process the HTML glossary:

```
bibtex <projectname>_html.gls

for HTML output: 1 \LWR@ProvidesPackagePass{gloss}[2002/07/26]

\Basename is added to the label in case xr or xr-hyper are used.

2 \xpatchcmd{\gls@gloss@iii}
3 {\thepage}
4 {\theLWR@previousautopagelabel}
5 {}
6 {\LWR@patcherror{gloss}{\gls@gloss@iii}}
7
8 \def\gls@page@i#1#2{%
9 \endgroup%
10 \global\@namedef{glsp@#1}{\nameref{\Basename-autopage-#2}}}%
```

---

## File 202 **lwarp-glossaries.sty**

### § 310 Package **glossaries**

(Emulates or patches code by NICOLA L.C. TALBOT.)

Pkg **glossaries**  
 processing **glossaries**  
 Opt **GlossaryCmd**

Default: **makeglossaries**

Opt [**lwarpmk**] **printglossary**  
 Opt [**lwarpmk**] **htmlglossary**

**⚠ makeglossaries** not found

**lwarpmk** has the commands **lwarpmk printglossary** and **lwarpmk htmlglossary**, which process the glossaries created by the **glossaries** package using that package's **makeglossaries** program.

The shell command to execute is set by the **lwarp** option **GlossaryCmd**, which defaults to **makeglossaries**. The print or HTML glossary filename is appended to this command.

In some situations it may be required to modify the default command, such as to add the **perl** command in front:

```
\usepackage[
 GlossaryCmd={perl makeglossaries},
] {lwarp}
```

**xindy** language To set the language to use for processing glossaries with **xindy**:

```
\usepackage[
 GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for **makeglossaries** may be set as well.

placement and toc options

The glossaries may be placed in a numbered or unnumbered section, given a TOC entry, and placed inline or on their own HTML page:

#### **Numbered section, on its own HTML page:**

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

#### **Unnumbered section, inline with the current HTML page:**

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

**Unnumbered section, on its own HTML page:**

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

 **glossary style** The default `style=item` option for `glossaries` conflicts with `lwarf`, so the style is forced to `index` instead.

 **number list** The page number list in the printed form would become `\nameref`s in `HTML`, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

**print/HTML versions** The print and `HTML` versions of the glossary differ in their internal page numbers. Separate commands for generating print and `HTML` glossaries are used, even though the page number is currently ignored.

**for HTML output:**

```
1 \PassOptionsToPackage{xindy}{glossaries}
2
3 \LWR@ProvidesPackagePass{glossaries}[2018/07/23]
4
5 \setupglossaries{nonumberlist}
6 \setglossarystyle{index}
```

Patched to fix `toc` pointing to the previous page:

```
7 \renewcommand*{\@p@glossarysection}[2]{%
8 \glsclearpage
9 \LWR@phantomsection
10 \ifdefempty{\@glossarysecstar}{%
11 {%
12 \csname\@glossarysec\endcsname{#2}%
13 }%
14 {%
```

In the original, the `toc` entry was made before the section, thus linking to the `phantomsection` in the printed version, but for `HTML`, this caused the link to point to the page before the glossaries, which could be a different `HTML` file. Here, the `toc` entry is made after the section is created:

```
15 \csname\@glossarysec\endcsname{#2}%
16 \gls@toc{#1}{\@glossarysec}%
17 }%
18 \glossaryseclabel
19 }
```

`lwarf`'s sectioning commands cannot handle robust macros when splitting `HTML` into named filenames. `glossaries` uses `\translate` in sectioning names, and `\translate` is robust and cannot be expanded. The following pre-expands the translations at this moment, making use of `\translatelet`.

---

```

20 \newcommand*{\LWR@comp@glossaryname}{\translate{Glossary}}
21
22 \ifdefined\glossaryname{\LWR@comp@glossaryname}%
23 \translatelet{\LWR@translatetemp}{Glossary}
24 \edef\glossaryname{\LWR@translatetemp}
25 }{%
26
27 \newcommand*{\LWR@comp@acronymname}{\translate{Acronym}}
28
29 \ifdefined\acronymname{\LWR@comp@acronymname}%
30 \translatelet{\LWR@translatetemp}{Acronym}
31 \edef\acronymname{\LWR@translatetemp}
32 }{%
33
34 \newcommand*{\LWR@comp@glssymbolsgroupname}{\translate{Symbols (glossaries)}}
35
36 \ifdefined\glssymbolsgroupname{\LWR@comp@glssymbolsgroupname}%
37 \translatelet{\LWR@translatetemp}{Symbols (glossaries)}
38 \edef\glssymbolsgroupname{\LWR@translatetemp}
39 }{%
40
41 \newcommand*{\LWR@comp@glsnumbersgroupname}{\translate{Numbers (glossaries)}}
42
43 \ifdefined\glsnumbersgroupname{\LWR@comp@glsnumbersgroupname}%
44 \translatelet{\LWR@translatetemp}{Numbers (glossaries)}
45 \edef\glsnumbersgroupname{\LWR@translatetemp}
46 }{%

```

---

File 203 **l warp-gmeometric.sty**

§ 311 Package **gmeometric**

Pkg gmeometric gmeometric is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{gmeometric}[2008/11/22]  
2 \RequirePackageWithOptions{geometry}

---

File 204 **l warp-graphics.sty**

§ 312 Package **graphics**

(Emulates or patches code by D. P. CARLISLE.)

Pkg graphics graphics is emulated.

**for HTML output:** 1 \LWR@ProvidesPackagePass{graphics}[2020/08/30]

### § 312.1 Graphics extensions

```
\DeclareGraphicsExtensions {⟨list⟩}

\AtBeginDocument allow SVG files instead of PDF:
```

```
2 \AtBeginDocument{
3 \DeclareGraphicsExtensions{.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}
4 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
5 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
6 }
```

Inside a `lateximage`, allow PDF instead of SVG:

```
7 \ifpdf
8 \appto{\LWR@restoreorigformatting}{%
9 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
10 }
11 \else% \ifpdf
12 \ifXeTeX
13 \appto{\LWR@restoreorigformatting}{%
14 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
15 }
16 \else
17 \appto{\LWR@restoreorigformatting}{%
18 \DeclareGraphicsExtensions{.eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
19 }
20 \fi
21 \fi
```

### § 312.2 Length conversions and graphics options

⚠ whitespace A scaled image in L<sup>A</sup>T<sub>E</sub>X by default takes only as much space on the page as it requires, but HTML browsers use as much space as the original unscaled image would have taken, with the scaled image over- or under-flowing the area.

Used to store the user's selected dimensions and HTML class.

The class defaults to "inlineimage" unless changed by a `class=xyz` option.

```
22 \newlength{\LWR@igwidth}
23 \newlength{\LWR@igheight}
24 \newcommand*{\LWR@igwidthstyle}{}%
25 \newcommand*{\LWR@igheightstyle}{}%
26 \newcommand*{\LWR@igorigin}{}%
27 \newcommand*{\LWR@igangle}{}%
28 \newcommand*{\LWR@igxscale}{1}%
29 \newcommand*{\LWR@igyscale}{1}%
30 \newcommand*{\LWR@igclass}{inlineimage}
```

```
31 \newcommand*{\LWR@igalt}{\ImageAltText}
```

Set the actions of each of the key/value combinations for `\includegraphics`. Many are ignored.

If an optional width was given, set an `HTML` style:

```
32 \define@key{igraph}{width}{%
33 \setlength{\LWR@igwidth}{#1}%
34 \ifthenelse{\lengthtest{\LWR@igwidth > 0pt}}{%
35 {%
```

Default to use the converted fixed length given:

```
36 \renewcommand*{\LWR@igwidthstyle}[width:\LWR@printlength{\LWR@igwidth}]%
```

If `ex` or `em` dimensions were given, use those instead:

```
37 \IfEndWith{#1}{ex}{%
38 {\renewcommand*{\LWR@igwidthstyle}[width:#1]}% yes ex
39 {}% not ex
40 \IfEndWith{#1}{em}{%
41 {\renewcommand*{\LWR@igwidthstyle}[width:#1]}% yes em
42 {}% not em
43 \IfEndWith{#1}{\%}{%
44 {\renewcommand*{\LWR@igwidthstyle}[width:#1]}% yes percent
45 {}% not percent
46 \IfEndWith{#1}{px}{%
47 {\renewcommand*{\LWR@igwidthstyle}[width:#1]}% yes px
48 {}% not px
49 }{}% end of length > 0pt
50 }
```

If an optional height was given, set an `HTML` style:

```
51 \define@key{igraph}{height}{%
52 \setlength{\LWR@igheight}{#1}%
53 \ifthenelse{\lengthtest{\LWR@igheight > 0pt}}{%
54 {%
```

Default to use the converted fixed length given:

```
55 \renewcommand*{\LWR@igheightstyle}[%
56 height:\LWR@printlength{\LWR@igheight} % extra space
57]%
```

If `ex` or `em` dimensions were given, use those instead:

```
58 \IfEndWith{#1}{ex}{%
59 {\renewcommand*{\LWR@igheightstyle}[height:#1]}% yes ex
60 {}% not ex
61 \IfEndWith{#1}{em}{%
62 {\renewcommand*{\LWR@igheightstyle}[height:#1]}% yes em
63 {}% not em
64 \IfEndWith{#1}{\%}{%
65 {\renewcommand*{\LWR@igheightstyle}[height:#1]}% yes percent
66 {}% not percent
67 \IfEndWith{#1}{px}{%
68 {\renewcommand*{\LWR@igheightstyle}[height:#1]}% yes px
69 {}% not px
```

---

```
70 }{}% end of length > 0pt
71 }
```

Handle origin key:

```
72 \define@key{igraph}{origin}[c]{%
73 \renewcommand*{\LWR@igorigin}{#1}%
74 }
```

Handle angle key:

```
75 \define@key{igraph}{angle}{\renewcommand*{\LWR@igangle}{#1}}
```

Handle class key:

```
76 \define@key{igraph}{class}{\renewcommand*{\LWR@igclass}{#1}}
```

Handle alt key:

```
77 \define@key{igraph}{alt}{\renewcommand*{\LWR@igalt}{#1}}
```

It appears that **graphicx** does not have separate keys for `xscale` and `yscale`. `scale` adjusts both at the same time.

```
78 \define@key{igraph}{scale}{%
79 \ifthenelse{\equal{#1}{1}}{}{%
80 \PackageWarning{lwarp}{%
81 It is recommended to use ‘‘[width=xx\protect\linewidth]’’\MessageBreak
82 instead of ‘‘[scale=yy]’’,%
83 }%
84 }%
85 \renewcommand*{\LWR@igxscale}{#1}%
86 \renewcommand*{\LWR@igyscale}{#1}%
87 }
```

Numerous ignored keys:

```
88 \define@key{igraph}{bb}(){}
89 \define@key{igraph}{bbllx}(){}
90 \define@key{igraph}{bblly}(){}
91 \define@key{igraph}{bburx}(){}
92 \define@key{igraph}{bbury}){}
93 \define@key{igraph}{natwidth}(){}
94 \define@key{igraph}{natheight}(){}
95 \define@key{igraph}{hiresbb}[true]({})
96 \define@key{igraph}{viewport}(){}
97 \define@key{igraph}{trim}(){}
98 \define@key{igraph}{totalheight}(){}
99 \define@key{igraph}{keepaspectratio}[true]({})
100 \define@key{igraph}{clip}[true]({})
101 \define@key{igraph}{draft}[true]({})
102 \define@key{igraph}{type}(){}
103 \define@key{igraph}{ext}(){}
104 \define@key{igraph}{read}(){}
105 \define@key{igraph}{command}{}{}
```

New in v1.1a:

```
106 \define@key{igraph}{quite}{}
107 \define@key{igraph}{page}{}
108 \define@key{igraph}{pagebox}{}
109 \define@key{igraph}{interpolate}[true]{}
```

New in v1.1b:

```
110 \define@key{igraph}{decodearray}{}
111 \newcommand*\LWR@rotstyle[2]{%
```

### § 312.3 Printing HTML styles

`\LWR@rotstyle {<prefix>} {<degrees>}`

Prints the rotate style with the given prefix.

prefix is -ms- or -webkit- or nothing, and is used to generate three versions of the transform:rotate style.

```
112 \edef\LWR@tempone{\#2}%
113 \setcounter{LWR@tempcountone}{-1*\real{\LWR@tempone}} % space
114 #1transform:rotate(\arabic{LWR@tempcountone}deg); % space
115 }
```

`\LWR@scalestyle {<prefix>} {<xscale>} {<yscale>}`

Prints the scale style with the given prefix.

prefix is -ms- or -webkit- or nothing, and is used to generate three versions of the transform:scale style.

```
116 \newcommand*\LWR@scalestyle[3]{%
117 #1transform:scale(#2,#3);
118 }
```

### § 312.4 \includegraphics

`\LWR@opacity` For HTML, used only for \includegraphics.

`\LWR@opacity` may be set by the transparent package.

```
119 \def\LWR@opacity{1}
```

`\LWR@imagesizebox` Used to determine the actual image size if needed.

```
120 \newsavebox{\LWR@imagesizebox}
```

`\LWR@HTML@Gin@setfile {<w>} {<h>} {<filename>}` Sets the parsed filename for HTML output.

```
121 \newcommand*\LWR@HTML@Gin@setfile[3]{%
122 \xdef\LWR@parsedfilename{\#3}%
123 }
```

`Key [Gin] class` css class for the image.

Define the new class key for the print-mode version of \includegraphics, which is enabled inside a `lateximage`.

```

124 \AtBeginDocument{
125 \define@key{Gin}{class}{}}
126 \define@key{Gin}{alt}{}}
127 }

```

\LWR@replaceEPSSVG

Usually, references to EPS files become SVG files, but if the `epstopdf` package is being used, it automatically converts EPS to PDF, and the following must NOT be done.

```

128 \AtBeginDocument{
129 \@ifpackageloaded{epstopdf}
130 {
131 \newcommand*\LWR@replaceEPSSVG(){}
132 }{%
133 \newcommand*\LWR@replaceEPSSVG{%
134 \StrSubstitute{\LWR@tempone}{.eps}{.svg}[\LWR@tempone]%
135 \StrSubstitute{\LWR@tempone}{.EPS}{.SVG}[\LWR@tempone]%
136 }%
137 }%
138 }

```

\LWR@ig@wpimagesizes \* [<2: options>] [<3: options>] {<4: filename>}

If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```

139 \newcommand*\LWR@ig@wpimagesizes[4]{%
140 \ifbool{FormatWP}{%
141 \begingroup%
142 \LWR@restoreorigformatting%
143 \ifpdf%
144 \appto{\LWR@restoreorigformatting}{%
145 \DeclareGraphicsExtensions{%
146 .pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
147 }%
148 }%
149 \else% \ifpdf
150 \ifXeTeX%
151 \appto{\LWR@restoreorigformatting}{%
152 \DeclareGraphicsExtensions{%
153 .pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
154 }%
155 }%
156 \else%
157 \appto{\LWR@restoreorigformatting}{%
158 \DeclareGraphicsExtensions{%
159 .eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
160 }%
161 }%
162 \fi%
163 \fi% \ifpdf
164 \define@key{Gin}{angle}{}%
165 \IfBooleanTF{#1}{%
166 \% starred
167 \IfValueTF{#3}{%

```

```

168 {%
169 \global\sbox{\LWR@imagesizebox}{%
170 \LWR@originincludegraphics*[#2][#3][#4]%
171 }%
172 }%
173 {%
174 \IfValueTF{#2}%
175 {%
176 \global\sbox{\LWR@imagesizebox}{%
177 \LWR@originincludegraphics*[#2][#4]%
178 }%
179 }{%
180 \global\sbox{\LWR@imagesizebox}{%
181 \LWR@originincludegraphics*[#4]%
182 }%
183 }%
184 }%
185 }% starred
186 {%
187 \IfValueTF{#3}%
188 {%
189 \global\sbox{\LWR@imagesizebox}{%
190 \LWR@originincludegraphics[#2][#3][#4]%
191 }%
192 }%
193 }%
194 {%
195 \IfValueTF{#2}%
196 {%
197 \global\sbox{\LWR@imagesizebox}{%
198 \LWR@originincludegraphics[#2][#4]%
199 }%
200 }{%
201 \global\sbox{\LWR@imagesizebox}{%
202 \LWR@originincludegraphics[#4]%
203 }%
204 }%
205 }%
206 }% not starred
207 \endgroup%
208 \settowidth{\LWR@igwidth}{\usebox{\LWR@imagesizebox}}%
209 \global\renewcommand*{\LWR@igwidthstyle}{%
210 width:\LWR@printlength{\LWR@igwidth}%
211 }%
212 \settoheight{\LWR@igheight}{\usebox{\LWR@imagesizebox}}%
213 \global\renewcommand*{\LWR@igheightstyle}{%
214 height:\LWR@printlength{\LWR@igheight}%
215 }%
216 }% FormatWP

```

\LWR@ig@htmlltag For the **HTML** reference, add the graphicspath, filename, extension, alt tag, style, and class.

```

217 \newcommand*{\LWR@ig@htmlltag}{%
218 img\LWR@indentHTML%

```

```

219 src=\textquotedbl%
220 \detokenize\expandafter{\LWR@parsedfilename}%
221 \textquotedbl\LWR@indentHTML%

```

Only include a style tag if a width, height, angle, or scale was given:

```

222 \ifthenelse{%
223 \NOT\equal{\LWR@igwidthstyle}{\} } \OR
224 \NOT\equal{\LWR@igheightstyle}{\} } \OR
225 \NOT\equal{\LWR@igorigin}{\} } \OR
226 \NOT\equal{\LWR@igangle}{\} } \OR
227 \NOT\equal{\LWR@igxscale}{\} } \OR
228 \NOT\equal{\LWR@igyscale}{\} } \OR
229 }%
230 {%
231 style=\textquotedbl\LWR@indentHTML
232 \ifthenelse{\NOT\equal{\LWR@igwidthstyle}{\} }{%
233 {\LWR@igwidthstyle;\LWR@indentHTML}{}%
234 }%
235 \ifthenelse{\NOT\equal{\LWR@igheightstyle}{\} }{%
236 {\LWR@igheightstyle;\LWR@indentHTML}{}%
237 }%
238 \ifthenelse{\NOT\equal{\LWR@igorigin}{\} }{%
239 \{}%
240 transform-origin: \LWR@originnames{\LWR@igorigin};%
241 \LWR@indentHTML%
242 \}%
243 \ifthenelse{\NOT\equal{\LWR@igangle}{\} }{%
244 \{}%
245 \LWR@rotstyle{-ms-}{\LWR@igangle}\LWR@indentHTML
246 \LWR@rotstyle{-webkit-}{\LWR@igangle}\LWR@indentHTML
247 \LWR@rotstyle{\}{}{\LWR@igangle }\LWR@indentHTML
248 \}%
249 \ifthenelse{\NOT\equal{\LWR@igxscale}{\} }{\OR}{%
250 \NOT\equal{\LWR@igyscale}{\} }%
251 \{%
252 \LWR@scalestyle{-ms-}{\LWR@igxscale}{\LWR@igyscale}%
253 \LWR@indentHTML
254 \LWR@scalestyle{-webkit-}{\LWR@igxscale}{\LWR@igyscale}%
255 \LWR@indentHTML
256 \LWR@scalestyle{\}{}{\LWR@igxscale}{\LWR@igyscale}%
257 \LWR@indentHTML
258 \}%
259 \%
260 \ifthenelse{\NOT\equal{\LWR@opacity}{\} }{%
261 \{}%
262 \{}%
263 \textquotedbl\LWR@indentHTML%
264 \}%

```

Set the class and alt tag:

```

265 class=\textquotedbl\LWR@igclass\textquotedbl\LWR@indentHTML%
266 alt=\textquotedbl\AltTextOpen\LWR@igalt\AltTextClose\textquotedbl\ \LWR@orignewline%
267 }% end of image tags

```

```
\LWR@includegraphicsb * [<2: options>] [<3: options>] {<4: filename>}
graphics syntax is \includegraphics * [<llx, lly>] [<urx, ury>] {<file>}
graphicx syntax is \includegraphics [<key values>] {<file>}
If #3 is empty, only one optional argument was given, thus graphicx syntax.
If using \epsfig or \psfig from the epsfig package, #4 will be \LWR@epsfig@filename,
which will have been set by the file or figure keys. Therefore, #4 must not be used until
after the keys have been processed.
```

268 \NewDocumentCommand{\LWR@includegraphicsb}{s o o m}
269 {%

Start the image tag on a new line, allow PDF output word wrap:

270 \LWR@origtilde \LWR@orignewline%

Temporarily compute \linewidth, \textwidth, \textheight arguments with a 6x9 inch
size until the next \endgroup.

271 \begin{LWR@setvirtualpage} %

For correct em sizing during the width and height conversions:

272 \large%

Reset some defaults, possibly will be changed below if options were given:

```
273 \setlength{\LWR@igwidth}{0pt}%
274 \setlength{\LWR@igheight}{0pt}%
275 \renewcommand*{\LWR@igwidthstyle}{}%
276 \renewcommand*{\LWR@igheightstyle}{}%
277 \renewcommand*{\LWR@igorigin}{}%
278 \renewcommand*{\LWR@igangle}{}%
279 \renewcommand*{\LWR@igxscale}{1}%
280 \renewcommand*{\LWR@igyscale}{1}%
281 \renewcommand*{\LWR@igclass}{inlineimage}%

282 \ifdefvoid{\LWR@ThisAltText}{%
283 \edef\LWR@igalt{\ImageAltText}%
284 }{%
285 \edef\LWR@igalt{\LWR@ThisAltText}%
286 }%
```

If #3 is empty, only one optional argument was given, thus graphicx syntax:

```
287 \IfValueF{#3}{%
288 \IfValueTF{#2}{%
289 {\setkeys{igraph}{#2}}%
290 {\setkeys{igraph}{}}
291 }%
```

Fully expand and detokenize the filename, changing the file extension to .svg if necessary.

```
292 \begingroup%
293 \LetLtxMacro\Gin@setfile\LWR@HTML@Gin@setfile%
294 \edef\LWR@tempone{#4}%
295 \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
296 \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
```

```

297 \LWR@replaceEPSSVG%
298 \xdef\LWR@parsedfilename{\LWR@tempone}%
299 \Ginclude@graphics{\detokenize\expandafter{\LWR@tempone}}%
300 \endgroup%
301 \filename@parse{\LWR@parsedfilename}%

```

Remove doubled // in the directory path, from the 2020/10/01 L<sup>A</sup>T<sub>E</sub>X kernel change.

```

302 \StrSubstitute{\LWR@parsedfilename}{//}{/}[\LWR@parsedfilename]%
303 \LWR@traceinfo{LWR@parsedfilename is \LWR@parsedfilename}%

```

If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```
304 \LWR@ig@wpimagesizes{#1}{#2}{#3}{#4}%
```

Create the HTML reference with the graphicspath, filename, extension, alt tag, style, and class:

```

305 \LWR@traceinfo{LWR@includegraphicsb: about to create href}%
306 \LWR@href{\LWR@parsedfilename}%
307 {% start of href
308 \LWR@traceinfo{LWR@includegraphicsb: about to LWR@htmltag}%
309 \LWR@htmltag{\LWR@ig@htmltag}%
310 }% end of href

```

Return to original page size and font size:

```
311 \end{LWR@setvirtualpage}%
```

Clear the single-use alt text:

```

312 \gdef\LWR@ThisAltText{}%
313 \LWR@traceinfo{LWR@includegraphicsb done}%
314 }

```

\includegraphics [<key=val>] {<filename>}

Handles width and height, converted to fixed width and heights.

The user should always use no file suffix in the document source.

```

315 \AtBeginDocument{
316
317 \LWR@traceinfo{Patching includegraphics.}
318
319 \LetLtxMacro\LWR@origincludegraphics\includegraphics

320 \renewrobustcmd*\{\includegraphics}
321 {%

```

This graphic should trigger an HTML paragraph even if alone, so ensure that are doing paragraph handling:

```

322 \LWR@traceinfo{includegraphics}%
323 \LWR@ensuredoingapar%
324 \LWR@includegraphicsb%
325 }% includegraphics
326 }% AtBeginDocument

```

### § 312.5 Boxes

\LWR@rotboxorigin Holds the origin key letters.

327 \newcommand\*{\LWR@rotboxorigin}{}{}

\LWR@originname {⟨letter⟩}

Given one L<sup>A</sup>T<sub>E</sub>X origin key value, translate into an HTML origin word:

328 \newcommand\*{\LWR@originname}[1]{%  
 329 \ifthenelse{\equal{#1}{t}}{top}{%  
 330 \ifthenelse{\equal{#1}{b}}{bottom}{%  
 331 \ifthenelse{\equal{#1}{c}}{center}{%  
 332 \ifthenelse{\equal{#1}{l}}{left}{%  
 333 \ifthenelse{\equal{#1}{r}}{right}{%  
 334 }

\LWR@originnames {⟨letters⟩}

Given one- or two-letter L<sup>A</sup>T<sub>E</sub>X origin key values, translate into HTML origin words:

335 \newcommand\*{\LWR@originnames}[1]{%  
 336 \StrChar{#1}{1}[\LWR@strresult]%

337 \LWR@originname{\LWR@strresult}

338 \StrChar{#1}{2}[\LWR@strresult]%

339 \LWR@originname{\LWR@strresult}

340 }

Handle the origin key for \rotatebox:

341 \define@key{krotbox}{origin}{%  
 342 \renewcommand\*{\LWR@rotboxorigin}{#1}%  
 343 }

These keys are ignored:

344 \define@key{krotbox}{x}{%  
 345 \define@key{krotbox}{y}{%  
 346 \define@key{krotbox}{units}{%

\rotatebox [⟨keyval list⟩] {⟨angle⟩} {⟨text⟩}

347 \AtBeginDocument{

The HTML version:

348 \NewDocumentCommand{\LWR@HTML@rotatebox}{O{} m +m}{%

Reset the origin to “none-given”:

349 \renewcommand\*{\LWR@rotboxorigin}{}{}

Process the optional keys, which may set \LWR@rotateboxorigin:

350 \setkeys{krotbox}{#1}{%

Select `inline-block` so that `HTML` will transform this span:

```
351 \LWR@htmltagc{%
352 span\LWR@indentHTML
353 style=\textquotedbl\LWR@indentHTML
354 display: inline-block; \LWR@indentHTML
```

If an origin was given, translate and print the origin information:

```
355 \ifthenelse{\NOT\equal{\LWR@rotboxorigin}{}}{%
356 {transform-origin: \LWR@originnames{\LWR@rotboxorigin}; \LWR@indentHTML}%
357 {}%
```

Print the rotation information:

```
358 \LWR@rotstyle{-ms-}{}{#2}\LWR@indentHTML
359 \LWR@rotstyle{-webkit-}{}{#2}\LWR@indentHTML
360 \LWR@rotstyle{}{}{#2}\textquotedbl\LWR@orignewline%
361 }\LWR@orignewline%
```

Print the text to be rotated:

```
362 \begin{LWR@nestspan}%
363 #3%
```

Close the span:

```
364 \LWR@htmltagc{/span}%
365 \end{LWR@nestspan}%
366 }
```

The high-level interface:

```
367 \LWR@formatted{rotatebox}%
368
369 }% AtBeginDocument
```

```
\scalebox {<h-scale>} [<v-scale>] {<text>}
```

```
370 \AtBeginDocument{
```

The `HTML` version:

```
371 \NewDocumentCommand{\LWR@HTML@scalebox}{m o m}{%
```

Select `inline-block` so that `HTML` will transform this span:

```
372 \LWR@htmltagc{%
373 span\LWR@indentHTML
374 style=\textquotedbl\LWR@indentHTML
375 display: inline-block; \LWR@indentHTML
```

Print the scaling information:

---

```

376 \LWR@scalestyle{-ms-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
377 \LWR@scalestyle{-webkit-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
378 \LWR@scalestyle{}{#1}{\IfNoValueTF{#2}{#1}{#2}}
379 \textquotedbl\LWR@orignewline
380 }\LWR@orignewline%

```

Print the text to be scaled:

```

381 \begin{\LWR@nestspan}%
382 #3%

```

Close the span:

```

383 \LWR@htmltagc{/span}%
384 \end{\LWR@nestspan}%
385 }

```

The high-level interface:

```

386 \LWR@formatted{scalebox}%
387
388 }% AtBeginDocument

```

`\reflectbox {⟨text⟩}`

```

389 \AtBeginDocument{
390
391 \newcommand{\LWR@HTML@reflectbox}[1]{%
392 \scalebox{-1}[1]{#1}%
393 }% \reflectbox
394
395 \LWR@formatted{reflectbox}
396
397 }% AtBeginDocument

```

`\resizebox {⟨h-length⟩} {⟨v-length⟩} {⟨text⟩}`

Simply prints its text argument.

```

398 \AtBeginDocument{
399
400 \NewDocumentCommand{\LWR@HTML@resizebox}{s m m m}{%
401 #4%
402 }
403
404 \LWR@formatted{resizebox}
405
406 }% AtBeginDocument

```

## § 313 Package **graphicx**

Pkg **graphicx** **graphicx** is emulated.

**graphicx** loads **graphics**, which also loads **l warp-graphics**, which remembers the original graphics definitions for use inside a **\textrm{\\begin{document}}**, and then patches them **\AtBeginDocument** for **HTML** output.

**l warp-graphics** handles the syntax of either **graphics** or **graphicx**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{graphicx}[2020/09/09]

---

### File 206 **l warp-grffile.sty**

## § 314 Package **grffile**

Pkg **grffile** **grffile** is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

**l warp-grffile** now exists as a placeholder since **grffile** used to be emulated by **l warp**, and thus older versions of **l warp-grffile** may exist and should be overwritten by this newer version.

**for HTML output:** 1 \LWR@ProvidesPackagePass{grffile}[2017/06/30]

---

### File 207 **l warp-grid.sty**

## § 315 Package **grid**

Pkg **grid** **grid** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{grid}[2009/06/16]

2 \newenvironment\*{gridenv}{}{}

---

### File 208 **l warp-grid-system.sty**

## § 316 Package **grid-system**

(Emulates or patches code by MARCUS BITZL.)

Pkg **grid-system** **grid-system** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{grid-system}[2014/02/16]

(\ifdef is in case the older syntax is removed.)

```

2 \AtBeginEnvironment{Row}{\setlength{\ linewidth}{6in}}
3
4 \ifdef{\endrow}{%
5 \AtBeginEnvironment{row}{\setlength{\ linewidth}{6in}}%
6 }{}%
7
8 \renewcommand{\gridsystem@finishcell}{\hspace{\gridsystem@cellsep}}%
```

---

#### File 209 **l warp-gridset.sty**

##### § 317 Package **gridset**

Pkg gridset gridset is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{gridset}[2020-02-12]

```

2 \newcommand*{\gridbase}{}%
3 \newcommand*{\gridinterval}{}%
4 \newcommand*{\SavePos}[1]{}%
5 \ifLuaTeX
6 \else
7 \let\savepos\SavePos
8 \fi
9 \newcommand*{\vskipnextgrid}{}%
10 \newcommand*{\thegridinfo}[1]{\thegridinfo}%
11 \newcommand*{\theposinfo}[1]{\theposinfo}%
12 \newcommand*{\theypos}[1]{\theypos}%
```

---

#### File 210 **l warp-hang.sty**

##### § 318 Package **hang**

(Emulates or patches code by ANDREAS NOLDA.)

Pkg hang hang is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hang}[2017/02/18]

```

2 \newlength{\hangingindent}
3 \setlength{\hangingindent}{1em}
4 \newlength{\hangingleftmargin}
5 \setlength{\hangingleftmargin}{0em}
6
7 \newcommand*{\LWR@findhangingleftmargin}{%
8 \setlength{\LWR@templengthone}{\hangingleftmargin}%
9 \addtolength{\LWR@templengthone}{\hangingindent}%
10 }%
11
```

```
12 \newenvironment{hangingpar}
13 {
14 \LWR@findhangingleftmargin%
15 \BlockClass[%
16 \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
17 \LWR@print@mbox{text-indent:-\LWR@printlength{\hangingindent}}%
18]%
19 {hangingpar}%
20 }
21 {\endBlockClass}
22
23 \newenvironment{hanginglist}
24 {%
25 \renewcommand*\{\LWR@printcloselist}{\LWR@printcloseitemize}%
26 \renewcommand*\{\LWR@printopenlist}{%
27 \LWR@findhangingleftmargin%
28 ul style=\textquotedbl%
29 \LWR@print@mbox{list-style-type:none;} % extra space
30 \LWR@print@mbox{%
31 margin-left:\LWR@printlength{\LWR@templengthone}}%
32 } ; % extra space
33 \LWR@print@mbox{%
34 text-indent:-\LWR@printlength{\hangingindent}}%
35 }%
36 \textquotedbl%
37 }%
38 \let\item\LWR@itemizeitem%
39 \list{}{%
40 }
41 {\endlist}
42
43 \newenvironment{compacthang}
44 {\hanginglist}
45 {\endhanginglist}
46
47 \newlength{\labeledleftmargin}
48 \setlength{\labeledleftmargin}{0em}
49
50 \newenvironment{labeledpar}[2]
51 {%
52 \BlockClass[%
53 \LWR@findhangingleftmargin%
54 \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
55 \LWR@print@mbox{text-indent:-\LWR@printlength{\hangingindent}}%
56]{\labeledpar}#2%
57 }
58 {\endBlockClass}
59
60 \newenvironment{labeledlist}[1]
61 {\hanginglist}
62 {\endhanginglist}
63
64 \newenvironment{compactlabel}[1]
65 {\hanginglist}
66 {\endhanginglist}
```

---

**File 211 l warp-hanging.sty**

§ 319 Package **hanging**

Pkg hanging **hanging** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hanging}[2009/09/02]

```
2 \@ifclassloaded{memoir}{
3 \let\hangpara\relax
4 \let\hangparas\relax
5 \let\endhangparas\relax
6 \let\hangpunct\relax
7 \let\endhangpunct\relax
8 }{}

\hangpara {<indent>} {<afternum>}
Use hangparas instead.
9 \newcommand*{\hangpara}[2]{

Env hangparas {<indent>} {<afternum>}
10 \newenvironment*{\hangparas}[2]
11 {
12 \BlockClass[%
13 \LWR@print@mbox{margin-left:\LWR@printlength{#1}} ; %
14 \LWR@print@mbox{text-indent:-\LWR@printlength{#1}}%
15]%
16 {hangingpar}%
17 }
18 {\endBlockClass}

Env hangpunct
19 \newenvironment*{\hangpunct}
20 {\BlockClass{\hangpunct}}
21 {\endBlockClass}

22 \newcommand{\nhpt}{.}
23 \newcommand{\nhlq}{'}
24 \newcommand{\nhrq}{'}

```

---

**File 212 l warp-hepunits.sty**

§ 320 Package **hepunits**

(Emulates or patches code by ANDY BUCKLEY.)

Pkg hepunits **hepunits** is used as-is, and emulated for MATHJAX.

for HTML output:

```
1 \LWR@ProvidesPackagePass{hepunits}[2020/04/10]

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{hepunits}
4
5 \ifx\@HEPopt@sicmds\@yes
6 \CustomizeMathJax{\newcommand{\micron}{\mu\text{metre}}}
7 \CustomizeMathJax{\newcommand{\mrad}{\text{milli}\text{radian}}}
8 \fi
9
10 \CustomizeMathJax{\newcommand{\gauss}{\mathrm{G}}}
11
12 \CustomizeMathJax{\newcommand{\invcmsq}{\text{centi}\text{metre}\text{tothe}{-2}}}
13 \CustomizeMathJax{\newcommand{\invcmsqpersecond}{\text{inv cmsq}\text{second}\text{tothe}{-1}}}
14 \CustomizeMathJax{\newcommand{\invcmsqpersec}{\text{inv cmsq}\text{per second}}}
15
16 %% (Inverse) cross-sections
17 \CustomizeMathJax{\newcommand{\invbarn}{\text{barn}\text{tothe}{-1}}}
18
19 \ifx\@HEPopt@noprefixcmds\@empty
20 \CustomizeMathJax{\newcommand{\millibarn}{\text{milli}\text{barn}}}
21 \CustomizeMathJax{\newcommand{\microbarn}{\text{micro}\text{barn}}}
22 \CustomizeMathJax{\newcommand{\nanobarn}{\text{nano}\text{barn}}}
23 \CustomizeMathJax{\newcommand{\picobarn}{\text{pico}\text{barn}}}
24 \CustomizeMathJax{\newcommand{\femtobarn}{\text{femto}\text{barn}}}
25 \CustomizeMathJax{\newcommand{\attobarn}{\text{atto}\text{barn}}}
26 \CustomizeMathJax{\newcommand{\zeptobarn}{\text{zepto}\text{barn}}}
27 \CustomizeMathJax{\newcommand{\yoctobarn}{\text{yocto}\text{barn}}}
28 \CustomizeMathJax{\newcommand{\invnanobarn}{\text{nano}\text{inv barn}}}
29 \CustomizeMathJax{\newcommand{\invpicobarn}{\text{pico}\text{inv barn}}}
30 \CustomizeMathJax{\newcommand{\invfemtobarn}{\text{femto}\text{inv barn}}}
31 \CustomizeMathJax{\newcommand{\invattobarn}{\text{atto}\text{inv barn}}}
32 \CustomizeMathJax{\newcommand{\invzeptobarn}{\text{zepto}\text{inv barn}}}
33 \CustomizeMathJax{\newcommand{\invyoctobarn}{\text{yocto}\text{inv barn}}}
34 \CustomizeMathJax{\newcommand{\invnb}{\text{inv nb}}{\text{inv nanobarn}}}
35 \CustomizeMathJax{\newcommand{\invpb}{\text{inv pb}}{\text{inv picobarn}}}
36 \CustomizeMathJax{\newcommand{\invfb}{\text{inv fb}}{\text{inv femtobarn}}}
37 \CustomizeMathJax{\newcommand{\invab}{\text{inv ab}}{\text{inv attobarn}}}
38 \CustomizeMathJax{\newcommand{\invzb}{\text{inv zb}}{\text{inv zeptobarn}}}
39 \CustomizeMathJax{\newcommand{\invyb}{\text{inv yb}}{\text{inv yoctobarn}}}
40 \fi
41
42 \CustomizeMathJax{\newcommand{\electronvoltc}{\text{electronvolt}\text{per}\mathit{c}}}
43 \CustomizeMathJax{\newcommand{\electronvoltcsq}{\text{electronvolt}\text{per}\mathit{c}\text{squared}}}
44 \CustomizeMathJax{\let\@Vc\electronvoltc}
45 \CustomizeMathJax{\let\@Vcsq\electronvoltcsq}
46
47 \ifx\@HEPopt@noprefixcmds\@empty
48 \CustomizeMathJax{\newcommand{\meV}{\text{milli}\text{eV}}}
49 \CustomizeMathJax{\newcommand{\keV}{\text{kilo}\text{eV}}}
50 \CustomizeMathJax{\newcommand{\MeV}{\text{mega}\text{eV}}}
51 \CustomizeMathJax{\newcommand{\GeV}{\text{giga}\text{eV}}}
52 \CustomizeMathJax{\newcommand{\TeV}{\text{tera}\text{eV}}}
53 \CustomizeMathJax{\newcommand{\meVc}{\text{milli}\text{eVc}}}
```

---

```

54 \CustomizeMathJax{\newcommand{\keVc}{\kilo\mathrm{eVc}}}
55 \CustomizeMathJax{\newcommand{\MeVc}{\mathrm{mega}\mathrm{eVc}}}
56 \CustomizeMathJax{\newcommand{\GeVc}{\mathrm{giga}\mathrm{eVc}}}
57 \CustomizeMathJax{\newcommand{\TeVc}{\mathrm{tera}\mathrm{eVc}}}
58 \CustomizeMathJax{\newcommand{\meVcsq}{\mathrm{milli}\mathrm{eVcsq}}}
59 \CustomizeMathJax{\newcommand{\keVcsq}{\mathrm{kilo}\mathrm{eVcsq}}}
60 \CustomizeMathJax{\newcommand{\MeVcsq}{\mathrm{mega}\mathrm{eVcsq}}}
61 \CustomizeMathJax{\newcommand{\GeVcsq}{\mathrm{giga}\mathrm{eVcsq}}}
62 \CustomizeMathJax{\newcommand{\TeVcsq}{\mathrm{tera}\mathrm{eVcsq}}}
63 \fi
64 \end{warpMathJax}
```

---

File 213 **l warp-hhline.sty**

§ 321 Package **hhline**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg **hhline** **hhline** is patched for use by **l warp**.

Only a rudimentary emulation is provided so far. If the argument contains any = characters, the result is a double \hline. If none, the result is a single \hline.

**for HTML output:** 1 \LWR@ProvidesPackagePass{hhline}[2014/10/28]

```

2 \newrobustcmd*\LWR@HTML@hhline}[1]{%
3 \edef\LWR@tempone{\detokenize\expandafter{\#1}}%
4 \IfSubStr[1]{\LWR@tempone}{=}{\hline\hline}{\hline}%
5 }
6 % ^^A or:
7 % ^^A \newrobustcmd*\LWR@HTML@hhline}[1]{\LWR@getmynexttoken}%
8
9 \AtBeginDocument{\LWR@expandableformatted{hhline}}
```

For MATHJAX. A simple \hline is used.

```

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\hhline}[1]{\hline}}
12 \end{warpMathJax}
```

---

File 214 **l warp-hhtensor.sty**

§ 322 Package **hhtensor**

*(Emulates or patches code by HARALD HARDERS.)*

Pkg **hhtensor** **hhtensor** is used as-is, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{hhtensor}[2011/12/29]

---

```

2 \begin{warpMathJax}
3 \iftensor@bold
4 \CustomizeMathJax{\newcommand{\vec}[1]{\boldsymbol{#1}}}
5 \CustomizeMathJax{\newcommand{\matr}[1]{\boldsymbol{#1}}}
6 \CustomizeMathJax{\newcommand{\tens}[2]{\boldsymbol{#1}}}
7 \else
8 \iftensor@uline
9 \CustomizeMathJax{\newcommand{\vec}[1]{\text{\textnormal{\textsf{ushort}}}{#1}}}
10 \CustomizeMathJax{\newcommand{\matr}[1]{\text{\textnormal{\textsf{ushortd}}}{#1}}}
11 \CustomizeMathJax{\newcommand{\tens}[2]{\text{\textnormal{\textsf{underset}}}{\raise{.5ex}{\text{\textnormal{\textsf{sim}}}}}{#2}}{#1}}
12 \underset{\raise{.5ex}{\text{\textnormal{\textsf{sim}}}}}{#2}
13 }{#1}
14 }
15 }
16 \else
17 \CustomizeMathJax{\newcommand{\matr}[1]{\vec{\vec{#1}}}}
18 \CustomizeMathJax{\newcommand{\tens}[2]{\text{\textnormal{\textsf{underset}}}{\raise{.5ex}{\text{\textnormal{\textsf{sim}}}}}{#2}}{#1}}
19 \underset{\raise{.5ex}{\text{\textnormal{\textsf{sim}}}}}{#2}
20 }{#1}
21 }
22 }
23 \fi
24 \fi
25 \CustomizeMathJax{\newcommand{\cdot}{\mathrel{\cdot}\mkern 0.0mu \cdot}}
26 \CustomizeMathJax{\newcommand{\trans}{{}^{\mathrm{T}}}}
27 \end{warpMathJax}

```

---

File 215 **lwarf-hypbmsec.sty**

§ 323 Package **hypbmsec**

Pkg hypbmsec **hypbmsec** is emulated by the **lwarf** core.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypbmsec}[2016/05/16]

---

File 216 **lwarf-hypcap.sty**

§ 324 Package **hypcap**

Pkg hypcap **hypcap** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypcap}[2016/05/16]

```

2 \newcommand*{\capstart}{}%
3 \newcommand*{\hypcapspace}{}%
4 \newcommand*{\hypcappref}[1]{}%
5 \newcommand*{\capstartfalse}{}%
6 \newcommand*{\capstartrue}{}%

```

---

File 217 **l warp-hypdestopt.sty**

§ 325 Package **hypdestopt**

Pkg hypdestopt **hypdestopt** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypdestopt}[2016/05/21]

---

File 218 **l warp-hypernat.sty**

§ 326 Package **hypernat**

Pkg hypernat **hypernat** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypernat}[2001/07/09]

---

File 219 **l warp-hyperref.sty**

§ 327 Package **hyperref**

(Emulates or patches code by SEBASTIAN RAHTZ, HEIKO OBERDIEK, THE L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)

Pkg hyperref **hyperref** is emulated.

for HTML output: 1 % \LWR@ProvidesPackageDrop{hyperref}% not allowed  
2 % \ProvidesPackage{l warp-#1-#2}% not allowed  
3 \PackageInfo{l warp}{%  
4 Using the l warp HTML version of package ‘hyperref’, \MessageBreak  
5 and discarding options except backref, pagebackref.\MessageBreak  
6 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak  
7 do not attempt to patch l warp’s version of ‘hyperref’.)\MessageBreak}  
  
8 \SetupKeyvalOptions{family=\LWR@hyperref,prefix=\LWR@hyperref@}  
9  
10 \newcommand{\hypersetup}[1]{\setkeys{\LWR@hyperref}{#1}}  
11  
12 \define@key{\LWR@hyperref}{a4paper}{}  
13 \define@key{\LWR@hyperref}{a5paper}{}  
14 \define@key{\LWR@hyperref}{b5paper}{}  
15 \define@key{\LWR@hyperref}{letterpaper}{}  
16 \define@key{\LWR@hyperref}{legalpaper}{}  
17 \define@key{\LWR@hyperref}{executivepaper}{}  
18 \define@key{\LWR@hyperref}{implicit}{}  
19 \define@key{\LWR@hyperref}{draft}{}  
20 \define@key{\LWR@hyperref}{final}{}  
21 \define@key{\LWR@hyperref}{setpagesize}{}

---

```
22 \define@key{LWR@hyperref}{debug}{}{}
23 \define@key{LWR@hyperref}{linktocpage}{}{}
24 \define@key{LWR@hyperref}{linktoc}{}{}
25 \define@key{LWR@hyperref}{extension}{}{}
26 \define@key{LWR@hyperref}{verbose}{}{}
27 \define@key{LWR@hyperref}{typexml}{}{}
28 \define@key{LWR@hyperref}{raiselinks}{}{}
29 \define@key{LWR@hyperref}{breaklinks}{}{}
30 \define@key{LWR@hyperref}{localanchorname}{}{}
31 \define@key{LWR@hyperref}{pageanchor}{}{}
32 \define@key{LWR@hyperref}{plainpages}{}{}
33 \define@key{LWR@hyperref}{naturalnames}{}{}
34 \define@key{LWR@hyperref}{hypertexnames}{}{}
35 \define@key{LWR@hyperref}{nesting}{}{}
36 \define@key{LWR@hyperref}{destlabel}{}{}
37 \define@key{LWR@hyperref}{unicode}{}{}
38 \define@key{LWR@hyperref}{pdfencoding}{}{}
39 \define@key{LWR@hyperref}{psdextra}{}{}
40 \define@key{LWR@hyperref}{pdfversion}{}{}
41 \define@key{LWR@hyperref}{dvipdfmx-outline-open}{}{}
42 \define@key{LWR@hyperref}{driverfallback}{}{}
43 \define@key{LWR@hyperref}{customdriver}{}{}
44 \define@key{LWR@hyperref}{hyperfigures}{}{}
45 \define@key{LWR@hyperref}{hyperfootnotes}{}{}
46 \define@key{LWR@hyperref}{hyperindex}{}{}
47 \define@key{LWR@hyperref}{encap}{}{}
48 \define@key{LWR@hyperref}{colorlinks}{}{}
49 \define@key{LWR@hyperref}{ocgcolorlinks}{}{}
50 \define@key{LWR@hyperref}{frenchlinks}{}{}
51 \define@key{LWR@hyperref}{bookmarks}{}{}
52 \define@key{LWR@hyperref}{bookmarksopen}{}{}
53 \define@key{LWR@hyperref}{bookmarksdepth}{}{}
54 \define@key{LWR@hyperref}{bookmarksopenlevel}{}{}
55 \define@key{LWR@hyperref}{bookmarkstype}{}{}
56 \define@key{LWR@hyperref}{bookmarksnumbered}{}{}
57 \define@key{LWR@hyperref}{CJKbookmarks}{}{}
58 \define@key{LWR@hyperref}{link}{}{}
59 \define@key{LWR@hyperref}{anchor}{}{}
60 \define@key{LWR@hyperref}{cite}{}{}
61 \define@key{LWR@hyperref}{file}{}{}
62 \define@key{LWR@hyperref}{url}{}{}
63 \define@key{LWR@hyperref}{menu}{}{}
64 \define@key{LWR@hyperref}{run}{}{}
65 \define@key{LWR@hyperref}{linkbordercolor}{}{}
66 \define@key{LWR@hyperref}{anchorbordercolor}{}{}
67 \define@key{LWR@hyperref}{citebordercolor}{}{}
68 \define@key{LWR@hyperref}{filebordercolor}{}{}
69 \define@key{LWR@hyperref}{urlbordercolor}{}{}
70 \define@key{LWR@hyperref}{menubordercolor}{}{}
71 \define@key{LWR@hyperref}{runbordercolor}{}{}
72 \define@key{LWR@hyperref}{pagecolor}{}{}
73 \define@key{LWR@hyperref}{baseurl}{}{}
74 \define@key{LWR@hyperref}{linkfileprefix}{}{}
75 \define@key{LWR@hyperref}{pdfpagetransition}{}{}
76 \define@key{LWR@hyperref}{pdfpageduration}{}{}
```

```
77 \define@key{LWR@hyperref}{pdfpagehidden}{}{}
78 \define@key{LWR@hyperref}{pagebordercolor}{}{}
79 \define@key{LWR@hyperref}{allbordercolors}{}{}
80 \define@key{LWR@hyperref}{pdfhighlight}{}{}
81 \define@key{LWR@hyperref}{pdfborder}{}{}
82 \define@key{LWR@hyperref}{pdfborderstyle}{}{}
83 \define@key{LWR@hyperref}{pdfprintpagerange}{}{}
84 \define@key{LWR@hyperref}{pdfusetitle}{}{}
85 \define@key{LWR@hyperref}{pdftitle}{}{}
86 \define@key{LWR@hyperref}{pdfauthor}{}{}
87 \define@key{LWR@hyperref}{pdfproducer}{}{}
88 \define@key{LWR@hyperref}{pdfcreator}{}{}
89 \define@key{LWR@hyperref}{addtopdfcreator}{}{}
90 \define@key{LWR@hyperref}{pdfcreationdate}{}{}
91 \define@key{LWR@hyperref}{pdfmoddate}{}{}
92 \define@key{LWR@hyperref}{pdfsubject}{}{}
93 \define@key{LWR@hyperref}{pdfkeywords}{}{}
94 \define@key{LWR@hyperref}{pdftrapped}{}{}
95 \define@key{LWR@hyperref}{pdfinfo}{}{}
96 \define@key{LWR@hyperref}{pdfview}{}{}
97 \define@key{LWR@hyperref}{pdflinkmargin}{}{}
98 \define@key{LWR@hyperref}{pdfstartpage}{}{}
99 \define@key{LWR@hyperref}{pdfstartview}{}{}
100 \define@key{LWR@hyperref}{pdfremotestartview}{}{}
101 \define@key{LWR@hyperref}{pdfpagescrop}{}{}
102 \define@key{LWR@hyperref}{pdftoolbar}{}{}
103 \define@key{LWR@hyperref}{pdfmenubar}{}{}
104 \define@key{LWR@hyperref}{pdfwindowui}{}{}
105 \define@key{LWR@hyperref}{pdffitwindow}{}{}
106 \define@key{LWR@hyperref}{pdfcenterwindow}{}{}
107 \define@key{LWR@hyperref}{pdfdisplaydoctitle}{}{}
108 \define@key{LWR@hyperref}{pdfa}{}{}
109 \define@key{LWR@hyperref}{pdfnewwindow}{}{}
110 \define@key{LWR@hyperref}{pdflang}{}{}
111 \define@key{LWR@hyperref}{pdfpagelabels}{}{}
112 \define@key{LWR@hyperref}{pdfescapeform}{}{}
113 \define@key{LWR@hyperref}{english}{}{}
114 \define@key{LWR@hyperref}{UKEnglish}{}{}
115 \define@key{LWR@hyperref}{british}{}{}
116 \define@key{LWR@hyperref}{USenglish}{}{}
117 \define@key{LWR@hyperref}{american}{}{}
118 \define@key{LWR@hyperref}{german}{}{}
119 \define@key{LWR@hyperref}{austrian}{}{}
120 \define@key{LWR@hyperref}{ngerman}{}{}
121 \define@key{LWR@hyperref}{naustrian}{}{}
122 \define@key{LWR@hyperref}{russian}{}{}
123 \define@key{LWR@hyperref}{brazil}{}{}
124 \define@key{LWR@hyperref}{brazilian}{}{}
125 \define@key{LWR@hyperref}{portuguese}{}{}
126 \define@key{LWR@hyperref}{spanish}{}{}
127 \define@key{LWR@hyperref}{catalan}{}{}
128 \define@key{LWR@hyperref}{afrikaans}{}{}
129 \define@key{LWR@hyperref}{french}{}{}
130 \define@key{LWR@hyperref}{frenchb}{}{}
131 \define@key{LWR@hyperref}{francais}{}{}
```

```
132 \define@key{LWR@hyperref}{acadian}{}{}
133 \define@key{LWR@hyperref}{canadien}{}{}
134 \define@key{LWR@hyperref}{italian}{}{}
135 \define@key{LWR@hyperref}{magyar}{}{}
136 \define@key{LWR@hyperref}{hungarian}{}{}
137 \define@key{LWR@hyperref}{greek}{}{}
138 \define@key{LWR@hyperref}{dutch}{}{}
139 \define@key{LWR@hyperref}{tex4ht}{}{}
140 \define@key{LWR@hyperref}{pdftex}{}{}
141 \define@key{LWR@hyperref}{luatex}{}{}
142 \define@key{LWR@hyperref}{nativepdf}{}{}
143 \define@key{LWR@hyperref}{dvipdfm}{}{}
144 \define@key{LWR@hyperref}{dvipdfmx}{}{}
145 \define@key{LWR@hyperref}{xetex}{}{}
146 \define@key{LWR@hyperref}{pdfmark}{}{}
147 \define@key{LWR@hyperref}{dvips}{}{}
148 \define@key{LWR@hyperref}{hypertex}{}{}
149 \define@key{LWR@hyperref}{vtx}{}{}
150 \define@key{LWR@hyperref}{vtexpdfmark}{}{}
151 \define@key{LWR@hyperref}{dviwindo}{}{}
152 \define@key{LWR@hyperref}{dvipsone}{}{}
153 \define@key{LWR@hyperref}{textures}{}{}
154 \define@key{LWR@hyperref}{latex2html}{}{}
155 \define@key{LWR@hyperref}{ps2pdf}{}{}
156 \define@key{LWR@hyperref}{vietnamese}{}{}
157 \define@key{LWR@hyperref}{vietnam}{}{}
158 \define@key{LWR@hyperref}{arabic}{}{}
159 \define@key{LWR@hyperref}{hidelinks}{}{}
160 \define@key{LWR@hyperref}{draft}{}{}
161 \define@key{LWR@hyperref}{nolinks}{}{}
162 \define@key{LWR@hyperref}{final}{}{}
163 \define@key{LWR@hyperref}{pdfa}{}{}
164 \define@key{LWR@hyperref}{pdfversion}{}{}
165 \define@key{LWR@hyperref}{typxml}{}{}
166 \define@key{LWR@hyperref}{tex4ht}{}{}
167 \define@key{LWR@hyperref}{pdftex}{}{}
168 \define@key{LWR@hyperref}{nativepdf}{}{}
169 \define@key{LWR@hyperref}{dvipdfm}{}{}
170 \define@key{LWR@hyperref}{dvipdfmx}{}{}
171 \define@key{LWR@hyperref}{dvipdfmx-outline-open}{}{}
172 \define@key{LWR@hyperref}{pdfmark}{}{}
173 \define@key{LWR@hyperref}{dvips}{}{}
174 \define@key{LWR@hyperref}{hypertex}{}{}
175 \define@key{LWR@hyperref}{vtx}{}{}
176 \define@key{LWR@hyperref}{vtexpdfmark}{}{}
177 \define@key{LWR@hyperref}{dviwindo}{}{}
178 \define@key{LWR@hyperref}{dvipsone}{}{}
179 \define@key{LWR@hyperref}{textures}{}{}
180 \define@key{LWR@hyperref}{latex2html}{}{}
181 \define@key{LWR@hyperref}{ps2pdf}{}{}
182 \define@key{LWR@hyperref}{xetex}{}{}
183 \define@key{LWR@hyperref}{driverfallback}{}{}
184 \define@key{LWR@hyperref}{customdriver}{}{}
185 \define@key{LWR@hyperref}{pdfversion}{}{}
186 \define@key{LWR@hyperref}{bookmarks}{}{}
```

```

187 \define@key{LWR@hyperref}{ocgcolorlinks}{}{}{}
188 \define@key{LWR@hyperref}{colorlinks}{}{}{}
189 \define@key{LWR@hyperref}{frenchlinks}{}{}{}
190 \define@key{LWR@hyperref}{backref}{}{}{}
191 \define@key{LWR@hyperref}{pagebackref}{}{}{}
192 \define@key{LWR@hyperref}{destlabel}{}{}{}
193 \define@key{LWR@hyperref}{pdfpagescrop}{}{}{}
194 \define@key{LWR@hyperref}{pdfpagemode}{}{}{}
195 \define@key{LWR@hyperref}{pdfnonfullscreenpagemode}{}{}{}
196 \define@key{LWR@hyperref}{pdfdirection}{}{}{}
197 \define@key{LWR@hyperref}{pdfviewarea}{}{}{}
198 \define@key{LWR@hyperref}{pdfviewclip}{}{}{}
199 \define@key{LWR@hyperref}{pdfprintarea}{}{}{}
200 \define@key{LWR@hyperref}{pdfprintclip}{}{}{}
201 \define@key{LWR@hyperref}{pdfprintscaling}{}{}{}
202 \define@key{LWR@hyperref}{pdfduplex}{}{}{}
203 \define@key{LWR@hyperref}{pdfpicktraybypdfsize}{}{}{}
204 \define@key{LWR@hyperref}{pdfprintpagerange}{}{}{}
205 \define@key{LWR@hyperref}{pdfnumcopies}{}{}{}
206 \define@key{LWR@hyperref}{pdfstartview}{}{}{}
207 \define@key{LWR@hyperref}{pdfstartpage}{}{}{}
208 \define@key{LWR@hyperref}{pdftoolbar}{}{}{}
209 \define@key{LWR@hyperref}{pdfmenubar}{}{}{}
210 \define@key{LWR@hyperref}{pdfwindowui}{}{}{}
211 \define@key{LWR@hyperref}{pdffitwindow}{}{}{}
212 \define@key{LWR@hyperref}{pdfcenterwindow}{}{}{}
213 \define@key{LWR@hyperref}{pdfdisplaydoctitle}{}{}{}
214 \define@key{LWR@hyperref}{pdfpagelayout}{}{}{}
215 \define@key{LWR@hyperref}{pdflang}{}{}{}
216 \define@key{LWR@hyperref}{baseurl}{}{}{}
217 \define@key{LWR@hyperref}{pdfusetitle}{}{}{}
218 \define@key{LWR@hyperref}{pdfpagelabels}{}{}{}
219 \define@key{LWR@hyperref}{hyperfootnotes}{}{}{}
220 \define@key{LWR@hyperref}{hyperfigures}{}{}{}
221 \define@key{LWR@hyperref}{hyperindex}{}{}{}
222 \define@key{LWR@hyperref}{encap}{}{}{}
223 \define@key{LWR@hyperref}{linkcolor}{}{}{}
224 \define@key{LWR@hyperref}{anchorcolor}{}{}{}
225 \define@key{LWR@hyperref}{citecolor}{}{}{}
226 \define@key{LWR@hyperref}{filecolor}{}{}{}
227 \define@key{LWR@hyperref}{urlcolor}{}{}{}
228 \define@key{LWR@hyperref}{menucolor}{}{}{}
229 \define@key{LWR@hyperref}{runcolor}{}{}{}
230 \define@key{LWR@hyperref}{allcolors}{}{}{}
231
232 \DeclareStringOption[false]{backref}[section]
233
234 \DeclareBoolOption{pagebackref}
235
236 \DeclareDefaultOption{}
237
238 \ProcessKeyvalOptions*\relax

```

Maybe load **backref**:

```
239 \ifdefstring{\LWR@hyperref@backref}{section}
240 {\RequirePackage{backref}}
241 }
242
243 \ifdefstring{\LWR@hyperref@backref}{slide}
244 {\RequirePackage{backref}}
245 }
246
247 \ifdefstring{\LWR@hyperref@backref}{page}
248 {\RequirePackage{backref}}
249 }
250
251 \ifLWR@hyperref@pagebackref
252 \RequirePackage{backref}
253 \fi

254 \LetLtxMacro{\href}{\LWR@href}
255 \LetLtxMacro{\noLinkurl}{\LWR@noLinkurl}
256 \LetLtxMacro{\url}{\LWR@url}
257 \LetLtxMacro{\phantomSection}{\LWR@phantomSection}

258 \newcommand*{\hyperbaseurl}[1]{}
```

\hyperimage {*URL*} {*alt text*}

Insert an image with alt text:

```
259 \NewDocumentCommand{\LWR@hyperimageb}{m +m}{%
260 \LWR@ensuredoingapar%
261 \def\LWR@templink{\#1}%
262 \onelevel@sanitize\LWR@templink%
263 \LWR@htmltag{%
264 img src=\textquotedbl\textbackslash LWR@templink\textquotedbl\ %
265 alt=\textquotedbl\#2\textquotedbl\ %
266 class=\textquotedbl{}hyperimage\textquotedbl%
267 }%
268 \LWR@ensuredoingapar%
269 \endgroup%
270 }
271
272 \newrobustcmd*\hyperimage{%
273 \begingroup%
274 \LWR@linkcatcodes%
275 \LWR@hyperimageb%
276 }
```

```
\hyperdef{\langle 1: category \rangle}{\langle 2: name \rangle}{\langle 3: text \rangle}
```

Creates an HTML anchor to category.name with the given text.

```
278 \NewDocumentCommand{\LWR@hyperdefb}{m m +m}{%
279 \LWR@ensuredoingapar%
280 \LWR@label@createtag{#1.#2}%
281 #3%
```

```

282 \endgroup%
283 }
284
285 \newcommand*{\hyperdef}{%
286 \begingroup%
287 \LWR@linkcatcodes%
288 \LWR@hyperdefb%
289 }
290

\LWR@hyperrefb {⟨1: URL⟩} {⟨2: category⟩} {⟨3: name⟩} {⟨4: text⟩}
Creates an HTML link to URL#category.name with the given text.
To avoid nested links, \ref is temporarily redefined to the print version.

291 \newcommand{\LWR@hyperreffinish}[1]{%
292 \begingroup%
293 \RenewDocumentCommand{\ref}{s m}{\LWR@print@ref{##2}}%
294 #1%
295 \endgroup%
296 \LWR@htmltag{/a}%
297 }
298
299 \newcommand*{\LWR@hyperrefbb}[3]{%
300 \LWR@htmltag{%
301 a href=\textquotedbl%
302 \detokenize\expandafter{#1}\LWR@hashmark%
303 \detokenize\expandafter{#2}. \detokenize\expandafter{#3}%
304 \textquotedbl%
305 \LWR@addlinktitle%
306 }%
307 \endgroup%
308 \LWR@hyperreffinish%
309 }
310
311 \newrobustcmd*{\LWR@hyperrefb}{%
312 \begingroup%
313 \LWR@linkcatcodes%
314 \LWR@hyperrefbb%
315 }

\LWR@hyperrefc [⟨label⟩] {⟨text⟩}
Creates text as an HTML link to the LATEX label.

316
317 \NewDocumentCommand{\LWR@hyperrefcb}{O{label}}{%
318 \LWR@startref{#1}%
319 \endgroup%
320 \LWR@hyperreffinish%
321 }
322
323 \newcommand*{\LWR@hyperrefc}{%
324 \begingroup%
325 \LWR@linkcatcodes%
326 \LWR@hyperrefcb%

```

327 }

```
\hyperref {\langle 1: URL\rangle} {\langle 2: category\rangle} {\langle 3: name\rangle} {\langle 4: text\rangle} -- or --
[\langle 1: label\rangle] {\langle 2: text\rangle}

328 \DeclareRobustCommand*\hyperref{%
329 \LWR@ensuredoingapar%
330 \@ifnextchar[\LWR@hyperrefc\LWR@hyperrefb%
331 }
```

\hypertarget {\langle name\rangle} {\langle text\rangle}

Creates an anchor to name with the given text.

```
332 \NewDocumentCommand{\LWR@hypertargetb}{m +m}{%
333 \label{LWR-ht-\#1}%
334 #2%
335 \endgroup%
336 }
337
338 \newcommand*\hypertarget{%
339 \begingroup%
340 \LWR@linkcatcodes%
341 \LWR@hypertargetb%
342 }
```

\hyperlink {\langle name\rangle} {\langle text\rangle}

Creates a link to the anchor created by hypertarget, with the given link text.

Declared because also defined by memoir.

```
343 \DeclareDocumentCommand{\LWR@hyperlinkb}{m}{%
344 \ifbool{\LWR@insidemathcomment}{%
345 \endgroup%
346 \LWR@hyperrefcb[LWR-ht-\#1]}{%
347 }
348
349 \DeclareDocumentCommand{\hyperlink}{m}{%
350 \LWR@ensuredoingapar%
351 \begingroup%
352 \LWR@linkcatcodes%
353 \LWR@hyperlinkb%
354 }
```

\autoref \* {\langle label\rangle}

For HTML, \cleveref is used instead.

```
355 \NewDocumentCommand{\autoref}{s m}{%
356 \IfBooleanTF{\#1}{\ref{\#2}}{\cref{\#2}}%
357 }
```

\autpageref {\langle label\rangle}

For HTML, \cleveref is used instead.

---

```

358 \NewDocumentCommand{\autopageref}{s m}{%
359 \IfBooleanTF{#1}{\c pageref{#2}}{\c ref{#2}}%
360 }

```

Default names:

```

361 \def\equationautorefname{Equation}%
362 \def\footnoteautorefname{footnote}%
363 \def\itemautorefname{item}%
364 \def\figureautorefname{Figure}%
365 \def\tableautorefname{Table}%
366 \def\partautorefname{Part}%
367 \def\appendixautorefname{Appendix}%
368 \def\chapterautorefname{chapter}%
369 \def\sectionautorefname{section}%
370 \def\subsectionautorefname{subsection}%
371 \def\subsubsectionautorefname{subsubsection}%
372 \def\paragraphautorefname{paragraph}%
373 \def\ subparagraphautorefname{subparagraph}%
374 \def\FancyVerbLineautorefname{line}%
375 \def\theoremautorefname{Theorem}%
376 \def\pageautorefname{page}%

```

```

\pdfstringdef {\langle macroname\rangle} {\langle \TeXstring\rangle}
377 \newcommand{\pdfstringdef}[2]{}

```

```

\pdfbookmark [\langle level\rangle] {\langle text\rangle} {\langle name\rangle}
378 \newcommand{\pdfbookmark}[3][]{}

```

```

\currentpdfbookmark {\langle text\rangle} {\langle name\rangle}
379 \newcommand{\currentpdfbookmark}[2]{}

```

```

\subpdfbookmark {\langle text\rangle} {\langle name\rangle}
380 \newcommand{\subpdfbookmark}[2]{}

```

```

\belowpdfbookmark {\langle text\rangle} {\langle name\rangle}
381 \newcommand{\belowpdfbookmark}[2]{}

```

```

\texorpdfstring {\langle \TeXstring\rangle} {\langle PDFstring\rangle}
382 \let\texorpdfstring\relax
383 \newcommand{\texorpdfstring}[2]{#1}

```

```

{\langle commands\rangle}
384 \newcommand{\pdfstringdefDisableCommands}[1]{}

```

```
\hypercalcbp {\langle dimen\rangle} From hyperref.
385 \def\hypercalcbp#1{
386 \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
387 }%

\Acrobatmenu {\langle menuoption\rangle} {\langle text\rangle}
388 \newcommand{\Acrobatmenu}[2]{}

\TextField [\langle parameters\rangle] {\langle label\rangle}
389 \DeclareRobustCommand{\TextField}[2]{}[]{}

\CheckBox [\langle parameters\rangle] {\langle label\rangle}
390 \DeclareRobustCommand{\CheckBox}[2]{}[]{}

\ChoiceMenu [\langle parameters\rangle] {\langle label\rangle} {\langle choices\rangle}
391 \DeclareRobustCommand{\ChoiceMenu}[3]{}[]{}

\PushButton [\langle parameters\rangle] {\langle label\rangle}
392 \DeclareRobustCommand{\PushButton}[2]{}[]{}

\Submit [\langle parameters\rangle] {\langle label\rangle}
393 \DeclareRobustCommand{\Submit}[2]{}[]{}

\Reset [\langle parameters\rangle] {\langle label\rangle}
394 \DeclareRobustCommand{\Reset}[2]{}[]{}

\Gauge [\langle parameters\rangle] {\langle label\rangle}
395 \DeclareRobustCommand{\Gauge}[2]{}[]{}

\LayoutTextField {\langle label\rangle} {\langle field\rangle}
396 \newcommand*{\LayoutTextField}[2]{}

\LayoutChoiceField {\langle label\rangle} {\langle field\rangle}
397 \newcommand*{\LayoutChoiceField}[2]{}

\LayoutCheckField {\langle label\rangle} {\langle field\rangle}
398 \newcommand*{\LayoutCheckField}[2]{}

\MakeRadioField {\langle width\rangle} {\langle height\rangle}
```

```
399 \newcommand*{\MakeRadioField}[2]{}

\MakeCheckField {⟨width⟩} {⟨height⟩}

400 \newcommand*{\MakeCheckField}[2]{}

\MakeTextField {⟨width⟩} {⟨height⟩}

401 \newcommand*{\MakeTextField}[2]{}

\MakeChoiceField {⟨width⟩} {⟨height⟩}

402 \newcommand*{\MakeChoiceField}[2]{}

\MakeFieldButton {⟨text⟩}

403 \newcommand{\MakeFieldButton}[1]{}
```

File 220 **l warp-hyperxmp.sty**

§ 328      Package **hyperxmp**

Pkg hyperxmp hyperxmp is ignored.

**for HTML output:** Discard all options for `lwarp-hyperxmp`:

```
1 \LWR@ProvidesPackageDrop{hyperxmp}[2018/11/27]
2
3 \define@key{\LWR@hyperref}{pdfdate}{}{}{ }
4 \define@key{\LWR@hyperref}{pdfmetadate}{}{}{ }
5 \define@key{\LWR@hyperref}{pdfcopyright}{}{}{ }
6 \define@key{\LWR@hyperref}{pdftype}{}{}{ }
7 \define@key{\LWR@hyperref}{pdflicenseurl}{}{}{ }
8 \define@key{\LWR@hyperref}{pdfauthortitle}{}{}{ }
9 \define@key{\LWR@hyperref}{pdfcaptionwriter}{}{}{ }
10 \define@key{\LWR@hyperref}{pdfmetalang}{}{}{ }
11 \define@key{\LWR@hyperref}{pdfapart}{}{}{ }
12 \define@key{\LWR@hyperref}{pdfaconformance}{}{}{ }
13 \define@key{\LWR@hyperref}{pdfuapart}{}{}{ }
14 \define@key{\LWR@hyperref}{pdfxstandard}{}{}{ }
15 \define@key{\LWR@hyperref}{pdfsource}{}{}{ }
16 \define@key{\LWR@hyperref}{pdfdocumentid}{}{}{ }
17 \define@key{\LWR@hyperref}{pdfinstanceid}{}{}{ }
18 \define@key{\LWR@hyperref}{pdfversionid}{}{}{ }
19 \define@key{\LWR@hyperref}{pdfrendition}{}{}{ }
20 \define@key{\LWR@hyperref}{pdfpublication}{}{}{ }
21 \define@key{\LWR@hyperref}{pdfpubtype}{}{}{ }
22 \define@key{\LWR@hyperref}{pdfbytes}{}{}{ }
23 \define@key{\LWR@hyperref}{pdfnumpages}{}{}{ }
24 \define@key{\LWR@hyperref}{pdfissn}{}{}{ }
25 \define@key{\LWR@hyperref}{pdfeissn}{}{}{ }
26 \define@key{\LWR@hyperref}{pdfisbn}{}{}{ }
```

```
27 \define@key{LWR@hyperref}{pdfbookedition}{}{}{}
```

```
28 \define@key{LWR@hyperref}{pdfpublisher}{}{}{}
```

```
29 \define@key{LWR@hyperref}{pdfvolumenumber}{}{}{}
```

```
30 \define@key{LWR@hyperref}{pdfissuenumber}{}{}{}
```

```
31 \define@key{LWR@hyperref}{pdfpagerange}{}{}{}
```

```
32 \define@key{LWR@hyperref}{pdfdoi}{}{}{}
```

```
33 \define@key{LWR@hyperref}{pdfurl}{}{}{}
```

```
34 \define@key{LWR@hyperref}{pdfidentifier}{}{}{}
```

```
35 \define@key{LWR@hyperref}{pdfsubtitle}{}{}{}
```

```
36 \define@key{LWR@hyperref}{pdfpubstatus}{}{}{}
```

```
37 \define@key{LWR@hyperref}{pdfcontactaddress}{}{}{}
```

```
38 \define@key{LWR@hyperref}{pdfcontactcity}{}{}{}
```

```
39 \define@key{LWR@hyperref}{pdfcontactregion}{}{}{}
```

```
40 \define@key{LWR@hyperref}{pdfcontactpostcode}{}{}{}
```

```
41 \define@key{LWR@hyperref}{pdfcontactcountry}{}{}{}
```

```
42 \define@key{LWR@hyperref}{pdfcontactphone}{}{}{}
```

```
43 \define@key{LWR@hyperref}{pdfcontactemail}{}{}{}
```

```
44 \define@key{LWR@hyperref}{pdfcontacturl}{}{}{}
```

```
45 \define@key{LWR@hyperref}{keeppdfinfo}{}{}{}
```

```
46 \define@key{LWR@hyperref}{pdfauthor}{}{}{}
```

```
47 \define@key{LWR@hyperref}{pdfkeywords}{}{}{}
```

File 221 **l warp-hyphenat.sty**

§ 329 Package **hyphenat**

Pkg hyphenat hyphenat is emulated during HTML output, while the print-mode version is used inside a `teximage`.

```
for HTML output: 1 \LWR@ProvidesPackagePass{hyphenat}[2009/09/02]

2 \LetLtxMacro{\LWRHYNAT}{\origtextnhtt\textnhtt}
3 \LetLtxMacro{\LWRHYNAT}{\orignhttfamily\nhttfamily}
4 \LetLtxMacro{\LWRHYNAT}{\orignohyphens\nohyphens}
5 \LetLtxMacro{\LWRHYNAT}{\origbshyp\bshyp}
6 \LetLtxMacro{\LWRHYNAT}{\origfshyp\fshyp}
7 \LetLtxMacro{\LWRHYNAT}{\origdothyp\dothyp}
8 \LetLtxMacro{\LWRHYNAT}{\origcolonhyp\colonhyp}
9 \LetLtxMacro{\LWRHYNAT}{\orighyp\hyp}

10
11 \LetLtxMacro{\textnhtt}{\texttt}
12 \LetLtxMacro{\nhttfamily}{\ttfamily}
13
14 \renewcommand{\nohyphens}[1]{#1}
15 \renewrobustcmd{\bshyp}{%
16 \ifmmode\backslash\else\textbackslash\fi%
17 }
18 \renewrobustcmd{\fshyp}{/}
19 \renewrobustcmd{\dothyp}{.}
20 \renewrobustcmd{\colonhyp}{:}
21 \renewrobustcmd{\hyp}{-}
22
23 \appto{\LWR@restoreorigformatting}{%
```

---

```

24 \LetLtxMacro{\textnhtt}{\LWRHYNAT@origtextnhtt}
25 \LetLtxMacro{\nhttfamily}{\LWRHYNAT@orignhttfamily}
26 \LetLtxMacro{\nohyphens}{\LWRHYNAT@orignohyphens}
27 \LetLtxMacro{\bshyp}{\LWRHYNAT@origbshyp}
28 \LetLtxMacro{\fshyp}{\LWRHYNAT@origfshyp}
29 \LetLtxMacro{\dothyp}{\LWRHYNAT@origdothyp}
30 \LetLtxMacro{\colonhyp}{\LWRHYNAT@origcolonhyp}
31 \LetLtxMacro{\hyp}{\LWRHYNAT@orighyp}
32 }

```

---

File 222 **l warp-idxlayout.sty**

§ 330 Package **idxlayout**

*(Emulates or patches code by THOMAS TITZ.)*

Pkg **idxlayout** **idxlayout** is emulated.

**for HTML output:** Discard all options for **l warp-idxlayout**:

```

1 \LWR@ProvidesPackageDrop{idxlayout}[2012/03/30]
2 \newcommand{\LWR@indexprenote}{}
\AtBeginDocument to help with package load order.

3 \AtBeginDocument{
4 \preto{\printindex}{}
5
6 \LWR@maybe@orignewpage
7 \LWR@startpars
8
9 \LWR@indexprenote
10
11 }
12 }

13 \newcommand{\setindexprenote}[1]{\renewcommand{\LWR@indexprenote}{#1}}
14 \newcommand*{\noindexprenote}{\renewcommand{\LWR@indexprenote}{}}
15
16 \newcommand{\idxlayout}[1]{}
17 \newcommand*{\indexfont}{}
18 \newcommand*{\indexjustific}{}
19 \newcommand*{\indexsubsdelim}{}
20 \newcommand*{\indexstheadcase}{}

```

---

File 223 **l warp-ifoddpage.sty**

§ 331 Package **ifoddpage**

*(Emulates or patches code by MARTIN SCHARRER.)*

Pkg ifoddpage ifoddpage is emulated.

for HTML output Discard all options for lwarp-ifoddpage:

```

1 \LWR@ProvidesPackageDrop{ifoddpage}[2016/04/23]

2 \newif\ifoddpage
3
4 \newif\ifoddpagelone
5
6 \DeclareRobustCommand{\checkoddpage}{\oddpage=true\oddpageoroneside=false}
7
8 \def\oddpage@page{1}
9
10 \def@ifoddpage{%
11 \expandafter\@firstoftwo
12 }
13
14 \def@ifoddpagelone{%
15 \expandafter\@firstoftwo
16 }
```

#### File 224 **lwarp-imakeidx.sty**

### § 332 Package **imakeidx**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg imakeidx imakeidx is patched for use by lwarp.

letter headings When using *makeindex*, to match the print and HTML output's display of index letter headings, specify the *lwarp.ist* style:

```
\makeindex[options={-s lwarp.ist}]
```

(For HTML the *lwarp.ist* style is used automatically, which displays letter headings. When using *xindy* the default style also displays letter headings.)

index setup See section 8.6.18 for how to setup *lwarpmk* to process the indexes with imakeidx, both with and without shell escape.

for HTML output 1 \LWR@ProvidesPackagePass{imakeidx}[2016/10/15]

Use the new HTML suffix:

```

2 \catcode`_=12%
3 \define@key{imki}{name}{\def\imki@name{\#1_html}}
4 \catcode`_=8%
```

\printindex The HTML version of \printindex:

```

5 \catcode`_=12%
6
```

```
7 \renewcommand*\printindex[1][\imki@jobname]{%
8 \LWR@maybe@orignewpage%
9 \LWR@startpars%
10 \ifstrequal{\#1}{\imki@jobname}{%
11 \@ifundefined{\#1@idxfile}{%
12 \imki@error{\#1}%
13 }{%
14 \imki@putindex{\#1}%
15 }%
16 }{%
17 \@ifundefined{\#1_html@idxfile}{\imki@error{\#1_html}}{\imki@putindex{\#1_html}}%
18 }%
19 }
20
21 \catcode`_=8%
```

\@index The HTML version of \@index:

```
22 \catcode`_=12%
23
24 \def \@index[#1]{%
25 \ifstrequal{\#1}{\imki@jobname}{%
26 {%
27 \@ifundefined{\#1@idxfile}{%
28 {%
29 \PackageWarning{lwarp-imakeidx}{Undefined index file '#1'}%
30 \begingroup
31 \@sanitize
32 \imki@nowrindex%
33 }%
34 }{%
35 \edef\@idxfile{\#1}%
36 \begingroup
37 \@sanitize
38 \wrindex{\@idxfile}%
39 }%
40 }%
41 }{%
42 \@ifundefined{\#1_html@idxfile}{%
43 {%
44 \PackageWarning{lwarp-imakeidx}{Undefined index file '#1_html'}%
45 \begingroup
46 \@sanitize
47 \imki@nowrindex%
48 }%
49 }{%
50 \edef\@idxfile{\#1_html}%
51 \begingroup
52 \@sanitize
53 \wrindex{\@idxfile}%
54 }%
55 }%
56 }
57
58 \catcode`_=8%
```

```

\item
\subitem
\subsubitem HTML versions of \item, etc.:
59 \appto{\theindex}{%
60 \let{\item}{\LWR@indexitem}%
61 \let{\subitem}{\LWR@indexsubitem}%
62 \let{\subsubitem}{\LWR@indexsubsubitem}%
63 }

```

```

\imki@wrindexentrysplit {\langle file\rangle} {\langle entry\rangle} {\langle page\rangle}
\imki@wrindexentryunique {\langle file\rangle} {\langle entry\rangle} {\langle page\rangle}

```

While writing index entries, adds an `HTML` label, and writes the label's index instead of the page number:

```

64 \renewcommand{\imki@wrindexentrysplit}[3]{%
65 \addtocounter{\LWR@autoindex}{1}%
66 \label{\LWRindex-\arabic{\LWR@autoindex}}%
67 \expandafter\protected@write\csname#1\idxfile\endcsname{%
68 {\string\indexentry{\#2}{\arabic{\LWR@autoindex}}}}%
69 }
70
71 \renewcommand{\imki@wrindexentryunique}[3]{%
72 \addtocounter{\LWR@autoindex}{1}%
73 \label{\LWRindex-\arabic{\LWR@autoindex}}%
74 \protected@write{\indexfile}{%
75 {\string\indexentry{\#1}{\#2}{\arabic{\LWR@autoindex}}}}%
76 }
77
78 \def{\imki@wrindexsplit#1#2}{%
79 \imki@wrindexentrysplit{\#1}{\#2}{\thepage}%
80 \endgroup\imki@showidxentry{\#1}{\#2}%
81 \esphack%
82 }
83
84 \def{\imki@wrindexunique#1#2}{%
85 \imki@wrindexentryunique{\#1}{\#2}{\thepage}%
86 \endgroup\imki@showidxentry{\#1}{\#2}%
87 \esphack%
88 }
89

```

```
\LWR@imki@setxdydefopts
```

Sets the `xindy` `HTML` options, ignoring the user's settings.

```

90 \newcommand*{\LWR@imki@setxdydefopts}{%
91 \edef{\imki@options}{\space}%
92 -M \space \LWR@xindyStyle\space\%
93 -L \space \LWR@xindyLanguage\space\%
94 -C \space \LWR@xindyCodepage\space\%
95 }%
96 }

```

---

```
\LWR@imki@setdefopts {⟨user options⟩}
```

Sets the HTML options, added to the user's settings, depending on whether *makeindex* or *xindy* are used.

For *makeindex*, the user's choice is ignored, and only the l warp version is used. (Only one style at a time is possible.)

For *xindy*, multiple modules may be specified, and the l warp version is appended.

```
97 \newcommand*{\LWR@imki@setdefopts}[1]{%
98 \ifblank{#1}{%
99 \edef\imki@options{\space -s \space \LWR@makeindexStyle \space}%
100 \ifdefstring{\imki@progdefault}{xindy}{\LWR@imki@setxdydefopts}{}%
101 \ifdefstring{\imki@progdefault}{texindy}{\LWR@imki@setxdydefopts}{}%
102 \ifdefstring{\imki@progdefault}{truexindy}{\LWR@imki@setxdydefopts}{}%
103 }{%
104 \edef\imki@options{\space #1 \space}%
105 }%
106 }
```

\imki@makeindex Use the new HTML options:

```
107 \xpatchcmd{\imki@makeindex}%
108 {\let\imki@options\space}%
109 {\LWR@imki@setdefopts{} }%
110 {}%
111 {\LWR@patcherror{imakeidx}{makeindex}}
```

Use the new HTML options.

```
112 \define@key{imki}{options}{\LWR@imki@setdefopts{#1}}
```

\imki@resetdefaults Use the new HTML options:

```
113 \xpatchcmd{\imki@resetdefaults}%
114 {\def\imki@options{ }}%
115 {\LWR@imki@setdefopts{} }%
116 {}%
117 {\LWR@patcherror{imakeidx}{resetdefaults}}
```

theindex was already defined \AtBeginDocument by the l warp core, so it must be redefined here similarly, but patched for imakeidx:

Env theindex

```
118 \AtBeginDocument{%
119 \renewenvironment*{theindex}{%
120 \imki@maybeaddtotoc
121 \imki@indexlevel{\indexname}
122 \let\item\LWR@indexitem%
123 \let\subitem\LWR@indexsubitem%
124 \let\subsubitem\LWR@indexsubsubitem%
125 }{%
126 }% AtBeginDocument
```

Update to the new defaults:

```
127 \imki@resetdefaults
```

Update to the new patches:

\AtBeginDocument is because \@wrindex is previously defined as \AtBeginDocument in the l warp core.

```
128 \ifimki@splitindex
129 \let\imki@startidx\imki@startidxunique
130 \AtBeginDocument{\let\@wrindex\imki@wrindexunique}
131 \let\imki@putindex\imki@putindexunique
132 \let\imki@wrindexentry\imki@wrindexentryunique
133 \let\imki@startidxsplit@\undefined
134 \let\imki@wrindexsplit@\undefined
135 \let\imki@putindexsplit@\undefined
136 \else
137 \let\imki@startidx\imki@startidxsplit
138 \AtBeginDocument{\let\@wrindex\imki@wrindexsplit}
139 \let\imki@putindex\imki@putindexsplit
140 \let\imki@wrindexentry\imki@wrindexentrysplit
141 \let\imki@startidxunique@\undefined
142 \let\imki@wrindexunique@\undefined
143 \let\imki@putindexunique@\undefined
144 \fi
```

#### File 225 l warp-impnattypo.sty

#### § 333 Package **impnattypo**

Pkg impnattypo impnattypo is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{impnattypo}[2019/03/04]

#### File 226 l warp-index.sty

#### § 334 Package **index**

(Emulates or patches code by DAVID M. JONES.)

Pkg index index is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{index}[2004/01/20]

Use \theLWR@autoindex instead of \thepage. \@tempswattrue is used to force an immediate write to the index file instead of waiting until the end of the page.

```
2 \xpatchcmd{\newindex}
3 {\x@newindex[\thepage]}
```

```

4 {%
5 \@tempswatrue%
6 \x@newindex[theLWR@autoindex]%
7 }
8 {}
9 {\LWR@patcherror{index}{newindex}}
10
11 \xpatchcmd{\renewindex}
12 {\x@renewindex[thepage]}
13 {%
14 \@tempswatrue%
15 \x@renewindex[theLWR@autoindex]%
16 }
17 {}
18 {\LWR@patcherror{index}{renewindex}}

```

Patched to set a new autoindex:

```

19 \xpatchcmd{@wrindex}
20 {\begingroup}
21 {%
22 \addtocounter{LWR@autoindex}{1}%
23 \label{LWRindex-\arabic{LWR@autoindex}}% l warp
24 \begingroup%
25 }
26 {}
27 {\LWR@patcherror{index}{@wrindex}}

```

\AtBeginDocument l warp core \lets \@wrindex to \LWR@wrindex. Since the index package has been loaded, \let to its version instead:

```

28 \let\LWR@index@wrindex@\wrindex
29
30 \AtBeginDocument{
31 \let@\wrindex\LWR@index@wrindex
32 }

```

Modified to add \index@prologue:

```

33 \AtBeginDocument{
34 \renewenvironment*{theindex}{%
35 \LWR@indexsection{\indexname}%
36 \ifx\index@prologue\empty\else
37 \index@prologue
38 \bigskip
39 \fi
40 \let\item\LWR@indexitem%
41 \let\subitem\LWR@indexsubitem%
42 \let\subsubitem\LWR@indexsubsubitem%
43 }{}%
44 }% AtBeginDocument

```

Disabled:

```
45 \def@showidx#1{}
```

---

```

46 \let\@texttop\relax
47 \renewcommand*\{\raggedbottom}{}%
48 \renewcommand*\{\flushbottom}{}%
49 \renewcommand*\{\markboth}[2]{}%
50 \renewcommand*\{\markright}[1]{}%

```

---

File 227 **l warp-inputtrc.sty**

§ 335 Package **inputtrc**

*(Emulates or patches code by UWE LÜCK.)*

Pkg **inputtrc** **inputtrc** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{inputtrc}[2012/10/10]

Patched to remove extraneous spaces, which sometimes showed up in logos inside a `\latextimage`.

```

2 \renewcommand*\{\IT@prim@input}[1]{%
3 \typeout{\IT@indent\IT@currfile INPUTTING #1}%
4 %% ... TODO: option to write to ‘.log’ only.
5 \xdef\IT@filestack{\{\IT@currfile}\IT@filestack}%
6 \xdef\IT@currfile{\#1}%
7 \expandafter \gdef\expandafter \IT@indent\expandafter{%
8 \IT@indent \IT@indent@unit}%
9 l warp
10 \@@input#1%
11 l warp
12 \expandafter\IT@pop@indent\IT@indent \@nil% l warp
13 \expandafter\IT@pop@file \IT@filestack\@nil% l warp
14 \IT@maybe@returnmessage% v0.2
15 l warp
16 }

```

---

File 228 **l warp-intopdf.sty**

§ 336 Package **intopdf**

Pkg **intopdf** **intopdf** is emulated.

The filespec, MIME type, and description are ignored for now.

for HTML output: 1 \LWR@ProvidesPackageDrop{intopdf}[2019/05/28]

```

2 \NewDocumentCommand{\attachandlink}{o m o m m}{%
3 \LWR@href{\#2}{\#5}%
4 }

```

---

File 229 **l warp-isomath.sty**

§ 337      Package **isomath**

*(Emulates or patches code by GÜNTER MILDE.)*

Pkg **isomath** **isomath** is used as-is for SVG math, and emulated for MATHJAX.

⚠ **MATHJAX sans** MATHJAX does not provide a sans math font, so sans is typeset as roman.

**for HTML output:** 1 \LWR@ProvidesPackagePass{isomath}[2012/09/04]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\mathbf{\boldsymbol}}
4 \CustomizeMathJax{\let\mathsf{\mathbf{not\ sans}}}
5 \CustomizeMathJax{\let\mathsf{\mathbf{not\ sans}}}
6 \CustomizeMathJax{\let\mathit{\mathbf{not\ sans}}}
7 \CustomizeMathJax{\let\mathit{\mathbf{not\ sans}}}
8 \CustomizeMathJax{\let\tensor{\mathbf{not\ sans}}}
9 \CustomizeMathJax{\let\matrix{\mathbf{not\ sans}}}
10 \CustomizeMathJax{\let\boldsymbol{\mathbf{not\ sans}}}
11 \CustomizeMathJax{\let\sans{\mathbf{not\ sans}}}
12 \end{warpMathJax}
```

File 230 **l warp-isotope.sty**

§ 338      Package **isotope**

*(Emulates or patches code by HEIKO BAUKE.)*

Pkg **isotope** **isotope** is patched for use by **l warp** with SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{isotope}[2011/08/26]

```

2 \newcommand{\LWR@HTML@isotope@two}[2][]{%
3 \renewcommand{\isotope@atomicnumber}{#1}%
4 \edef\LWR@isotope@alttag{%
5 \textbackslash%
6 \textbackslash{}isotope%
7 [\isotope@nuclonumber]\%
8 [\isotope@atomicnumber]\%
9 \{#2\}%
10 \textbackslash{}%
11 }%
12 \ifbool{mathjax}{%
13 {\LWR@isotope@alttag}%
14 {%
15 \m@th%
16 \LWR@subsingle dollar*%
17 {%
18 \LWR@isotope@alttag%
19 }%
20 {isotope}\% add'l hashing%
21 {%
22 \settowidth@\tempdimb\%
```

```

23 \ensuremath{\scriptstyle\isotope@nucleonnumber}%
24 }%
25 \settowidth{@tempdimc}%
26 \ensuremath{\scriptstyle\isotope@atomicnumber}%
27 }%
28 \ifdim@tempdimb<\@tempdimc\@tempdimb=\@tempdimc\fi%
29 \ensuremath{%
30 {}%
31 ^{\makebox[\@tempdimb][r]{%
32 \ensuremath{\scriptstyle\isotope@nucleonnumber}%
33 }%
34 }%
35 }%
36 _{\makebox[\@tempdimb][r]{%
37 \ensuremath{\scriptstyle\isotope@atomicnumber}%
38 }%
39 }%
40 }%
41 \isotopesstyle{#2}%
42 }%
43 }%
44 }% SVG
45 \endgroup%
46 }%
47 \LWR@formatted{\isotope@two}
48
49 \begin{warpMathJax}
50 \CustomizeMathJax{%
51 \newcommand{\LWRisotopetwo}[2][]{%
52 {%
53 \vphantom{\mathrm{#2}}%
54 {}^{\LWRisotopenucleonnumber}_{\mathrm{#1}}%
55 \mathrm{#2}%
56 }%
57 }%
58 }
59
60 \CustomizeMathJax{%
61 \newcommand{\isotope}[1][]{%
62 \def\LWRisotopenucleonnumber{\#1}%
63 \LWRisotopetwo%
64 }%
65 }
66 \end{warpMathJax}

```

---

File 231 **lwarf-jurabib.sty**

§ 339      Package **jurabib**

(Emulates or patches code by JENS BERGER.)

Pkg jurabib jurabib is patched for use by lwarf.

for HTML output: 1 \LWR@ProvidesPackagePass{jurabib}[2004/01/25]

```
2 \renewrobustcmd{\jblangle}{\textless}
3
4 \renewrobustcmd{\jbrangle}{\textgreater}
5
6 \renewcommand*\jb@biblaw@item{%
7 \hspace{0.5em}%
8 % \triangleright%
9 \HTMLunicode{25B7} lwarp
10 \hspace{0.5em}%
11 }
12
13 \renewrobustcmd{\jbarchsig}[2]{%
14 \ifjbweareinbib
15 \settowidth{\jb@subarchitemwidth}{\jbsamesubarchindent+\#1}%
16 \setlength{\jb@subarchentrywidth}{\textwidth-\jb@subarchitemwidth-4em}%
17 % \begin{tabular}{@{}p{\jb@subarchitemwidth}@{}j{\jb@subarchentrywidth}@{}}
18 #1\ifjb@dot\unskip\unskip\unskip.\fi
19 % &
20 \quad\quad\quad lwarp
21 \ifthenelse{\equal{#2}{}}{}{\jbarchnameformat{#2}}%
22 % \end{tabular}
23 \fi
24 }%
25
26
27 \xpatchcmd{\jb@do@post@item}
28 {\begin{tabular}{p{\jb@biblaw@item@width}j{\jb@biblaw@entry@width}}}
29 {}
30 {}
31 {\LWR@patcherror{jurabib}{jb@do@post@item 1}}
32
33 \xpatchcmd{\jb@do@post@item}
34 {\multicolumn{2}{p{\columnwidth}}{\jb@@name}}
35 {\jb@name}
36 {}
37 {\LWR@patcherror{jurabib}{jb@do@post@item 2}}
38
39 \xpatchcmd{\jb@do@post@item}
40 {\jb@biblaw@item & \jb@@fulltitle}
41 {\jb@biblaw@item \quad \jb@@fulltitle}
42 {}
43 {\LWR@patcherror{jurabib}{jb@do@post@item 3}}
44
45 \xpatchcmd{\jb@do@post@item}
46 {\end{tabular}}
47 {}
48 {}
49 {\LWR@patcherror{jurabib}{jb@do@post@item 4}}
50
51 \xpatchcmd{\jb@do@post@item}
52 {\begin{minipage}[t]{\bibnumberwidth}}
53 {}
54 {}
55 {\LWR@patcherror{jurabib}{jb@do@post@item 5}}
56
```

---

```

57 \xpatchcmd{\jb@do@post@item}
58 {\end{minipage}}
59 {\quad}
60 {}
61 {\LWR@patcherror{jurabib}{jb@do@post@item 6}}

```

---

File 232 **l warp-karnaugh-map.sty**

§ 340 Package **karnaugh-map**

*(Emulates or patches code by MATTIAS JACOBSSON.)*

Pkg karnaugh-map karnaugh-map is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{karnaugh-map}[2017/02/20]

This patch is needed only because l warp changes the definition of \&, and the original uses \ifnum to compare 0 with \&. It is hard to patch this environment, so the entire thing is redefined here, with the l warp modifications identified in comments.

```

2 \RenewDocumentEnvironment{karnaugh-map}{s 0{4} 0{4} 0{1} 0{X_1X_0} 0{X_3X_2} 0{X_5X_4}} {%
3 \begingroup
4 % store map size {[START]
5 \renewcommand{\@karnaughmap@var@mapsizex@}{#2}%
6 \renewcommand{\@karnaughmap@var@mapsizey@}{#3}%
7 \renewcommand{\@karnaughmap@var@mapsizel@}{#4}%
8 % [END]}
9 % determinate if markings should be color or black and white
10 \IfBooleanTF{#1}{%
11 % should be black and white
12 \renewcommand{\@karnaughmap@var@bw@}{1}%
13 }{%
14 % should be color
15 \renewcommand{\@karnaughmap@var@bw@}{0}%
16 }%
17 %
18 % find matching matrix template and alignment parameters {[START]
19 \newcommand{\@karnaughmap@local@matrixtemplate@}{0}'0' is considered as missing matrix template
20 \newcommand{\@karnaughmap@local@maprealignmentx@}{0}%
21 \newcommand{\@karnaughmap@local@maprealignmenty@}{0}%
22 \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizel@=\@karnaughmap@var@mapsizel@=221
23 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
24 \& 0 \& 1 \& \\
25 0 \& |(00000)| \& |(00001)| \& \\
26 1 \& |(00010)| \& |(00011)| \& \\
27 \& \& \& \\
28 }%
29 \fi
30 \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizel@=\@karnaughmap@var@mapsizel@=241
31 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
32 \& 0 \& 1 \& \\
33 00 \& |(00000)| \& |(00001)| \& \\
34 01 \& |(00010)| \& |(00011)| \& \\

```

```

35 11 \& |(000110)| \& |(000111)| \& \\
36 10 \& |(000100)| \& |(000101)| \& \\
37 \& \& \& \\
38 }% \\
39 \fi
40 \ifnum\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizex@=421
41 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
42 \& 00 \& 01 \& 11 \& 10 \&
43 0 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)|
44 1 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)|
45 \& \& \& \&
46 }% \\
47 \fi
48 \ifnum\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizex@=441
49 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
50 \& 00 \& 01 \& 11 \& 10 \&
51 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)|
52 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)|
53 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(001110)|
54 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(001010)|
55 \& \& \& \&
56 }% \\
57 \fi
58 \ifnum\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizex@=442
59 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
60 \& 00 \& 01 \& 11 \& 10 \&
61 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)|
62 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)|
63 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(001110)|
64 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(001010)|
65 \& \& \& \&
66 }% \\
67 \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
68 \fi
69 \ifnum\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizex@=444
70 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
71 \& 00 \& 01 \& 11 \& 10 \&
72 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)|
73 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)|
74 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(001110)|
75 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(001010)|
76 \& \& \& \&
77 00 \& |(100000)| \& |(100001)| \& |(100011)| \& |(100010)|
78 01 \& |(100100)| \& |(100101)| \& |(100111)| \& |(100110)|
79 11 \& |(101100)| \& |(101101)| \& |(101111)| \& |(101110)|
80 10 \& |(101000)| \& |(101001)| \& |(101011)| \& |(101010)|
81 \& \& \& \&
82 }% \\
83 \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
84 \renewcommand{\@karnaughmap@local@maprealignmenty@}{-2.5}%
85 \fi
86 % [END]
87 % test if a matrix template is found or not(aka "\@karnaughmap@local@matrixtemplate@" equals to '0')
88 \ifdefstring{\@karnaughmap@local@matrixtemplate@}{0}{% lwarp
89 % \ifnum0=\@karnaughmap@local@matrixtemplate@% original

```

```

90 % print error if no template could be found
91 \PackageError{lwarp-karnaugh-map}{%
92 Can not find a template fitting your specification
93 (@karnaughmap@var@mapsizex@\space x \@karnaughmap@var@mapsizey@\space x
94 \@karnaughmap@var@mapsizex@)%}
95 }{%
96 Existing templates have the following dimensions:
97 2x2x1, 2x4x1, 4x2x1, 4x4x1, 4x4x2, and 4x4x4.
98 }%
99 % \fi original
100 }{\relax}\begin{tikzpicture}
101 % grid
102 % for all dimensions
103 \draw[color=black, ultra thin] (0,0) grid (\@karnaughmap@var@mapsizex@,\@karnaughmap@var@mapsizex@);
104 % when there are 2 sub maps
105 \ifnum \@karnaughmap@var@mapsizex@=2
106 \draw[color=black, ultra thin] (5,0) grid (9,4);
107 \fi
108 % when there are 4 sub maps
109 \ifnum \@karnaughmap@var@mapsizex@=4
110 \draw[color=black, ultra thin] (5,0) grid (9,4);
111 \draw[color=black, ultra thin] (0,-5) grid (4,-1);
112 \draw[color=black, ultra thin] (5,-5) grid (9,-1);
113 \fi
114 % labels
115 % for all dimensions
116 \node[above] at (\@karnaughmap@var@mapsizex@*0.5,\@karnaughmap@var@mapsizex@+0.9) {\small{\#5}};
117 \node[left] at (-0.9,\@karnaughmap@var@mapsizex@*0.5) {\small{\#6}};
118 % when there are 2 sub maps
119 \ifnum \@karnaughmap@var@mapsizex@=2
120 \node[above] at (7,4.9) {\small{\#5}};
121 % extra sub maps labels
122 \node[below] at (2,-0.1) {\small{\#7$=0$}};
123 \node[below] at (7,-0.1) {\small{\#7$=1$}};
124 \fi
125 % when there are 4 sub maps
126 \ifnum \@karnaughmap@var@mapsizex@=4
127 \node[above] at (7,4.9) {\small{\#5}};
128 \node[left] at (-0.9,-3) {\small{\#6}};
129 % extra sub maps labels
130 \node[below] at (2,-0.1) {\small{\#7$=00$}};
131 \node[below] at (7,-0.1) {\small{\#7$=01$}};
132 \node[below] at (2,-5.1) {\small{\#7$=10$}};
133 \node[below] at (7,-5.1) {\small{\#7$=11$}};
134 \fi
135 % data
136 \matrix[
137 matrix of nodes,
138 ampersand replacement=\&,
139 column sep={1cm,between origins},
140 row sep={1cm,between origins},
141] at (\@karnaughmap@var@mapsizex@*0.5+\@karnaughmap@local@maprealignmentx@,\@karnaughmap@var@mapsizex@*0.5+\@karnaughmap@local@matrixtemplate@%)%
142 \@karnaughmap@local@matrixtemplate@%
143 ;
```

---

```

145 }{
146 \end{tikzpicture}
147 \endgroup
148 }
```

---

File 233 **l warp-keyfloat.sty**

§ 341 Package **keyfloat**

*(Emulates or patches code by BRIAN DUNN.)*

Pkg **keyfloat** **keyfloat** is supported with a considerable amount of hacking. (It's a mashup of **l warp**, **keyfloat**, and **tocdata**.)

⚠ **keywrap** If placing a `\keyfig[H]` inside a `keywrap`, use an absolute width for `\keyfig`, instead of `lw`-proportional widths. (The `[H]` option forces the use of a `minipage`, which internally adjusts for a virtual 6-inch wide `minipage`, which then corrupts the `lw` option.)

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{keyfloat}[2019/09/23]
2
3 \@ifpackagelater{keyfloat}{2019/09/23}{\relax}{
4 \PackageError{l warp-keyfloat}
5 {%
6 The keyfloat package is out of date.\MessageBreak
7 Update to keyfloat v2.01 2019/09/23 or later%
8 }
9 {%
10 Please update the keyfloat package. It's worth it!%
11 }
12 }
```

After **keyfloat** has loaded:

```

13 \AtBeginDocument{

14 \providecommand*\KFLT@LWR@hook@boxouter{}%
15 \renewcommand*\KFLT@LWR@hook@boxouter{%
16 \ifbool{KFLT@keywrap}{%
17 }{%
18 \ifnumequal{\value{KFLT@keyfloatdepth}}{0}{%
19 \setlength{\ linewidth}{6in}%
20 \setlength{\textwidth}{6in}%
21 \setlength{\textheight}{9in}%
22 }{%
23 }%
24 \normalcolor%
25 }%
26 \LetLtxMacro\KFLT@LWR@hook@keysubfloats\KFLT@LWR@hook@boxouter
27
28 \let\KFLT@LWR@hook@keyfloatsminipage\relax
29 \let\endKFLT@LWR@hook@keyfloatsminipage\relax
30 \newenvironment*{KFLT@LWR@hook@keyfloatsminipage}[1]{}{}
```

```

31 \LetLtxMacro{\KFLT@LWR@hook}{\keyfloats\KFLT@LWR@hook@boxouter}
32
33 \renewcommand*{\KFLT@maybeendfloatrow}{%
34 \ifnumless{\value{\KFLT@thiscol}}{\value{\KFLT@numcols}}{%
35 {}% thiscol < numcols
36 {}% >=
37 \defcounter{\KFLT@thiscol}{0}%
38 }%
39 }%
40
41 \renewcommand{\KFLT@trackrows}{%
42 }%

```

If are nested inside a keyfloats or a subfloat:

```

43 \ifboolexpr{%
44 test {\ifnumgreater{\value{\KFLT@keyfloatdepth}}{0}} or%
45 \bool{\KFLT@inkeysuffixes}%
46 }%
47 {}% nested

```

Tracks row start and end:

```
48 \KFLT@maybestartfloatrow%
```

Possibly fill space between columns:

```

49 \ifnumgreater{\value{\KFLT@thiscol}}{1}{%
50 {}%
51 \hfill%
52 }%
53 {}%
54 }% nested
55 {}% not nested
56 }

```

```

57 \RenewDocumentCommand{\KFLT@onefigureimage}{m}
58 {%
59 \LWR@traceinfo{\KFLT@onefigureimage}%
60 \% \begin{lrbox}{\KFLT@envbox}%
61 \ifthenelse{\NOT\equal{\KFLT@lw}{}}{%
62 {}%
63 \KFLT@frame{\includegraphics{%
64 [scale=\KFLT@s, width=\KFLT@imagewidth]{#1}}%
65 }%
66 {}% not linewidth
67 \ifthenelse{\dimtest{\KFLT@w}{>}0pt}{%
68 {}% width is given
69 \ifthenelse{\dimtest{\KFLT@h}{>}0pt}{%
70 {}% w and h
71 \KFLT@frame{\includegraphics{%
72 [scale=\KFLT@s,%
73 width=\KFLT@imagewidth, height=\KFLT@h]{#1}}%
74 }% w and h
75 {}% only w

```

```
76 \KFLT@frame{\includegraphics%
77 [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
78 }% only w
79 }% width is given
80 {%- width is not given
81 \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}{%
82 {%
83 \KFLT@frame{\includegraphics%
84 [scale=\KFLT@s,height=\KFLT@h]{#1}}%
85 }%
86 {%
87 \KFLT@frame{\includegraphics%
88 [scale=\KFLT@s]{#1}}%
89 }%
90 }% width is not given
91 }% not linewidth
92 % \end{lrbox}%
93 % \unskip%
94 % \KFLT@findenvboxwidth%
95 % \begin{turn}{\KFLT@r}%
96 % \KFLT@frame{\usebox{\KFLT@envbox}}%
97 % \unskip%
98 % \end{turn}%
99 \LWR@traceinfo{KFLT@onefigureimage: done}%
100 }

101 \RenewDocumentEnvironment{KFLT@boxinner}{}%
102 {%
103 \LWR@traceinfo{KFLT@boxinner}%
104 \LWR@stoppars%
105 \minipage{fullwidth}%
106 \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
107 \fminipage{\KFLT@imagewidth}%
108 }{%
109 \minipage{\KFLT@imagewidth}%
110 }%
111 }
112 {%
113 \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
114 \endfminipage%
115 }{%
116 \endminipage%
117 }%
118 \LWR@startpars%
119 \LWR@traceinfo{KFLT@boxinner: done}%
120 }

121 \newcommand*{\LWR@KFLT@settextalign}[1]{%
122 \def\LWR@KFLT@textalign{justify}%
123 \ifcsstring{KFLT@#1textalign}{centering}%
124 {\def\LWR@KFLT@textalign{center}}%
125 {}%
126 \ifcsstring{KFLT@#1textalign}{raggedleft}%
127 {\def\LWR@KFLT@textalign{right}}%
128 {}%
```

```

129 \ifcsstring{KFLT@#1textalign}{\raggedright}%
130 {\def\LWR@KFLT@textalign{left}}%
131 {}%
132 }%
133
134 \renewcommand{\KFLT@addtext}[1]%
135 {%

```

Is there text to add?

```

136 \ifcseempty{KFLT@#1t}%
137 {}% no text
138 {% text to add
139 % local

```

Add some space, then create a <div> to contain the text:

```

140 \addvspace{\smallskipamount}%
141 \LWR@KFLT@settextalign{#1}%
142 \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%

```

Set the alignment and some text parameters:

```

143 % \csuse{KFLT@#1textalign}%
144 % \footnotesize%
145 % \setlength{\parskip}{1.5ex}%
146 % \setlength{\parindent}{0em}%

```

Typeset the actual text:

```
147 \csuse{KFLT@#1t}%
```

Close it all out with a little more space:

```

148 \end{BlockClass}%
149 % \par\addvspace{2ex}%
150 % }% local
151 }% text to add
152 }
153
154 \@ifpackageloaded{tocdata}%
155 {}
156 % tocdata not loaded
157
158 \newcommand*\LWR@KFLT@setnamealign[1]{%
159 \def\LWR@KFLT@textalign{justify}%
160 \ifstrequal{#1}{\centering}%
161 {\def\LWR@KFLT@textalign{center}}%
162 {}%
163 \ifstrequal{#1}{\raggedleft}%
164 {\def\LWR@KFLT@textalign{right}}%
165 {}%
166 \ifstrequal{#1}{\raggedright}%
167 {\def\LWR@KFLT@textalign{left}}%
168 {}%

```

```

169 }
170
171 \renewcommand*{\KFLT@addartisttext}[3]{%
172

```

Add space and create the name inside a <div>:

```

173 % \addvspace{\medskipamount}%
174 % \begin{minipage}{\linewidth}%
175 % \LWR@KFLT@setnamealign{#3}%
176 % \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%
177

```

Text alignment is #3, and depends on artist or author:

```

178 % #3%
179

```

#1 is empty or 'subgrp'

#2 is empty for artist, 'u' for author:

```

180 \footnotesize\textsc{%
181 \KFLT@optionalname{\csuse{\KFLT@#1a#2p}}%
182 \KFLT@optionalname{\csuse{\KFLT@#1a#2f}}%
183 \csuse{\KFLT@#1a#2l}%
184 \csuse{\KFLT@#1a#2s}%
185 }%
186 % \end{minipage}%
187 \end{BlockClass}%
188 % \par\addvspace{2ex}%
189 }
190
191 }% tocdata not loaded

```

```

Env KFLT@marginfloat [<offset>] {<type>}
192 \DeclareDocumentEnvironment{KFLT@marginfloat}{O{-1.2ex} m}
193 {%
194 \uselengthunit{PT}%
195 \LWR@BlockClassWP%
196 {float:right; width:2in; margin:10pt}%
197 {}%
198 (note)%
199 {marginblock}%
200 \renewcommand*{@capttype}{#2}%
201 \minipage{\LWR@usersmarginparwidth}%
202 \setlength{\marginparwidth}{.95\LWR@usersmarginparwidth}%
203 }
204 {%
205 \endminipage%
206 \endLWR@BlockClassWP%
207 }

208 \DeclareDocumentEnvironment{marginfigure}{o}

```

```

209 {\begin{KFLT@marginfloat}{figure}}
210 {\end{KFLT@marginfloat}}
211
212 \DeclareDocumentEnvironment{marginable}{o}
213 {\begin{KFLT@marginfloat}{table}}
214 {\end{KFLT@marginfloat}}
215
216 Env keywrap {<width>} {<keyfloat>}
217 \DeclareDocumentEnvironment{keywrap}{m +m}
218 {%
219 \begin{LWR@setvirtualpage}*
220 \setlength{\LWR@templengthone}{#1}%
221 \begin{LWR@BlockClassWP}%
222 {%
223 float:right; width:\LWR@printlength{\LWR@templengthone}; % extra space
224 margin:10pt%
225 }%
226 {}%
227 (note)%
228 {marginblock}%
229 \setlength{\linewidth}{.95\LWR@templengthone}%
230 \booltrue{KFLT@keywrap}%
231 #2%
232 \end{LWR@BlockClassWP}%
233 \end{LWR@setvirtualpage}%
234 }
235 {%
236 }
237
238 }% AtBeginDocument

```

File 234 **lwarf-keystroke.sty**§ 342 Package **keystroke***(Emulates or patches code by WERNER FINK.)*

Pkg keystroke keystroke is patched for use by lwarf.

for HTML output: 1 \LWR@ProvidesPackagePass{keystroke}[2010/04/23]

```

2 \newcommand*{\LWR@HTML@keystroke}[1]{%
3 \InlineClass{keystroke}{#1}%
4 }
5 \LWR@formatted{keystroke}%
6
7
8 \newcommand*{\LWR@HTML@Return}{\keystroke{\HTMLunicode{021A9}}}%
9 \LWR@formatted{Return}%
10
11 \newcommand*{\LWR@HTML@BSpace}{\keystroke{\HTMLunicode{027FB}}}%
12 \LWR@formatted{BSpace}

```

```

13
14 \newcommand*{\LWR@HTML@Tab}{\keystroke{|\HTMLUnicode{021C6}|}}
15 \LWR@formatted{Tab}
16
17 \newcommand*{\LWR@HTML@UArrow}{\keystroke{\HTMLUnicode{02191}}}
18 \LWR@formatted{UArrow}
19
20 \newcommand*{\LWR@HTML@DArrow}{\keystroke{\HTMLUnicode{02193}}}
21 \LWR@formatted{DArrow}
22
23 \newcommand*{\LWR@HTML@LArrow}{\keystroke{\HTMLUnicode{02190}}}
24 \LWR@formatted{LArrow}
25
26 \newcommand*{\LWR@HTML@RArrow}{\keystroke{\HTMLUnicode{02192}}}
27 \LWR@formatted{RArrow}
28
29 % Preserves the language options:
30 \LetLtxMacro{\LWR@HTML@Shift}{\Shift}
31 \xpatchcmd{\LWR@HTML@Shift}
32 {\Uparrow}
33 {\HTMLUnicode{21D1}}
34 {}
35 {}
36 \LWR@formatted{Shift}
37
38 \LetLtxMacro{\LWR@HTML@PgUp}{\PgUp}
39 \xpatchcmd{\LWR@HTML@PgUp}
40 {\uparrow}
41 {\HTMLUnicode{2191}}
42 {}
43 {}
44 \LWR@formatted{PgUp}
45
46 \LetLtxMacro{\LWR@HTML@PgDown}{\PgDown}
47 \xpatchcmd{\LWR@HTML@PgDown}
48 {\downarrow}
49 {\HTMLUnicode{2193}}
50 {}
51 {}
52 \LWR@formatted{PgDown}

```

File 235 **l warp-kpfonts.sty**

§ 343 Package **kpfonts**

(Emulates or patches code by CHRISTOPHE CAIGNAERT.)

Pkg kpfonts kpfonts is used as-is for SVG math, and is emulated for MATHJAX.

**⚠ limitations** The MATHJAX emulation honors the options uprightRoman for \D only, classicReIm, frenchstyle for Greek only, upright for Greek only, uprightgreeks, slantedGreeks, and mathcalscript.

The dedicated macros for Greek work correctly.

svg math should appear the same as the printed output.

```
for HTML output: 1 \LWR@ProvidesPackagePass{kpfonts}[2010/08/20]
2
3 \LWR@infoprocessingmathjax{kpfonts}
4
5 \LWR@origRequirePackage{lwarf-common-mathjax-newpxtxmath}
6
7 \LWR@origRequirePackage{lwarf-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12 \CustomizeMathJax{\let\LRorigmathscr\mathscr}
13 \CustomizeMathJax{\let\LRorigmathcal\mathcal}
14 \CustomizeMathJax{\let\mathscr\LRorigmathcal}
15 \CustomizeMathJax{\let\mathcal\LRorigmathscr}
16 \fi
17
18 \ifkp@upgrk % lowercase
19 \LWR@mathjax@addgreek@l@up{}{}
20 \LWR@mathjax@addgreek@l@it{other}{}{}
21 \else
22 \LWR@mathjax@addgreek@l@up{other}{}{}
23 \fi
24
25 \ifkp@slGrk
26 \LWR@mathjax@addgreek@u@it*{}{}
27 \LWR@mathjax@addgreek@u@up*{other}{}{}
28 \LWR@mathjax@addgreek@u@up*{var}{}{}
29 \else
30 \LWR@mathjax@addgreek@u@it*{other}{}{}
31 \LWR@mathjax@addgreek@u@it*{var}{}{}
32 \fi
33
34 \LWR@mathjax@addgreek@u@up*{}{up}
35 \LWR@mathjax@addgreek@l@up{}{up}
36
37 \LWR@mathjax@addgreek@u@it*{}{sl}
38 \LWR@mathjax@addgreek@l@it{}{sl}
39
40 \CustomizeMathJax{\newcommand{\partialisl}{\mathord{\text{\scriptsize \texttt{\textbackslash unicode{x1D715}}}}}}
41 \CustomizeMathJax{\let\partialup\uppartial}% not upright
42
43 \ifkp@oldReIm
44 \else
45 \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
46 \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
47 \fi
48
49 \ifkp@Dcommand
50 \ifkp@upRm%
51 \CustomizeMathJax{
52 \def\#1{\mathclose{,\mathrm{d}}\#1}
53 }
54 \else
```

---

```

55 \CustomizeMathJax{
56 \def\mathclose{\mathit{d}}#1}
57 }
58 \fi
59 \fi
60
61 \CustomizeMathJax{\let\pounds\mathsterling}
62 \CustomizeMathJax{\let\kppounds\mathsterling}
63
64 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}% never sans
65 \CustomizeMathJax{\let\mathupright\mathup}
66
67 \end{warpMathJax}
```

---

File 236 **l warp-kpfonts-otf.sty**

§ 344 Package **kpfonts-otf**

*(Emulates or patches code by DANIEL FLIPO.)*

Pkg kpfonts-otf kpfonts-otf is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options fancyReIm, mathcal, frenchstyle for Greek only, and mathcalasscript.

Also see the options for **unicode-math**, which is loaded by kpfonts-otf.

The **unicode-math** dedicated macros for Greek work correctly.

 **\mathversion** The MATHJAX emulation does not change with the use of \mathversion. Whatever emulation is established at the begin of the document will remain.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{kpfonts-otf}[2020/06/20]
2
3 \LWR@infoprocessingmathjax{kpfonts-otf}
4
5 \LWR@origRequirePackage{l warp-common-mathjax-nonunicode}
6
7 \LWR@origRequirePackage{l warp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12 \CustomizeMathJax{\let\mathscr\mathcal}
13 \else
14 \CustomizeMathJax{\let\mathcal\mathscr}
15 \fi
16
17 \ifkp@frenchstyle
18 \LWR@mathjax@addgreek@l@up{}{}
19 \LWR@mathjax@addgreek@u@up*{}{}
20 \fi
```

```

21
22 \ifkp@oldReIm
23 \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
24 \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
25 \else
26 \fi
27
28 \ifkp@Dcommand
29 \CustomizeMathJax{
30 \def\mathclose{\,\mathrm{d}}#1}
31 }
32 \fi
33
34 \CustomizeMathJax{\let\varint\int}
35 \CustomizeMathJax{\let\varaint\iint}
36 \CustomizeMathJax{\let\variiint\iiint}
37 \CustomizeMathJax{\let\variiiint\iiiint}
38 \CustomizeMathJax{\let\varidotsint\idotsint}
39
40 \CustomizeMathJax{\newcommand{\varointctrcclockwise}{\mathop{\text{\!unicode{x2939}\!\!\!unicode{x022E}}}}}
41 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\text{\!unicode{x022F}\!\!\!unicode{x2938}}}}}
42 \CustomizeMathJax{\newcommand{\ointctrcclockwise}{\mathop{\text{\!unicode{x2939}\!\!\!unicode{x022F}}}}}
43 \CustomizeMathJax{\newcommand{\varoiintclockwise}{\mathop{\text{\!unicode{x022F}\!\!\!unicode{x2938}}}}}
44 \CustomizeMathJax{\newcommand{\varoiintctrcclockwise}{\mathop{\text{\!unicode{x2939}\!\!\!unicode{x022F}}}}}
45 \CustomizeMathJax{\newcommand{\oiintclockwise}{\mathop{\text{\!unicode{x02230}\!\!\!unicode{x2938}}}}}
46 \CustomizeMathJax{\newcommand{\oiintctrcclockwise}{\mathop{\text{\!unicode{x2939}\!\!\!unicode{x02230}}}}}
47 \CustomizeMathJax{\newcommand{\varoiintctrcclockwise}{\mathop{\text{\!unicode{x02230}\!\!\!unicode{x2938}}}}}
48 \CustomizeMathJax{\newcommand{\varoiintctrcclockwise}{\mathop{\text{\!unicode{x2939}\!\!\!unicode{x02230}}}}}
49 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\text{\!unicode{x2A16}\!\!\!unicode{x2A16}}}}}
50 \CustomizeMathJax{\newcommand{\sqiint}{\mathop{\text{\!unicode{x2A16}\!\!\!unicode{x2A16}\!\!\!unicode{x2A16}\!\!\!unicode{x2A16}}}}}
51
52 \CustomizeMathJax{\let\widearc\overparen}
53 \CustomizeMathJax{\let\widearcarrow\overrightarrow}
54 \CustomizeMathJax{\let\overrightarc\overrightarrow}
55
56 \end{warpMathJax}

```

File 237 **lwarf-layaureo.sty**

§ 345 Package **layaureo**

Pkg layaureo layaureo is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

File 238 **lwarf-layout.sty**

§ 346 Package **layout**

Pkg layout layout is ignored.

**for HTML output:** Discard all options for l warp - layout:

```
1 \LWR@ProvidesPackageDrop{layout}[2014/10/28]
2 \NewDocumentCommand{\layout}{s}{}

```

File 239 **l warp - layouts . sty**

§ 347 Package **layouts**

Pkg layouts layouts is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layouts}[2009/09/02]

```
2 \newif\ifoddpagelayout
3 \oddpagelayouttrue
4 \newif\iftwocolumnlayout
5 \twocolumnlayoutfalse
6 \newif\ifdrawmarginpars
7 \drawmarginpartrue
8 \newif\ifdrawparameters
9 \drawparameterstrue
10 \newif\iflistaspara
11 \listasparatrue
12 \newif\ifruninhead
13 \runinheadfalse
14 \newif\ifprintparameters
15 \printparameterstrue
16 \newif\ifdrawdimensions
17 \drawdimensionsfalse
18 \newif\ifprintheadings
19 \printheadingstrue
20 \newcommand{\testdrawdimensions}{}
21 \newcommand{\testprintparameters}{}
22 \newcommand{\setlabelfont}[1]{}
23 \newcommand{\setparameterfont}[1]{}
24 \newcommand{\setvaluesize}[1]{}
25 \newcommand{\setLayoutscale}[1]{}
26 \newcommand{\setuplayouts}{}
27 \newcommand{\printinunits}[1]{}
28 \newcommand{\prntlen}[1]{}
29 \newcommand{\trypaperwidth}[1]{}
30 \newcommand{\trypaperheight}[1]{}
31 \newcommand{\tryhoffset}[1]{}
32 \newcommand{\tryvoffset}[1]{}
33 \newcommand{\trytopmargin}[1]{}
34 \newcommand{\tryheadheight}[1]{}
35 \newcommand{\tryheadsep}[1]{}
36 \newcommand{\trytextheight}[1]{}
37 \newcommand{\tryfootskip}[1]{}
38 \newcommand{\tryoddsidemargin}[1]{}
39 \newcommand{\tryevensidemargin}[1]{}
40 \newcommand{\trytextwidth}[1]{}
```

```
41 \newcommand{\trymarginparsep}[1]{}
42 \newcommand{\trymarginparwidth}[1]{}
43 \newcommand{\trymarginparpush}[1]{}
44 \newcommand{\trycolumnsep}[1]{}
45 \newcommand{\trycolumnseprule}[1]{}
46 \newcommand{\setfootbox}[2]{}
47 \newcommand{\currentpage}{}
48 \newcommand{\drawpage}{(draw page)}
49 \newcommand{\pagediagram}{(page diagram)}
50 \newcommand{\pagedesign}{(page design)}
51 \newcommand{\pagevalues}{(page values)}
52 \newcommand{\trystockwidth}[1]{}
53 \newcommand{\trystockheight}[1]{}
54 \newcommand{\trytrimedge}[1]{}
55 \newcommand{\trytrimtop}[1]{}
56 \newcommand{\tryuppermargin}[1]{}
57 \newcommand{\tryspinemargin}[1]{}
58 \newcommand{\currentstock}{}
59 \newcommand{\drawstock}{(draw stock)}
60 \newcommand{\stockdiagram}{(stock diagram)}
61 \newcommand{\stockdesign}{(stock design)}
62 \newcommand{\stockvalues}{(stock values)}
63 \newcommand{\tryitemindent}[1]{}
64 \newcommand{\trylabelwidth}[1]{}
65 \newcommand{\trylabelsep}[1]{}
66 \newcommand{\tryleftmargin}[1]{}
67 \newcommand{\tryrightmargin}[1]{}
68 \newcommand{\trylistparindent}[1]{}
69 \newcommand{\trytopsep}[1]{}
70 \newcommand{\tryparskip}[1]{}
71 \newcommand{\trypartopsep}[1]{}
72 \newcommand{\tryparsep}[1]{}
73 \newcommand{\tryitemsep}[1]{}
74 \newcommand{\currentlist}{}
75 \newcommand{\drawlist}{(draw list)}
76 \newcommand{\listdiagram}{(list diagram)}
77 \newcommand{\listdesign}{(list design)}
78 \newcommand{\listvalues}{(list values)}
79 \newcommand{\tryfootins}[1]{}
80 \newcommand{\tryfootnotesep}[1]{}
81 \newcommand{\tryfootnotebaseline}[1]{}
82 \newcommand{\tryfootruleheight}[1]{}
83 \newcommand{\tryfootrulefrac}[1]{}
84 \newcommand{\currentfootnote}{}
85 \newcommand{\drawfootnote}{(draw footnote)}
86 \newcommand{\footnotediagram}{(footnote diagram)}
87 \newcommand{\footnotedesign}{(footnote design)}
88 \newcommand{\footnotevalues}{(footnote values)}
89 \newcommand{\tryparindent}[1]{}
90 \newcommand{\tryparlinewidth}[1]{}
91 \newcommand{\tryparbaselineskip}[1]{}
92 \newcommand{\currentparagraph}{}
93 \newcommand{\drawparagraph}{(draw paragraph)}
94 \newcommand{\paragraphdiagram}{(paragraph diagram)}
95 \newcommand{\paragraphdesign}{(paragraph design)}
```

```

96 \newcommand{\paragraphvalues}{(paragraph values)}
97 \newcommand{\trybeforeskip}[1]{}
98 \newcommand{\tryafterskip}[1]{}
99 \newcommand{\tryindent}[1]{}
100 \newcommand{\currentheading}{}
101 \newcommand{\drawheading}[1]{(draw heading)}
102 \newcommand{\headingdiagram}[1]{(heading diagram)}
103 \newcommand{\headingdesign}[1]{(heading design)}
104 \newcommand{\headingvalues}{(heading values)}
105 \newcommand{\trytextfloatsep}[1]{}
106 \newcommand{\tryfloatsep}[1]{}
107 \newcommand{\tryintextsep}[1]{}
108 \newcommand{\trytopfigrule}[1]{}
109 \newcommand{\trybotfigrule}[1]{}
110 \newcommand{\currentfloat}{}
111 \newcommand{\drawfloat}{(draw float)}
112 \newcommand{\floatdiagram}{(float diagram)}
113 \newcommand{\floatdesign}{(float design)}
114 \newcommand{\floatvalues}{(float values)}
115 \newcommand{\trytotalnumber}[1]{}
116 \newcommand{\trytopnumber}[1]{}
117 \newcommand{\trybottomnumber}[1]{}
118 \newcommand{\trytopfraction}[1]{}
119 \newcommand{\trytextfraction}[1]{}
120 \newcommand{\trybottomfraction}[1]{}
121 \newcommand{\currentfloatpage}{}
122 \newcommand{\drawfloatpage}{(draw floatpage)}
123 \newcommand{\floatpagediagram}{(floatpage diagram)}
124 \newcommand{\floatpagedesign}{(floatpage design)}
125 \newcommand{\floatpagevalues}{(floatpage values)}
126 \newcommand{\trytocindent}[1]{}
127 \newcommand{\trytocnumwidth}[1]{}
128 \newcommand{\trytoclinewidth}[1]{}
129 \newcommand{\trytocrmarg}[1]{}
130 \newcommand{\trytocpnumwidth}[1]{}
131 \newcommand{\trytocdotsep}[1]{}
132 \newcommand{\currenttoc}{}
133 \newcommand{\drawtoc}{(draw toc)}
134 \newcommand{\tocdiagram}{(toc diagram)}
135 \newcommand{\tocdesign}{(toc design)}
136 \newcommand{\tocvalues}{(toc values)}
137 \newcommand{\drawaspread}[8][0]{(a spread)}
138 \newcommand{\drawfontframe}[1]{(font frame)}
139 \newcommand{\drawfontframelabel}[1]{}

```

File 240 **lwarf-leading.sty**

§ 348 Package **leading**

Pkg **leading** **leading** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{leading}[2008/12/11]

```
2 \newcommand\leading[1]{}
```

---

File 241 **l warp-leftidx.sty**

§ 349      Package **leftidx**

(Emulates or patches code by HARALD HARDERS.)

Pkg **leftidx** **leftidx** works as-is with SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{leftidx}[2003/09/24]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\leftidx}[3]{\vphantom{#2}\smash{\overset{#1}{#2}}}}
4 \CustomizeMathJax{\newcommand{\ltrans}[1]{\leftidx[^{\mathrm{t}}]{#1}{#1}}}
5 \end{warpMathJax}
```

---

File 242 **l warp-letterspace.sty**

§ 350      Package **letterspace**

(Emulates or patches code by R SCHLICHT.)

Pkg **letterspace** **letterspace** is a subset of microtype, which is pre-loaded by **l warp**. All user options and macros are ignored and disabled.

**for HTML output:** Discard all options for **l warp-letterspace**:

```
1 \LWR@ProvidesPackageDrop{letterspace}[2018/01/14]
2 \newcommand*\lsstyle{}
3 \newcommand\textls[2][]{}
4 \def\textls#1{}
5 \newcommand*\lslig[1]{#1}
```

---

File 243 **l warp-lettrine.sty**

§ 351      Package **lettrine**

(Emulates or patches code by DANIEL FLIPO.)

Pkg **lettrine** **lettrine** is emulated.

**for HTML output:** Discard all options for **l warp-lettrine**:

```
1 \LWR@ProvidesPackageDrop{lettrine}[2018-08-28]
```

The initial letter is in a <span> of class `lettrine`, and the following text is in a <span> of class `lettrinetext`. \lettrine[<keys>]{<letter>}{<additional text>}

```

2 \DeclareDocumentCommand{\lettrine}{o m m}{%
3 \InlineClass{lettrine}{#2}\InlineClass{lettrinetext}{#3} % extra space
4 }
5
6 \newcounter{DefaultLines}
7 \setcounter{DefaultLines}{2}
8 \newcounter{DefaultDepth}
9 \newcommand*{\DefaultOptionsFile}{\relax}
10 \newcommand*{\DefaultLoversize}{0}
11 \newcommand*{\DefaultLraise}{0}
12 \newcommand*{\DefaultLhang}{0}
13 \newdimen\DefaultFindent
14 \setlength{\DefaultFindent}{\z@}
15 \newdimen\DefaultNindent
16 \setlength{\DefaultNindent}{0.5em}
17 \newdimen\DefaultSlope
18 \setlength{\DefaultSlope}{\z@}
19 \newdimen\DiscardVskip
20 \setlength{\DiscardVskip}{0.2\p@}
21 \newif\ifLettrineImage
22 \newif\ifLettrineOnGrid
23 \newif\ifLettrineRealHeight
24
25 \newcommand*{\LettrineTextFont}{\scshape}
26 \newcommand*{\LettrineFontHook}{}
27 \newcommand*{\LettrineFont}[1]{\InlineClass{lettrine}{#1}}
28 \newcommand*{\LettrineFontEPS}[1]{\includegraphics[height=1.5ex]{#1}}

```

#### File 244 **lwarp-libertinust1math.sty**

### § 352 Package **libertinust1math**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg **libertinust1math** **libertinust1math** is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors `frenchmath` for Greek but not Latin characters, and `slantedGreek`, `uprightGreek`, and `ISO` also adjust Greek characters. MATHJAX cannot yet honor options for adjusting Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

Some of the symbol font macros such as `\mathsfbf` do not use a sans font because MATHJAX does not yet have sans Greek.

SVG math honors all font choices, and should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{libertinust1math}[2020/06/10]

2

3 \LWR@infoprocessingmathjax{libertinust1math}

```

4 \LWR@origRequirePackage{lwarf-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \ifibus@slantedG
9 \LWR@mathjax@addgreek@u@it*{}{}
10 \else
11 \LWR@mathjax@addgreek@u@up*{}{}
12 \fi
13
14 \LWR@mathjax@addgreek@u@it*{}{it}
15 \LWR@mathjax@addgreek@u@up*{}{up}
16 \LWR@mathjax@addgreek@u@up*{}{up}
17
18 \ifibus@frenchm
19 \LWR@mathjax@addgreek@l@up(){}
20 \else
21 \LWR@mathjax@addgreek@l@it(){}
22 \fi
23
24 \LWR@mathjax@addgreek@l@it*{}{it}
25 \LWR@mathjax@addgreek@l@up*{}{up}
26 \LWR@mathjax@addgreek@l@up*{}{up}
27
28 \CustomizeMathJax{\let\uppartial\partial}% not upright

29 \CustomizeMathJax{\let\mathsfbf\mathbf}% not sans
30 % \CustomizeMathJax{\newcommand{\mathsfbf}[1]{%
31 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{}#1}% not greek
32 % }% not sans
33
34 % \CustomizeMathJax{\newcommand{\mathbfit}[1]{\boldsymbol{#1}}}
35 \CustomizeMathJax{\let\mathbfit\boldsymbol}

36 % \CustomizeMathJax{\newcommand{\mathsfbf}[1]{\boldsymbol{#1}}}% not sans
37 \CustomizeMathJax{\let\mathsfbf\mathbf}% not sans
38 % \CustomizeMathJax{\newcommand{\mathsfbf}[1]{%
39 % \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{}#1}% not greek
40 % }% not sans

41 \CustomizeMathJax{\let\mathsfit\mathit}% not sans
42 % \CustomizeMathJax{\newcommand{\mathsfit}[1]{%
43 % \mmlToken{mi}[mathvariant="sans-serif-italic"]{}#1}% not greek
44 % }%
45
46 \CustomizeMathJax{\let\vectorsym\mathbf}
47 \CustomizeMathJax{\let\matrixsym\mathbf}
48 \CustomizeMathJax{\let\tensorsym\mathsf}
49 \CustomizeMathJax{\let\mathboldsans\mathsf}
50 \CustomizeMathJax{\let\mathbold\mathbf}

```

`lwarf_mathjax.txt` adds `\left/\right` support for delimiters.

```
51 \CustomizeMathJax{\let\dlb\lBrack}
52 \CustomizeMathJax{\let\drb\rBrack}
53
54 \CustomizeMathJax{\let\sqrtsign\sqrt}
55
56 \CustomizeMathJax{\let\smallintsl\smallint}
57 \CustomizeMathJax{\newcommand{\smallintsl}{\mathop{\backslash unicode{x222C}}\limits}}
58 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\backslash unicode{x222D}}\limits}}
59 \CustomizeMathJax{\newcommand{\smalliiiintsl}{\mathop{\backslash unicode{x2A0C}}\limits}}
60 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\backslash unicode{x222E}}\limits}}
61 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\backslash unicode{x222F}}\limits}}
62
63 \CustomizeMathJax{\let\smallintup\smallint}
64 \CustomizeMathJax{\newcommand{\smallintup}{\mathop{\backslash unicode{x222C}}\limits}}
65 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\backslash unicode{x222D}}\limits}}
66 \CustomizeMathJax{\newcommand{\smalliiiintup}{\mathop{\backslash unicode{x2A0C}}\limits}}
67 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\backslash unicode{x222E}}\limits}}
68 \CustomizeMathJax{\newcommand{\smalloiintup}{\mathop{\backslash unicode{x222F}}\limits}}
69
70 \CustomizeMathJax{\let\intslop\int}
71 \CustomizeMathJax{\newcommand{\intslop}{\mathop{\backslash unicode{x222C}}\limits}}
72 \CustomizeMathJax{\newcommand{\iiintslop}{\mathop{\backslash unicode{x222D}}\limits}}
73 \CustomizeMathJax{\newcommand{\iiiintslop}{\mathop{\backslash unicode{x2A0C}}\limits}}
74 \CustomizeMathJax{\let\ointslop\oint}
75 \CustomizeMathJax{\newcommand{\ointslop}{\mathop{\backslash unicode{x222F}}\limits}}
76 \CustomizeMathJax{\newcommand{\oiintslop}{\mathop{\backslash unicode{x2230}}\limits}}
77
78 \CustomizeMathJax{\let\intupop\int}
79 \CustomizeMathJax{\newcommand{\intupop}{\mathop{\backslash unicode{x222C}}\limits}}
80 \CustomizeMathJax{\newcommand{\iiintupop}{\mathop{\backslash unicode{x222D}}\limits}}
81 \CustomizeMathJax{\newcommand{\iiiintupop}{\mathop{\backslash unicode{x2A0C}}\limits}}
82 \CustomizeMathJax{\let\ointupop\oint}
83 \CustomizeMathJax{\newcommand{\ointupop}{\mathop{\backslash unicode{x222F}}\limits}}
84 \CustomizeMathJax{\newcommand{\oiintupop}{\mathop{\backslash unicode{x2230}}\limits}}
85
86 \CustomizeMathJax{\newcommand{\smalliint}{\mathop{\backslash unicode{x222C}}\limits}}
87 \CustomizeMathJax{\newcommand{\smalliiint}{\mathop{\backslash unicode{x222D}}\limits}}
88 \CustomizeMathJax{\newcommand{\smalliiiint}{\mathop{\backslash unicode{x2A0C}}\limits}}
89 \CustomizeMathJax{\newcommand{\smalloint}{\mathop{\backslash unicode{x222E}}\limits}}
90 \CustomizeMathJax{\newcommand{\smalloiint}{\mathop{\backslash unicode{x222F}}\limits}}
91
92 \CustomizeMathJax{\let\inttop\int}
93 \CustomizeMathJax{\newcommand{\inttop}{\mathop{\backslash unicode{x222C}}\limits}}
94 \CustomizeMathJax{\newcommand{\iiinttop}{\mathop{\backslash unicode{x222D}}\limits}}
95 \CustomizeMathJax{\newcommand{\iiiinttop}{\mathop{\backslash unicode{x2A0C}}\limits}}
96 \CustomizeMathJax{\let\ointtop\oint}
97 \CustomizeMathJax{\newcommand{\ointtop}{\mathop{\backslash unicode{x222F}}\limits}}
98 \CustomizeMathJax{\newcommand{\oiinttop}{\mathop{\backslash unicode{x2230}}\limits}}
99
100 \CustomizeMathJax{\newcommand{\oint}{\mathop{\backslash unicode{x222F}}\limits}}
101
102 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\backslash unicode{x2A03}}\limits}}
103 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\backslash unicode{x2A05}}\limits}}
104 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\backslash unicode{x29F8}}\limits}}
105 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\backslash unicode{x29F9}}\limits}}
```

```
106 \CustomizeMathJax{\let\prodop\prod}
107 \CustomizeMathJax{\let\coprodop\coprod}
108 \CustomizeMathJax{\let\sumop\sum}
109 \CustomizeMathJax{\let\bigwedgeop\bigwedge}
110 \CustomizeMathJax{\let\bigveeop\bigvee}
111 \CustomizeMathJax{\let\bigcapop\bigcap}
112 \CustomizeMathJax{\let\bigcupop\bigcup}
113 \CustomizeMathJax{\let\xslop\xsol}
114 \CustomizeMathJax{\let\xbslop\xbsol}
115 \CustomizeMathJax{\let\bigodotop\bigodot}
116 \CustomizeMathJax{\let\bigoplusop\bigoplus}
117 \CustomizeMathJax{\let\bigotimesop\bigotimes}
118 \CustomizeMathJax{\let\bigcupdotop\bigcupdot}
119 \CustomizeMathJax{\let\biguplusop\biguplus}
120 \CustomizeMathJax{\let\bigsqcapop\bigsqcap}
121 \CustomizeMathJax{\let\bigsqcupop\bigsqcup}
122
123 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{\#1\unicode{x00309}}}}
124 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{\#1\unicode{x00310}}}}
125 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{\#1\unicode{x00312}}}}
126 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{\#1\unicode{x00315}}}}
127 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{\#1\unicode{x0031A}}}}
128 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{\#1\unicode{x20D0}}}}
129 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{\#1\unicode{x20D1}}}}
130 \CustomizeMathJax{\newcommand{\leftarrowacc}[1]{\mathord{\#1\unicode{x20D0}}}}
131 \CustomizeMathJax{\let\rightarrowacc\vec}
132
133 \CustomizeMathJax{\newcommand{\leftrightarrowacc}[1]{\mathord{\#1\unicode{x20E1}}}}
134 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{\#1\unicode{x20E7}}}}
135 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{\#1\unicode{x20E9}}}}
136 \CustomizeMathJax{\newcommand{\asteracc}[1]{\mathord{\#1\unicode{x20F0}}}}
137
138 % neutralized:
139 \CustomizeMathJax{\newcommand{\braceld}{}}
140 \CustomizeMathJax{\newcommand{\bracerd}{}}
141 \CustomizeMathJax{\newcommand{\bracelu}{}}
142 \CustomizeMathJax{\newcommand{\braceru}{}}
143 \CustomizeMathJax{\newcommand{\braceex}{}}
144 \CustomizeMathJax{\newcommand{\bracemu}{}}
145 \CustomizeMathJax{\newcommand{\bracemd}{}}
146 \CustomizeMathJax{\newcommand{\parenld}{}}
147 \CustomizeMathJax{\newcommand{\parenrd}{}}
148 \CustomizeMathJax{\newcommand{\parenlu}{}}
149 \CustomizeMathJax{\newcommand{\parenru}{}}
150 \CustomizeMathJax{\newcommand{\bracketld}{}}
151 \CustomizeMathJax{\newcommand{\bracketrd}{}}
152 \CustomizeMathJax{\newcommand{\bracketlu}{}}
153 \CustomizeMathJax{\newcommand{\bracketru}{}}
154 \CustomizeMathJax{\newcommand{\bracketex}{}}
155 \CustomizeMathJax{\newcommand{\parenex}{}}
156
157 \CustomizeMathJax{\newcommand{\lhook}{\sim}}
158 \CustomizeMathJax{\newcommand{\rhook}{\sim}}
159 \CustomizeMathJax{\newcommand{\relbar}{-}}
160 \CustomizeMathJax{\newcommand{\Relbar}{=}}
```

```
161
162 \CustomizeMathJax{\newcommand{\mapstochar}{\mathrel{\text{\scriptsize\texttt{\{}}}}}}
163
164 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
165 \CustomizeMathJax{\newcommand{\notchar}{\mathrel{\text{\scriptsize\texttt{\{}}}}}}
166 \CustomizeMathJax{\newcommand{\upbackepsilon}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
167 \CustomizeMathJax{\newcommand{\smbblkcircle}{\mathbin{\text{\scriptsize\texttt{\{}}}}}}
168 \CustomizeMathJax{\newcommand{\enleadertwodots}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
169 \CustomizeMathJax{\newcommand{\unicodeellipsis}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
170 \CustomizeMathJax{\newcommand{\mathellipsis}{\mathinner{\text{\scriptsize\texttt{\{}}}}}}
171 \CustomizeMathJax{\newcommand{\dprime}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
172 \CustomizeMathJax{\newcommand{\rprime}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
173 \CustomizeMathJax{\newcommand{\backdprime}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
174 \CustomizeMathJax{\newcommand{\backrprime}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
175 \CustomizeMathJax{\newcommand{\caretinsert}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
176 \CustomizeMathJax{\newcommand{\Exclam}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
177
178 \CustomizeMathJax{\newcommand{\hyphenbullet}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
179 \CustomizeMathJax{\newcommand{\fracslash}{\mathbin{\text{\scriptsize\texttt{\{}}}}}}
180 \CustomizeMathJax{\newcommand{\Question}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
181 \CustomizeMathJax{\newcommand{\closure}{\mathrel{\text{\scriptsize\texttt{\{}}}}}}
182 \CustomizeMathJax{\newcommand{\qprime}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
183 \CustomizeMathJax{\newcommand{\vertoverlay}{\mathrel{\text{\scriptsize\texttt{\{}}}}}}
184 \CustomizeMathJax{\newcommand{\enclosecirclearrow}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
185 \CustomizeMathJax{\newcommand{\enclosesquare}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
186 \CustomizeMathJax{\newcommand{\enclosetriangle}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
187 \CustomizeMathJax{\newcommand{\Eulerconst}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
188 \CustomizeMathJax{\newcommand{\turnediota}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
189 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
190
191 \CustomizeMathJax{\newcommand{\sansLturned}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
192 \CustomizeMathJax{\newcommand{\sansLmirrored}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
193 \CustomizeMathJax{\newcommand{\Yup}{\mathbin{\text{\scriptsize\texttt{\{}}}}}}
194 \CustomizeMathJax{\newcommand{\upand}{\mathbin{\text{\scriptsize\texttt{\{}}}}}}
195 \CustomizeMathJax{\newcommand{\increment}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
196 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\text{\scriptsize\texttt{\{}}}}}}
197 \CustomizeMathJax{\newcommand{\nni}{\mathrel{\text{\scriptsize\texttt{\{}}}}}}
198
199 \CustomizeMathJax{\newcommand{\smallni}{\mathrel{\text{\scriptsize\texttt{\{}}}}}}
200 \CustomizeMathJax{\newcommand{\QED}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
201 \CustomizeMathJax{\newcommand{\vysmwhtcircle}{\mathbin{\text{\scriptsize\texttt{\{}}}}}}
202 \CustomizeMathJax{\newcommand{\vysmblkcircle}{\mathbin{\text{\scriptsize\texttt{\{}}}}}}
203 \CustomizeMathJax{\newcommand{\rightangle}{\mathrel{\text{\scriptsize\texttt{\{}}}}}}
204
205 \CustomizeMathJax{\newcommand{\Colon}{\mathrel{\text{\scriptsize\texttt{\{}}}}}}
206 \CustomizeMathJax{\newcommand{\dotminus}{\mathbin{\text{\scriptsize\texttt{\{}}}}}}
207 \CustomizeMathJax{\newcommand{\dashcolon}{\mathrel{\text{\scriptsize\texttt{\{}}}}}}
208 \CustomizeMathJax{\newcommand{\dotsminusdots}{\mathrel{\text{\scriptsize\texttt{\{}}}}}}
209 \CustomizeMathJax{\newcommand{\kernelcontraction}{\mathrel{\text{\scriptsize\texttt{\{}}}}}}
210 \CustomizeMathJax{\newcommand{\invlazys}{\mathbin{\text{\scriptsize\texttt{\{}}}}}}
211
212 \CustomizeMathJax{\newcommand{\sinewave}{\mathord{\text{\scriptsize\texttt{\{}}}}}}
213 \CustomizeMathJax{\newcommand{\nsime}{\mathrel{\text{\scriptsize\texttt{\{}}}}}}
214 \CustomizeMathJax{\newcommand{\simneqq}{\mathrel{\text{\scriptsize\texttt{\{}}}}}}
215 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\text{\scriptsize\texttt{\{}}}}}}
```

```
216 \CustomizeMathJax{\newcommand{\approxident}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
217 \CustomizeMathJax{\newcommand{\backcong}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
218
219 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
220 \CustomizeMathJax{\newcommand{\nlesssim}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
221 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
222 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
223 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
224
225 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
226 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
227
228 \CustomizeMathJax{\newcommand{\cupleftarrow}{\mathbin{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
229 \CustomizeMathJax{\newcommand{\cupdot}{\mathbin{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
230 \CustomizeMathJax{\newcommand{\circledequal}{\mathbin{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
231
232 \CustomizeMathJax{\newcommand{\assert}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
233 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
234 \CustomizeMathJax{\newcommand{\prurel}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
235
236 \CustomizeMathJax{\newcommand{\origof}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
237 \CustomizeMathJax{\newcommand{\smallprod}{\mathop{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}% not small
238 \CustomizeMathJax{\newcommand{\smallcoprod}{\mathop{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}% not small
239 \CustomizeMathJax{\newcommand{\smallsum}{\mathop{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}% not small
240 \CustomizeMathJax{\newcommand{\Hfraktur}{\mathord{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
241 \CustomizeMathJax{\newcommand{\dsol}{\mathbin{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
242 \CustomizeMathJax{\newcommand{\rsolbar}{\mathbin{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
243
244 \CustomizeMathJax{\newcommand{\eqless}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
245 \CustomizeMathJax{\newcommand{\eqgr}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
246 \CustomizeMathJax{\newcommand{\preccurlyeq}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
247 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
248 \CustomizeMathJax{\newcommand{\nsqsubseteq}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
249 \CustomizeMathJax{\newcommand{\nsqsupseteq}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
250 \CustomizeMathJax{\newcommand{\sqsubsetneq}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
251 \CustomizeMathJax{\newcommand{\sqsupsetneq}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
252 \CustomizeMathJax{\newcommand{\nvartriangleleft}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
253 \CustomizeMathJax{\newcommand{\nvartriangleright}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
254
255 \CustomizeMathJax{\newcommand{\vdotsmath}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
256 \CustomizeMathJax{\newcommand{\unicodedcdots}{\mathord{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
257 \CustomizeMathJax{\newcommand{\adots}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
258 \CustomizeMathJax{\newcommand{\succneq}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
259 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
260 \CustomizeMathJax{\newcommand{\succceqq}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
261 \CustomizeMathJax{\newcommand{\precneq}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
262
263 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
264
265 \CustomizeMathJax{\newcommand{\longmapsfrom}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
266
267 \CustomizeMathJax{\newcommand{\diameter}{\mathord{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
268 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
269 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
270 \CustomizeMathJax{\newcommand{\arceq}{\mathrel{\text{\scriptsize\texttt{<}}} {\text{\scriptsize\texttt{>}}}}}
```

```
271 \CustomizeMathJax{\newcommand{\wedgeq}{\mathrel{\text{\scriptsize\texttt{\&}}}}}
272 \CustomizeMathJax{\newcommand{\veeeq}{\mathrel{\text{\scriptsize\texttt{\&}}}}}
273
274 \CustomizeMathJax{\newcommand{\stareq}{\mathrel{\text{\scriptsize\texttt{\&}}}}}
275 \CustomizeMathJax{\newcommand{\eqdef}{\mathrel{\text{\scriptsize\texttt{\&}}}}}
276 \CustomizeMathJax{\newcommand{\measeq}{\mathrel{\text{\scriptsize\texttt{\&}}}}}
277 \CustomizeMathJax{\newcommand{\questeq}{\mathrel{\text{\scriptsize\texttt{\&}}}}}
278 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\text{\scriptsize\texttt{\&}}}}}
279 \CustomizeMathJax{\newcommand{\Equiv}{\mathrel{\text{\scriptsize\texttt{\&}}}}}
280
281 \CustomizeMathJax{\newcommand{\house}{\mathord{\text{\scriptsize\texttt{\&}}}}}
282
283 \CustomizeMathJax{\newcommand{\musicalnote}{\mathord{\text{\scriptsize\texttt{\&}}}}}
284 \CustomizeMathJax{\newcommand{\degree}{\mathord{\text{\scriptsize\texttt{\&}}}}}
285 \CustomizeMathJax{\newcommand{\mathsection}{\mathord{\text{\scriptsize\texttt{\&}}}}}
286 \CustomizeMathJax{\newcommand{\mathparagraph}{\mathord{\text{\scriptsize\texttt{\&}}}}}
287 \CustomizeMathJax{\newcommand{\checkmarkmath}{\mathord{\text{\scriptsize\texttt{\&}}}}}
288 \CustomizeMathJax{\newcommand{\invnot}{\mathord{\text{\scriptsize\texttt{\&}}}}}
289
290 \CustomizeMathJax{\newcommand{\mathvisiblespace}{\mathord{\text{\scriptsize\texttt{\&}}}}}
291 \CustomizeMathJax{\newcommand{\mdlblksquare}{\mathord{\text{\scriptsize\texttt{\&}}}}}
292 \CustomizeMathJax{\newcommand{\mdlgwtsquare}{\mathord{\text{\scriptsize\texttt{\&}}}}}
293
294 \CustomizeMathJax{\newcommand{\bigblacktriangleup}{\mathord{\text{\scriptsize\texttt{\&}}}}}
295 \CustomizeMathJax{\newcommand{\varbigtriangleup}{\mathord{\text{\scriptsize\texttt{\&}}}}}
296
297 \CustomizeMathJax{\newcommand{\bigblacktriangledown}{\mathord{\text{\scriptsize\texttt{\&}}}}}
298 \CustomizeMathJax{\newcommand{\varbigtriangledown}{\mathord{\text{\scriptsize\texttt{\&}}}}}
299 \CustomizeMathJax{\newcommand{\Longmapsfrom}{\mathrel{\text{\scriptsize\texttt{\&}}}}}
300
301 % bug in print font:
302 \CustomizeMathJax{\newcommand{\mdlblkdiamond}{\mathord{\text{\scriptsize\texttt{\&}}}}}
303
304 \CustomizeMathJax{\newcommand{\mdlgwhtdiamond}{\mathord{\text{\scriptsize\texttt{\&}}}}}
305 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\text{\scriptsize\texttt{\&}}}}}
306 \CustomizeMathJax{\newcommand{\fisheye}{\mathord{\text{\scriptsize\texttt{\&}}}}}
307 \CustomizeMathJax{\newcommand{\mdlgwhtlozenge}{\mathord{\text{\scriptsize\texttt{\&}}}}}
308 \CustomizeMathJax{\newcommand{\mdlgwhtcircle}{\mathbin{\text{\scriptsize\texttt{\&}}}}}
309 \CustomizeMathJax{\newcommand{\bullseye}{\mathord{\text{\scriptsize\texttt{\&}}}}}
310 \CustomizeMathJax{\newcommand{\mdlblkcircle}{\mathord{\text{\scriptsize\texttt{\&}}}}}
311
312 \CustomizeMathJax{\newcommand{\Narrowarrow}{\mathrel{\text{\scriptsize\texttt{\&}}}}}
313 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\text{\scriptsize\texttt{\&}}}}}
314 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\text{\scriptsize\texttt{\&}}}}}
315 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\text{\scriptsize\texttt{\&}}}}}
316
317 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathord{\text{\scriptsize\texttt{\&}}}}}
318 \CustomizeMathJax{\newcommand{\smwhtcircle}{\mathord{\text{\scriptsize\texttt{\&}}}}}
319 \CustomizeMathJax{\newcommand{\smwhtdiamond}{\mathbin{\text{\scriptsize\texttt{\&}}}}}
320 \CustomizeMathJax{\newcommand{\Mapsto}{\mathord{\text{\scriptsize\texttt{\&}}}}}
321
322 \CustomizeMathJax{\let\ngets\nleftarrow}
323 \CustomizeMathJax{\let\nsimeq\nsimeq}
324 \CustomizeMathJax{\let\nle\nleq}
325 \CustomizeMathJax{\let\ngt\ngt}
```

```
326
327 \end{warpMathJax}
```

---

File 245 **lwarp-lineno.sty**

§ 353      Package **lineno**

*(Emulates or patches code by STEPHAN I. BÖTTCHER.)*

Pkg **lineno** **lineno** is partly emulated, but mostly ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lineno}[2005/11/02]

```
2 \newcommand*\resetlinenumber[1][\@ne]{}
3
4 \def\linenumbers{%
5 \@ifnextchar[\{\resetlinenumber\}%
6 {\@ifstar{\resetlinenumber}{}}\}%
7 }
8
9 \newcommand*{\nolinenumbers}{}
10
11 \@namedef{linenumbers}{\par\linenumbers}
12 \@namedef{runninglinenumbers}{\par\runninglinenumbers}
13
14 \def\endlinenumbers{\par}
15 \let\endrunninglinenumbers\endlinenumbers
16 \let\endpagewiselinenumbers\endlinenumbers
17 \expandafter\let\csname endlinenumbers*\endcsname\endlinenumbers
18 \expandafter\let\csname endrunninglinenumbers*\endcsname\endlinenumbers
19 \let\endnolinenumbers\endlinenumbers
20
21 \def\pagewiselinenumbers{\linenumbers\setpagewiselinenumbers}
22
23 \def\runninglinenumbers{\setrunninglinenumbers\linenumbers}
24
25 \def\setpagewiselinenumbers{}
26
27 \def\setrunninglinenumbers{}
28
29 \def\linenomath{}%
30 \@namedef{linenomath*}{}%
31 \def\endlinenomath{}
32 \expandafter\let\csname endlinenomath*\endcsname\endlinenomath
33
34 \let\linelabel\label
35
36 \def\switchlinenumbers{@ifstar{}{}}
37 \def\setmakelinenumbers#1{@ifstar{}{}}
38
39 \def\leftlinenumbers{@ifstar{}{}}
40 \def\rightlinenumbers{@ifstar{}{}}
41
```

```
42 \newcounter{linenumber}
43 \newcount\c@pagewiselinenumbers
44 \let\c@runninglinenumber\c@linenumber
45
46 \def\runningpagewiselinenumbers{}
47 \def\realpagewiselinenumbers{}
48
49
50 \NewDocumentCommand\modulolinenumbers{s o}{}
51
52 \chardef\c@linenumbermodulo=5
53 \modulolinenumbers[1]
54
55 \newcommand*\firstlinenumber[1]{}
56
57 \newcommand\internallinenumbers{}
58 \let\endinternallinenumbers\endlinenumbers
59 \namedef{internallinenumbers*}{\internallinenumbers}
60 \expandafter\let\csname endinternallinenumbers*\endcsname\endlinenumbers
61
62 \newcommand*\linenoplaceholder[1]{% redefine per language
63 (line number reference for \detokenize\expandafter{\#1})}
64 }
65
66 \newcommand*\lineref[2][]{\linenoplaceholder{\#2}}
67 \newcommand*\linerefp[2][]{\linenoplaceholder{\#2}}
68 \newcommand*\linerefr[2][]{\linenoplaceholder{\#2}}
69
70 \newcommand\quotelinenumbers
71 {\@ifstar\linenumbers{\@ifnextchar[\linenumbers{\linenumbers*}}}
72
73 \newdimen\linenumbersep
74 \newdimen\linenumberwidth
75 \newdimen\quotelinenumberssep
76
77 \quotelinenumberssep=\linenumbersep
78 \let\quotelinenumberfont\linenumberfont
79
80 \def\linenumberfont{\normalfont\tiny\sffamily}
81
82
83 \linenumberwidth=10pt
84 \linenumbersep=10pt
85
86 \def\thelinenumber{}
87
88 \def\LineNumber{}
89 \def\makeLineNumber{}
90 \def\makeLineNumberLeft{}
91 \def\makeLineNumberRight{}
92 \def\makeLineNumberOdd{}
93 \def\makeLineNumberEven{}
94 \def\makeLineNumberRunning{}
95
96
```

---

```

97 \newenvironment{numquote} {\quote}{\endquote}
98 \newenvironment{numquotation} {\quotation}{\endquotation}
99 \newenvironment{numquote*} {\quote}{\endquote}
100 \newenvironment{numquotation*}{\quotation}{\endquotation}
101
102 \newdimen\bframerule
103 \bframerule=\fboxrule
104
105 \newdimen\bframesep
106 \bframesep=\fboxsep
107
108 \newenvironment{bframe}
109 {%
110 \LWR@forceminwidth{\bframerule}%
111 \BlockClass[%
112 border:\LWR@printlength{\LWR@atleastonept} solid black ; %
113 padding:\LWR@printlength{\bframesep}%
114]{bframe}
115 }
116 {\endBlockClass}
```

---

File 246 **l warp-lips.sty**§ 354 Package **lips***(Emulates or patches code by MATT SWIFT.)*Pkg lips **lips** is emulated.

```

1% \LWR@ProvidesPackageDrop{lips}
2 \PackageInfo{l warp}{Using the l warp version of package ‘lips’.}%
3 \ProvidesPackage{l warp-lips}[2001/08/31]
4
5 \NewDocumentCommand{\Lips}{}{\textellipsis}
6
7 \NewDocumentCommand{\BracketedLips}{}{[\textellipsis]}
8
9 \let\lips\Lips
10 \let\olips\lips
11
12 \DeclareOption*{}
13 \DeclareOption{mla}{%
14 \let\lips\BracketedLips
15 }
16 \ProcessOptions\relax
17
18 \newcommand \LPNobreakList {}
```

---

File 247 **l warp-listings.sty**

§ 355      Package **listings**

(Emulates or patches code by CARSTEN HEINZ, BROOKS MOSES, JOBST HOFFMANN.)

Pkg **listings** **listings** is supported with some limitations. Text formatting and escape characters are not yet supported.

```
1 \LWR@ProvidesPackagePass{listings}[2018/09/02]
```

Force flexible columns. Fixed columns inserts spaces in the PDF output.

```
2 \lst@column@flexible
```

Patches to embed listings inside pre tags:

```
3 \let\LWR@origlst@Init\lst@Init
4 \let\LWR@origlst@DeInit\lst@DeInit
5
6 \let\LWR@origlst@EveryPar\lst@EveryPar
7
8 \renewcommand{\l@lstlisting}[2]{\hypertocfloat{1}{lstlisting}{lol}{#1}{#2}}
```

**\lstset {⟨options⟩}**

Use the **listings** literate option to replace HTML entities:

```
9 \def\lstset@#1{\endgroup%
10 \% \ifx\@empty#1%
11 \% \else%
12 \% \setkeys{lst}{%
13 \% #1%
14 \% ,literate=%
15 \% {<}{\HTMLentity{lt}}{4}%
16 \% {>}{\HTMLentity{gt}}{4}%
17 \% {'}{\HTMLentity{apos}}{6}%
18 \% {'}{\HTMLentity{grave}}{7}%
19 \% }
```

The ampersand is not treated here, as the result is inconsistent spacing. It is nevertheless converted to & elsewhere. Sanitizing the double quote interferes with **listings**' conversion of visible spaces inside strings.

```
20 \% }%
21 \% \fi%
22 }
```

**\lst@Init {⟨backslash-processing⟩}** Done at the start of a listing.

```
23 \renewcommand{\lst@Init}[1]{%
```

Perform the **listings** initialization:

```
24 \LWR@traceinfo{lst@Init}%
```

**\LWR@forcenewpage** is moved to the start to avoid a spurious bug with paragraph handling and conditionals.

```

25 \lst@ifdisplaystyle% lwarp
26 \LWR@forcenewpage% lwarp
27 \fi% lwarp

```

Escapes do not work yet, and are disabled:

```

28 \let\lst@ifmathescape\iffalse% lwarp
29 \let\lst@DefEsc\relax% lwarp
30 \def\lst@escapebegin{}% lwarp
31 \def\lst@escapeend{}% lwarp

32 \renewcommand*\@capttype{\lstlisting}% lwarp
33 \let\lst@aboveskip\z@\let\lst@belowskip\z@% lwarp
34 \gdef\lst@boxpos{t}% lwarp
35 \let\lst@frame@\empty% lwarp
36 \let\lst@frametshape@\empty% lwarp
37 \let\lst@framershape@\empty% lwarp
38 \let\lst@framebshape@\empty% lwarp
39 \let\lst@framelshape@\empty% lwarp
40 \lstframe@\lst@frameround ffff\relax% lwarp
41 \lst@m multicols@\empty% lwarp
42 \begingroup%
43 \ifx\lst@float\relax\else%
44 \edef\@tempa{\noexpand\lst@beginfloat{\lstlisting}[\lst@float]}%
45 \expandafter\@tempa%
46 \fi%
47 \ifx\lst@m multicols@\empty\else%
48 \edef\lst@next{\noexpand\multicols{\lst@m multicols}}%
49 \expandafter\lst@next%
50 \fi%
51 \ifhmode\ifinner \lst@boxtrue \fi\fi%
52 \lst@ifbox%
53 \lst@BoxUnsafe%
54 \hbox to\z@\bgroup%
55 $ \if t\lst@boxpos \vtop%
56 \else \if b\lst@boxpos \vbox%
57 \else \vcenter \fi\fi%
58 \bgroup \par\noindent%
59 \else%
60 \lst@ifdisplaystyle%
61 \lst@EveryDisplay%
62 \par\penalty-50\relax%
63 \vspace\lst@aboveskip%
64 \fi%
65 \fi%
66 \normalbaselines%
67 \abovecaptionskip\lst@abovecaption\relax%
68 \belowcaptionskip\lst@belowcaption\relax%
69 \lst@MakeCaption t%

```

Use the overall listing label instead of the line number label:

```

70 \LWR@traceinfo{\lst@Init: defining current label !@\currentlabel!}%
71 \let\LWR@listings@currentlabel@\currentlabel% lwarp
72 \LWR@traceinfo{\lst@Init: defining current label !\cref@\currentlabel!}%
73 \let\LWR@listings@\cref@\currentlabel\cref@\currentlabel% lwarp

74 \LWR@traceinfo{\lst@Init: preinit and init}%

```

```

75 \lst@PreInit \lst@Init%
76 \let@\currentlabel\LWR@listings@currentlabel% l warp
77 \let\cref@\currentlabel\LWR@listings@cref@currentlabel% l warp

78 \LWR@traceinfo{lst@Init: M}%
79 \lst@ifdisplaystyle
80 \global\let\lst@ltxlabel@\empty
81 \if@inlabel
82 \lst@ifresetmargins
83 \leavevmode
84 \else
85 \xdef\lst@ltxlabel{\the\everypar}%
86 \lst@AddTo\lst@ltxlabel{%
87 \global\let\lst@ltxlabel@\empty
88 \everypar{\lst@EveryLine\lst@EveryPar}}%
89 \fi
90 \fi
91 \everypar\expandafter{\lst@ltxlabel
92 \lst@EveryLine\lst@EveryPar}%
93 \else
94 \everypar{}%
95 \let\lst@NewLine\empty
96 \fi
97 \LWR@traceinfo{lst@Init: P}%
98 \lst@InitVars \lst@InitVarsBOL
99 \lst@Let{13}\lst@MProcessListing
100 \let\lst@Backslash#1%
101 \lst@EnterMode{\lst@Pmode}{\lst@SelectCharTable}%
102 \lst@InitFinalize%
103 \LWR@traceinfo{lst@Init: S}%

```

Avoids extra horizontal space:

```

104 \def\lst@framelr{}% l warp
105 \LWR@traceinfo{lst@Init: finished origlst@Init}%
106 \lst@ifdisplaystyle% l warp

```

Creating a display.

Disable line numbers, produce the <pre>, then reenable line numbers.

```

107 \LWR@traceinfo{lst@Init: About to create verbatim.}%
108 \let\lst@EveryPar\relax% l warp
109 \LWR@atbeginverbatim{programlisting}% l warp
110
111 \let\lst@EveryPar\LWR@origlst@EveryPar% l warp
112 \else% l warp

```

Inline, so open a <span>:

```

113 \ifbool{LWR@verbtags}{\LWR@htmltag{%
114 span class=\textquotedbl{}inlineprogramlisting\textquotedbl% l warp
115 }}{}% l warp
116 \fi% l warp
117 \LWR@traceinfo{lst@Init: done}%
118 }

```

\lst@DeInit     Done at the end of a listing.

```
119 \renewcommand*{\lst@DeInit}{%
120 \LWR@traceinfo{\lst@DeInit}%
121 \lst@ifdisplaystyle%
```

Creating a display.

Disable line numbers, produce the </pre>, then reenable line numbers:

```
122 \let\lsthk@EveryPar\relax%
123 \LWR@afterendverbatim%
124 \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
125 \else%
```

Inline, so create the closing </span>:

```
126 \ifbool{LWR@verbtags}{\noindent\LWR@htmltag{/span}}{}%
127 \fi%
```

Final **listings** deinit:

```
128 \lst@XPrintToken \lst@EOLUpdate
129 \global\advance\lst@newlines\m@ne
130 \lst@ifshowlines
131 \lst@DoNewLines
132 \else
133 \setbox@\tempboxa\vbox{\lst@DoNewLines}%
134 \fi
135 \lst@ifdisplaystyle \par\removelastskip \fi
136 \lsthk@ExitVars\everypar{}\lsthk@DeInit\normalbaselines\normalcolor
137 \lst@MakeCaption b%
138 \lst@ifbox
139 \egroup $\\hss \egroup
140 \vrule@width\lst@maxwidth@height\z@\@depth\z@
141 \else
142 \lst@ifdisplaystyle
143 \par\penalty-50\vspace\lst@belowskip
144 \fi
145 \fi
146 \ifx\lst@m multicols@\empty\else
147 \def\lst@next{\global\let@\checkend@gobble
148 \endmulticols
149 \global\let@\checkend\lst@@checkend}
150 \expandafter\lst@next
151 \fi
152 \ifx\lst@float\relax\else
153 \expandafter\lst@endfloat
154 \fi
155 \endgroup
156 \LWR@traceinfo{\lst@DeInit done}%
157 }
```

\lst@MakeCaption {*t/b*}

This is called BOTH at the top and at the bottom of each listing.

Patched for lwarp.

```

158 \def\lst@MakeCaption#1{%
159 \LWR@traceinfo{\lst@MakeCaption at #1}%
160 \lst@ifdisplaystyle
161 \LWR@traceinfo{\lst@MakeCaption: making a listings display caption}%
162 \ifx #1t%
163 \ifx\lst@@caption\empty\expandafter\lst@HRefStepCounter \else
164 \expandafter\refstepcounter
165 \fi {\lstlisting}%
166 % \LWR@traceinfo{About to assign label: !\lst@label!}%
167 % \ifx\lst@label\empty\else
168 % \label{\lst@label}\fi
169 % \LWR@traceinfo{Finished assigning the label.}%
170 \let\lst@arg\lst@intname \lst@ReplaceIn\lst@arg\lst@filenamerpl
171 \global\let\lst@name\lst@arg \global\let\lstname\lst@name
172 \lst@ifnolol\else
173 \ifx\lst@@caption\empty
174 \ifx\lst@caption\empty
175 \ifx\lst@intname\empty
176 \else
177 \def\lst@temp{ }%
178 \ifx\lst@intname\lst@temp \else

```

This code places a contents entry for a non-float. This would have to be modified for **lwarp**:

```

179 \LWR@traceinfo{\lst@MakeCaption: addcontents lst@name: -\lst@name-}%
180 % \addcontentsline{lol}{lstlisting}{\lst@name}
181 \fi
182 \fi
183 \fi
184 \else

```

This would have to be modified for **lwarp**:

```

185 \LWR@traceinfo{\lst@MakeCaption: addcontents lst@@caption: -\lst@@caption-}%
186 \addcontentsline{lol}{lstlisting}%
187 {\protect\numberline{\the\lstlisting}%
188 {\protect\ignorespaces \LWR@isolate{\lst@caption} \protect\relax}}%
189 \fi
190 \fi
191 \fi
192 \ifx\lst@caption\empty\else
193 \LWR@traceinfo{\lst@MakeCaption: lst@caption not empty-}%
194 \lst@IfSubstring #1\lst@captionpos
195 {\begingroup
196 \LWR@traceinfo{\lst@MakeCaption: at the selected position}%

```

These space and box commands are not needed for HTML output:

```

197 % \let\@vskip\vskip
198 % \def\vskip{\afterassignment\lst@vskip \tempskipa}%
199 % \def\lst@vskip{\nobreak\@vskip\tempskipa\nobreak}%
200 % \par\@parboxrestore\normalsize\normalfont \% \noindent (AS)
201 % \ifx #1\allowbreak \fi
202 \ifx\lst@title\empty

```

New **lwarp** code to create a caption:

```

203 \LWR@stopars% lwarp
204 \lst@makecaption\fnum@lstlisting{\ignorespaces \lst@caption}

```

```
205 \else
```

New `lwarp` code to create a title:

```
206 % \lst@maketitle\lst@title % (AS)
207 \LWR@traceinfo{\lst@MakeCaption: Making title: \lst@title}%
208 \begin{BlockClass}{\lstlistingtitle}%
209 \lst@maketitle\lst@title%
210 \end{BlockClass}%
211 \fi%
212 \LWR@traceinfo{\lst@MakeCaption: About to assign label: !\lst@label!}%
213 \ifx\lst@label\@empty\else%
214 \leavevmode% gets rid of bad space factor error
215 \GetTitleStringExpand{\lst@caption}%
216 \edef\LWR@lntemp{\GetTitleStringResult}%
217 \edef@\currentlabelname{\detokenize\expandafter{\LWR@lntemp}}%
218 \label{\lst@label}\fi%
219 \LWR@traceinfo{\lst@MakeCaption: Finished assigning the label.}%
```

Not needed for `lwarp`:

```
220 % \ifx #1b\allowbreak \fi
221 \endgroup}{}%
222 \fi%
223 \LWR@traceinfo{\lst@MakeCaption: end of making a listings display caption}%
224 \else
225 \LWR@traceinfo{\lst@MakeCaption: INLINE}%
226 \fi
227 \LWR@traceinfo{\lst@MakeCaption: done at #1}%
228 }%
229
230 \renewcommand{\lst@maketitle}[1]{%
231 \LWR@isolate{#1}%
232 }%
233
```

- line numbers** Patched to keep left line numbers outside of the left margin, and place right line numbers in a field `\VerbatimHTMLWidth` wide.

```
234 \lst@Key{numbers}{none}{%
235 \let\lst@PlaceNumber\@empty
236 \lstKV@SwitchCases{#1}%
237 {none:\%
238 left:\def\lst@PlaceNumber{%
```

For now, `lwarp` places left line numbers inline. Ideally the entire line would be moved to the right, but conflicts with list indenting occurs.

```
239 % \LWR@origllap{%
240 \LWR@orignormalfont%
241 \lst@numberstyle{\thelstnumber}\kern\lst@numbersep%
242 % }%
243 }\\%
244 right:\def\lst@PlaceNumber{\LWR@origrlap{\LWR@orignormalfont
245 \kern 6in \kern\lst@numbersep
246 \lst@numberstyle{\thelstnumber}}}%
247 }{\PackageError{lwarp-listings}{Numbers #1 unknown}@ehc}}
```

---

File 248 **l warp-listliketab.sty**

§ 356 Package **listliketab**

Pkg **listliketab** **listliketab** is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{listliketab}[2005/01/09]

2 \newcommand*{\storestyleof}[1]{}
3 \newcommand*{\storeliststyle}{}
4 \newenvironment{listliketab}{}{}
```

---

File 249 **l warp-lltjext.sty**

§ 357 Package **lltjext**

(Emulates or patches code by THE LUATEX-JA PROJECT TEAM.)

Pkg **lltjext** **lltjext** is patched for use by **l warp**.

for HTML output:

```
1 \LWR@ProvidesPackagePass{lltjext}[2018/10/07]

2 \protected\def\yoko{%
3 \directlua{luatexja.direction.set_list_direction(4, 'yoko')}%
4 }
5 \protected\def\tate{\yoko}
6 \protected\def\dtou{\yoko}
7 \protected\def\utod{\yoko}
8
9 \define@key[ltj]{japaram}{direction}{}
10
11 \yoko
12
13 \DeclareExpandableDocumentCommand{\rensushi}{s o m}{#3}
14
15 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
16
17 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d> d() o}{}
18
19 \LetLtxMacro\pcaption\caption
20
21 \DeclareDocumentCommand{\layoutcaption}{d> d() o}{}
22
23 \let\captiondir\relax
24 \RenewDocumentEnvironment{\LWR@HTML@minipage}{d> O{t} O{} O{t} m}
25 {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
26 {\endLWR@HTML@sub@minipage}
27
28 \RenewDocumentCommand{\LWR@HTML@parbox}{d> O{t} O{} O{t} m +m}
```

---

```

29 {
30 \LWR@traceinfo{parbox of width #4}%
31 \begin{minipage}[#2][#3][#4]{#5}%
32 #6
33 \end{minipage}%
34 }
35
36 \RenewDocumentCommand{\pbox}{d> O{0pt} O{c} m}{%
37 \global\booltrue{LWR@minipagefullwidth}%
38 \parbox[#2]{#4}%
39 }

```

---

File 250 **lwarp-longtable.sty**

§ 358 Package **longtable**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg `longtable` **longtable** is emulated.

for HTML output: `1 \LWR@ProvidesPackageDrop{longtable}[2014/10/28]`

Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```

\begin{longtable}{ [column specifiers] }
[. . .] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[. . .] \endhead % or \endfirsthead
[. . .] \endfoot
[<lastfoot macros>] \endlastfoot
}
. . . table contents . .
\warpHTMLonly{
[<lastfoot macros>] % HTML last footer, without \endfoot
 % or \endlastfoot.
}
\end{longtable}

```

⚠ Misplaced `\noalign` Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`” when using `\begin{warpprint}`.

⚠ `\kill` `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ `lateximage` **longtable** is not supported inside a `lateximage`.

See:

<http://tex.stackexchange.com/questions/43006/why-is-input-not-expandable>

Used to detect more than one of `\endhead` and `\endfirsthead` in use for HTML at the same time.

```
2 \newbool{LWR@longtable@havehead}
3 \boolfalse{LWR@longtable@havehead}
```

Env `longtable` \* [*<horizontalignment>*] {*<colspec>*} Emulates the `longtable` environment.

Per the `caption` package, the starred version steps the counter per caption. The unstarred version steps the counter once at the beginning, but not at each caption.

Options [c], [l], and [r] are ignored.

```
4 \newenvironment{longtable*}[2][]{
5 \LWR@floatbegin{table}%
6 \ifdef{\setcaptiontype}{% caption package:
7 \setcaptiontype{\LTcaptype}%
8 \caption@setoptions{longtable}%
9 \caption@setoptions{@longtable}%
10 \caption@LT@setup%
11 }{% w/o caption package:
12 \renewcommand*{\@captype}{\LTcaptype}%
13 }%
14 \booltrue{LWR@starredlongtable}%
15 \boolfalse{LWR@longtable@havehead}%
16 \let\captionlistentry\LWR@LTcaptionlistentry%
17 \tabular{#2}%
18 }
19 {\endtabular\LWR@floatend}
20
21 \newenvironment{longtable}[2][]{
22 \LWR@floatbegin{table}%
23 \ifdef{\setcaptiontype}{% caption package:
24 \setcaptiontype{\LTcaptype}%
25 \caption@setoptions{longtable}%
26 \caption@setoptions{@longtable}%
27 \caption@LT@setup%
28 }{% w/o caption package:
29 \renewcommand*{\@captype}{\LTcaptype}%
30 }%
31 \refstepcounter{\LTcaptype}%
32 \boolfalse{LWR@longtable@havehead}%
33 \let\captionlistentry\LWR@LTcaptionlistentry%
34 \tabular{#2}%
35 }
36 {\endtabular\LWR@floatend}
```

Provided for compatibility, but ignored:

```
37 \newcounter{LTchunksize}
```

Error for heads which should have been in `\warpprintonly`:

```
38 \newcommand*{\LWR@longtable@headerror}{%
```

```

39 \PackageError{lwarp-longtable}
40 {For longtable:\MessageBreak
41 1: Keep either one of an \protect\endhead\space or\MessageBreak
42 \space\protect\endfirsthead\space phrase as-is,\MessageBreak
43 \space to be used by both print and HTML.\MessageBreak
44 2: Place any other \protect\end... phrases inside a\MessageBreak
45 \space\protect\warpprintonly\space macro,
46 to be ignored by HTML.\MessageBreak
47 3: At the end of the table,\MessageBreak
48 \space add a final footer for HTML\MessageBreak
49 \space inside a \protect\warpHTMLonly\space macro.
50 This can be\MessageBreak
51 \space a copy of an \protect\endfoot\space or
52 \protect\endfirstfoot\MessageBreak
53 \space phrase, but without the actual \protect\endfoot\MessageBreak
54 \space or \protect\endfirstfoot\space macros.\MessageBreak
55 \space If using threeparttablex, add\MessageBreak
56 \space \protect\insertTableNotes\space here,
57 optionally with\MessageBreak
58 \space \protect\UseMinipageWidths\space in front.\MessageBreak
59 See the Lwarp documentation regarding\MessageBreak
60 longtables and threeparttablex}
61 {See the Lwarp documentation regading longtables and threeparttablex.}
62 }

```

Error if more than one of \endhead or \endfirsthead is outside of warpprintonly.

```

63 \newcommand*{\LWR@longtable@maybeheaderror}{%
64 \ifbool{\LWR@longtable@havehead}{%
65 {\LWR@longtable@headererror}%
66 {%
67 \booltrue{\LWR@longtable@havehead}%
68 \LWR@tabularendofline% throws away options // [dim] and // *
69 }%
70 }

```

Error if more than one of these is outside of warpprint.

```

71 \def\endhead{\LWR@longtable@maybeheaderror}
72 \def\endfirsthead{\LWR@longtable@maybeheaderror}

```

Error if ANY of these is outside of warpprint.

```

73 \def\endfoot{\LWR@longtable@headererror}
74 \def\endlastfoot{\LWR@longtable@headererror}

75 \providecommand*{\LWR@HTML@tabularnewline}{\LWR@tabularendofline}
76 \LWR@formatted{tabularnewline}

77 \newcommand{\setlongtables}{}% Obsolete command, does nothing.
78 \newlength{\LTleft}
79 \newlength{\LTright}
80 \newlength{\LTpre}
81 \newlength{\LTpost}
82 \newlength{\LTcapwidth}

```

---

```

83 \LetLtxMacro{\LWR@origkill}{\kill}
84 \renewcommand*{\kill}{\LWR@tabularendofline}
85 \appto{\LWR@restoreorigformatting}{%
86 \LetLtxMacro{\kill}{\LWR@origkill}%
87 }

```

---

File 251 **l warp-lpic.sty**

§ 359 Package **lpic**

(Emulates or patches code by R. MATVEYEV.)

Pkg **lpic** **lpic** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{lpic}[2010/12/23]

```

2 \BeforeBeginEnvironment{lpic}{%
3 \begin{lateximage}[-lpic-~\PackageDiagramAltText]{%
4 }%
5 \AfterEndEnvironment{lpic}{\end{lateximage}}

```

---

File 252 **l warp-lscape.sty**

§ 360 Package **lscape**

(Emulates or patches code by D. P. CARLISLE.)

Pkg **lscape** **lscape** is ignored.

**for HTML output:** Discard all options for **l warp-lscape**.

```

1 \LWR@ProvidesPackageDrop{lscape}[2000/10/22]
2 \newenvironment*{landscape}{}{}

```

---

File 253 **l warp-ltablex.sty**

§ 361 Package **ltablex**

(Emulates or patches code by ANIL K. GOEL.)

Pkg **ltablex** **ltablex** is emulated by **l warp**.

**for HTML output:** Relies on **tabularx**.

```

1 \RequirePackage{longtable}
2 \RequirePackage{tabularx}

```

```
3
4 \LWR@ProvidesPackageDrop{ltablex}[2014/08/13]
5
6 \DeclareDocumentEnvironment{tabularx}{m o m}
7 {\longtable{#3}}
8 {\endlongtable}
9
10 \DeclareDocumentEnvironment{tabularx*}{m o m}
11 {\longtable{#3}}
12 {\endlongtable}
13
14 \newcommand*{\keepXColumns}(){}
15 \newcommand*{\convertXColumns}{}{}
```

---

File 254 **l warp-ltcaption.sty**

§ 362 Package **ltcaption**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg ltcaption **ltcaption** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{ltcaption}[2018/08/26]

\LTcaptype is already defined by **l warp**.

**longtable\*** is already defined by **l warp-longtable**.

```
2 \newlength{\LTcapskip}
3 \newlength{\LTcapleft}
4 \newlength{\LTcapright}
5 \newcommand*{\LTcapmarginsfalse}{}{}
```

---

File 255 **l warp-ltxgrid.sty**

§ 363 Package **ltxgrid**

Pkg ltxgrid **ltxgrid** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{ltxgrid}[2010/07/25]

```
2 \newcommand*{\onecolumngrid}(){}
3 \newcommand*{\twocolumngrid}){}
4 \newcommand*{\removestuff}(){}
5 \newcommand*{\addstuff}[2]({})
6 \newcommand*{\replacetuff}[2]({}
```

---

File 256 **l warp-ltxtable.sty**

---

§ 364      Package **ltxtable**

Pkg ltxtable ltxtable is emulated.

⚠ **table numbering** The print version does not seem to honor longtable\* from the caption package, while l warp does.

**for HTML output:** 1 \RequirePackage{tabularx, longtable}  
2 \LWR@ProvidesPackageDrop{ltxtable}[1995/12/11]

```
\LTXtable {\langle width\rangle} {\langle file\rangle}
3 \newcommand*{\LTXtable}[2]{%
4 \input{#2}%
5 }
```

---

File 257 **l warp-lua-check-hyphen.sty**

§ 365      Package **lua-check-hyphen**

Pkg lua-check-hyphen lua-check-hyphen is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lua-check-hyphen}[2018/04/19]  
2 \newcommand\*{\LuaCheckHyphen}[1]{}

---

File 258 **l warp-lua-visual-debug.sty**

§ 366      Package **lua-visual-debug**

Pkg lua-visual-debug lua-visual-debug is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lua-visual-debug}[2016/05/30]

---

File 259 **l warp-luacolor.sty**

§ 367      Package **luacolor**

Pkg luacolor luacolor is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{luacolor}[2016/05/16]  
2 \newcommand{\luacolorProcessBox}[1]{}

---

**File 260 l warp-luamplib.sty****§ 368 Package luamplib**

(Emulates or patches code by HANS HAGEN, TACO HOEKWATER, ELIE ROUX, PHILIPP GESANG, KIM DOHYUN.)

Pkg luamplib luamplib is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luamplib}[2020/02/24]

```
2 \BeforeBeginEnvironment{mplibcode}{%
3 \begin{latentimage}[-mplibcode-\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{mplibcode}{\end{latentimage}}
```

---

**File 261 l warp-luatexko.sty****§ 369 Package luatexko**

(Emulates or patches code by DOHYUN KIM, SOOJIN NAM.)

Pkg luatexko luatexko is patched for use by l warp.

Modern HTML is used for \dotemph, \ruby, and offset and thickness control for \underline, etc.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luatexko}[2020/03/20]

```
2 \newcommand{\LWR@HTML@dotemph}[1]{%
3 \underline{#1}%
4 \InlineClass{text-emphasis-style: dot}{dotemph}{#1}%
5 }
6 \LWR@formatted{dotemph}
7
8 \newcommand{\LWR@HTML@ruby}[2]{%
9 \LWR@htmltagc{ruby}%
10 \LWR@htmltagc{rb}\#1\LWR@htmltagc{/rb}%
11 \LWR@htmltagc{rp}(\LWR@htmltagc{/rp}%
12 \LWR@htmltagc{rt}\#2\LWR@htmltagc{/rt}%
13 \LWR@htmltagc{rp})\LWR@htmltagc{/rp}%
14 \LWR@htmltagc{/ruby}%
15 }
16 \LWR@formatted{ruby}
```

The following is modified from l warp-ulem:

```
17 \NewDocumentCommand{\LWR@HTML@underline}{+m}{%
18 \InlineClass{%
19 (text-decoration:underline; text-decoration-skip: auto)%
```

```
20 [%
21 text-underline-offset: \ulinedown ;
22 text-decoration-thickness: \ulinewidth%
23]%
24 {uline}{\LWR@isolate{#1}}%
25 }
26 \LWR@formatted{uline}
27
28 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
29 \InlineClass%
30 (%
31 text-decoration:underline; text-decoration-skip: auto;%
32 text-decoration-style:double%
33)%
34 [%
35 text-underline-offset: \ulinedown ;
36 text-decoration-thickness: \ulinewidth%
37]%
38 {uuline}{\LWR@isolate{#1}}%
39 }
40 \LWR@formatted{uuline}
41
42 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
43 \InlineClass%
44 (%
45 text-decoration:underline; text-decoration-skip: auto;%
46 text-decoration-style:wavy%
47)%
48 [%
49 text-underline-offset: \ulinedown ;
50 text-decoration-thickness: \ulinewidth%
51]%
52 {uwave}{\LWR@isolate{#1}}%
53 }
54 \LWR@formatted{uwave}
55
56 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
57 \InlineClass%
58 (text-decoration:line-through)%
59 [text-decoration-thickness: \ulinewidth]%
```

60 {sout}{\LWR@isolate{#1}}%  
61 }  
62 \LWR@formatted{sout}  
63  
64 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%  
65 \InlineClass%  
66 (text-decoration:line-through)%  
67 [text-decoration-thickness: \ulinewidth]%

68 {xout}{\LWR@isolate{#1}}%  
69 }  
70 \LWR@formatted{xout}  
71  
72 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%  
73 \InlineClass%  
74 (%)

```

75 text-decoration:underline;%
76 text-decoration-skip: auto;%
77 text-decoration-style:dashed%
78)%
79 [%-
80 text-underline-offset: \ulinedown ;
81 text-decoration-thickness: \ulinewidth%
82]%
83 {dashuline}{\LWR@isolate{#1}}%
84 }
85 \LWR@formatted{dashuline}
86
87 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
88 \InlineClass%
89 (%-
90 text-decoration:underline;%
91 text-decoration-skip: auto;%
92 text-decoration-style: dotted%
93)%
94 [%-
95 text-underline-offset: \ulinedown ;
96 text-decoration-thickness: \ulinewidth%
97]%
98 {dotuline}{\LWR@isolate{#1}}%
99 }
100 \LWR@formatted{dotuline}

```

File 262 **lwarf-luatodonotes.sty**

§ 370 Package **luatodonotes**

*(Emulates or patches code by FABIAN LIPP.)*

Pkg luatodonotes luatodonotes is emulated.

The documentation for **todonotes** and **luatodonotes** have an example with a todo inside a caption. If this example does not work it will be necessary to move the todo outside of the caption.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luatodonotes}[2017/09/30]

Nullify options:

```

2 \@todonotes@additionalMarginEnabledfalse

3 \if@todonotes@disabled
4 \else
5
6 \newcommand{\ext@todo}{tdo}
7
8 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{todo}{\l@odo}{#1}{#2}}

```

```
9 \let\LWRTODONOTES@orig@todototoc\todototoc
10
11 \renewcommand{\todototoc}{%
12 \LWR@phantomsection%
13 \LWRTODONOTES@orig@todototoc%
14 }
15
16
17 \renewcommand{@todonotes@drawMarginNoteWithLine}{%
18 \fcolorbox{%
19 {@todonotes@currentbordercolor}%
20 {@todonotes@currentbackgroundcolor}%
21 {\arabic{@todonotes@numberoftodonotes}}%
22 }{%
23 {@todonotes@drawMarginNote}%
24 }
25 \renewcommand{@todonotes@drawInlineNote}{%
26 \fcolorboxBlock{%
27 {@todonotes@currentbordercolor}%
28 {@todonotes@currentbackgroundcolor}%
29 {%
30 \if@todonotes@authorgiven%
31 {@todonotes@author:\,}%
32 \fi%
33 {@todonotes@text}%
34 }%
35 }
36
37 \newcommand{@todonotes@drawMarginNote}{%
38 \if@todonotes@authorgiven%
39 {@todonotes@author\par}%
40 \fi%
41 {\arabic{@todonotes@numberoftodonotes}: \%}
42 \fcolorbox{%
43 {@todonotes@currentbordercolor}%
44 {@todonotes@currentbackgroundcolor}%
45 }{%
46 {@todonotes@sizecommand}%
47 {@todonotes@text}%
48 }%
49 }
50
51 \renewcommand{\missingfigure}[2][]{%
52 \setkeys{todonotes}{#1}%
53 \addcontentsline{tdo}{todo}{@todonotes@MissingFigureText: #2}%
54 \fcolorboxBlock{%
55 {@todonotes@currentbordercolor}%
56 {@todonotes@currentfigcolor}%
57 {%
58 \setlength{\fboxrule}{4pt}%
59 \fcolorbox{red}{white}{Missing figure} \quad #2%
60 }%
61 }
62
63 \LetLtxMacro{\LWRTODONOTES@orig@todocommon}{\todocommon}
```

```

64
65 \RenewDocumentCommand{\@todocommon}{m m}{%
66 \begingroup%
67 \renewcommand*\phantomsection{}%
68 \LWRTODONOTES@orig@todocommon{#1}{#2}%
69 \endgroup%
70 }
71
72 \renewcommand{\todoarea}[3][]{%
73 \todonotes@areaselectedtrue%
74 \todocommon{#1}{#2}%
75 \todonotes@textmark@highlight{#3}%
76 \zref@label{\todonotes@\arabic{\todonotes@numberoftodonotes}@end}%
77 }%
78
79
80 \DeclareDocumentCommand{\todonotes@textmark@highlight}{m}{%
81 \InlineClass[background:\LWR@origpound{}B3FFB3]{highlight}{#1}%
82 }
83
84 \fi \if@todonotes@disabled

```

File 263 **l warp-luavlna.sty**

§ 371 Package **luavlna**

(Emulates or patches code by MICHAL HOFTICH, MIRO HRONČOK.)

Pkg luavlna luavlna is patched for use by l warp.

The package is disabled for HTML output, due to incompatibilities with l warp's handling of math SVG images.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{luavlna}[2019/10/30]

2 \preventsingleoff
3 \LetLtxMacro\preventsingleon\preventsingleoff

```

File 264 **l warp-lyluatex.sty**

§ 372 Package **lyluatex**

(Emulates or patches code by FR. JACQUES PERON, URS LISKA, BR. SAMUEL SPRINGUEL.)

Pkg lyluatex lyluatex is patched for use by l warp.

For the first compile, to set l warpmk's configuration, use:

```
lualatex --shell-escape <filename>
```

**⚠️ images** After compiling the document with `lwarpmk html`, use `lwarpmk limages` to convert the Lilypond images for HTML.

The option `insert=systems` results in an image per system. Each music image “system” is placed inside a `<span>` of class `lyluatex`, which defaults to display: `inline-block`.

**⚠️ insert=fullpage** The option `insert=fullpage` results in a single image per page of printed output. Each music “fullpage” image is placed inside a `<div>` of class `lyluatex`. To match the number of measures per line with the printed version, use the `geometry` package to select the page geometry, or use the `lyluatex` options for page and staff sizes.

**⚠️ options** To use `\linewidth` or `\textwidth` inside the package options for `lyluatex`, use the `kvoptions-patch` package first:

```
\usepackage{kvoptions-patch}
\usepackage[...,line-width-0.8\linewidth,...]{lyluatex}
```

**⚠️ raw-pdf** If using `raw-pdf`, the resulting PDF images must be converted to SVG:

Enter ⇒ `lwarpmk pdftosvg tmp-ly/*.pdf`

**for HTML output:**

```
1 \LWR@origRequirePackage{luacode}
2
3 \LWR@ProvidesPackagePass{lyluatex}[2019/05/27]
```

User-redefinable ALT tag:

```
4 \newcommand*{\LyluatexImageAltText}{-lilypond-\PackageDiagramAltText}
```

`\ly@compilescore` {⟨Lilypond object⟩}

```
5 \LetLtxMacro{\LWR@orig@ly@compilescore}{\ly@compilescore}
6
7 \renewcommand*{\ly@compilescore}[1]{%
```

A local group holds a number of changes:

```
8 \begingroup%
```

The user’s original geometry and font size are restored to match the print version. This allows for correct spacing in the musical score.

```
9 \LWR@maybe@orignewpage%
10 \LWR@origloadgeometry{\LWR@usergeometry}%
11 \LWR@print@normalsize%
```

A local group holds a redefined `\includegraphics` which is used by `lyluatex.lua` to insert the **Lilypond** score if `insert=systems` is used. This is now placed inside a `lateximage`, which itself is placed inside a `<span>` of class `lyluatex`.

`\LWR@addbaselinemarker` preserves the left margins.

```
12 \renewcommand{\includegraphics}[2][]{%
13 \InlineClass{lyluatex}{%
14 \begin{lateximage}[\LyluatexImageAltText]%
15 \LWR@addbaselinemarker%
16 \LWR@origincludegraphics{##2}%
17 }
```

```

17 \end{lateximage}%
18 }%
19 }%

```

From the original:

```

20 \ly@setunits%
21 \directlua{
22 ly_opts:set_option('currfiledir', [[\currfiledir]])
23 ly_opts:set_option('twoside', '\ly@istwosided')
24 #1
25 }%
26 \ly@resetunits%
27 \ly@currentfonts%

```

The fullpage version is set inside an HTML <div>:

```

28 \directlua{
29 if (ly.score.insert == 'fullpage') then
30 tex.print{[[\string\begin{BlockClass}{lyluatex}]]}
31 end
32 }%

```

Generate the score:

```
33 \directlua{ly.score:process()}%
```

Close the <div>:

```

34 \directlua{
35 if (ly.score.insert == 'fullpage') then
36 tex.print{[[\string\end{BlockClass}]]}
37 end
38 }%

```

Move to a new page and renew the regular page geometry:

```

39 \LWR@maybe@orignewpage%
40 \LWR@origrestoregeometry%

```

End of the local group.

```

41 \endgroup%
42 }

```

In HTML the following generates an error, so is removed:

```

43 \xpatchcmd{\endly@bufferenv}
44 {\hspace{0pt}\\"}
45 {}
46 {}
47 {\LWR@patcherror{lyluatex}{endly@bufferenv}}

```

File 265 **lwarp-magaz.sty**

§ 373 Package **magaz**

Pkg magaz magaz is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{magaz}[2011/11/24]

```

2 \newcommand\FirstLine[1]{%
3 \begingroup%
4 \FirstLineFont{%
5 \LWR@textcurrentcolor{%
6 \LWR@textcurrentfont{%
7 #1%
8 }%
9 }%
10 }%
11 \endgroup%
12 }
13
14 \providecommand\FirstLineFont{\scshape}
```

---

#### File 266 lwarp-makeidx.sty

§374 Package **makeidx**

(Emulates or patches code by L<sup>A</sup>T<sub>E</sub>X PROJECT TEAM.)

Pkg makeidx makeidx is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{makeidx}[2014/09/29]

\@wrindex is redefined \AtBeginDocument by the lwarp core.

\printindex

```

2 \preto\printindex{%
3 \LWR@maybe@orignewpage%
4 \LWR@startpars%
5 }
```

---

#### File 267 lwarp-manyfoot.sty

§375 Package **manyfoot**

Pkg manyfoot manyfoot is emulated.

**bigfoot, manyfoot** Verbatim footnotes are not yet supported.

⚠ verbatim

If using the **bigfoot** package, and possibly also **manyfoot**, problems may occur with counter allocation because **lwarp** uses many counters, and there is a difference in how counters numbered 256 and up are handled in pdfL<sup>A</sup>T<sub>E</sub>X. With **bigfoot** this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining `bigfoot` or `manyfoot` footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use X<sub>E</sub>T<sub>E</sub>X or Lua<sub>E</sub>T<sub>E</sub>X instead of pdf<sub>E</sub>T<sub>E</sub>X.

`l warp`'s emulation of `bigfoot` uses `manyfoot`, so some of the `bigfoot` enhancements are included here.

The `bigfoot` “default” footnote is ignored, using the `l warp` version instead.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{manyfoot}[2005/09/11]

2 \RequirePackage{nccfoots}
3
4 \newcommand{\extrafootnoterule}{}%
5
6 \let\defaultfootnoterule\footnoterule
7
8 \newcommand*\SelectFootnoteRule[2][0]{}%
9
10 \newcommand{\footnoterulepriority}{1}
11
12 \newcommand{\SetFootnoteHook}[1]{}%
13 \@onlypreamble\SetFootnoteHook
14
15 \newcommand{\SplitNote}{}%
16
17 \newcommand*\ExtraParaSkip[1]{}%
18
19 \newcommand*\newfootnote[2][plain]{%
20 \ifstreq{\#2}{default}{}{%
21 \expandafter\newbox\csname LWR@footnote\#2box\endcsname%
22 \appto{\LWR@printpendingfootnotes}{%
23 \LWR@@printpendingfootnotes{footnote\#2}%
24 }%
25 \long\csdef{Footnotetext\#2}##1##2{%
26 \NCC@makefnmark{\#1}%
27 \LWR@@footnotetext{\#2}{LWR@footnote\#2box}%
28 }%
29 \long\csdef{Footnotetext\#2+}##1##2{%
30 \NCC@makefnmark{\#1}%
31 \LWR@@footnotetext{\#2}{LWR@footnote\#2box}%
32 }%
33 }%
34 }%
35 \@onlypreamble\newfootnote
36
37 \newcommand*\DeclareNewFootnote[2][plain]{%
38 \@ifnextchar[%
39 {\LWR@manyfoot@declare{\#1}{\#2}}%
40 {\LWR@manyfoot@declare{\#1}{\#2}[arabic]}%
41 }
42
43 \def\LWR@manyfoot@declare#1#2[#3]{%
44 \ifstreq{\#2}{default}{}{%
45 \newfootnote{\#1}{\#2}%
46 }}
```

```

46 \newcounter{footnote#2}%
47 \newcounter{footnote#2Reset}%
48 \setcounter{footnote#2Reset}{0}%
49 \csdef{thefootnote#2}{%
50 \expandafter\noexpand\csname @#3\endcsname%
51 \expandafter\noexpand\csname c@footnote#2\endcsname%
52 }%

```

For **bigfoot**, the footnote commands may be appended with one or two plusses or one or two minus, which are ignored in HTML.

```

53 \expandafter\NewDocumentCommand\csname footnote#2\endcsname{t{+}t{+}t{-}t{-}}{%
54 \stepcounter{footnote#2}%
55 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
56 \footnotemark%
57 \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
58 }%
59 \csdef{footnotemark#2}{%
60 \stepcounter{footnote#2}%
61 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
62 \footnotemark%
63 }%
64 \expandafter\NewDocumentCommand\csname footnotetext#2\endcsname{t{+}t{+}t{-}t{-}}{%
65 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
66 \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
67 }%
68 \csdef{Footnotemark#2}{%
69 \Footnotemark%
70 }%
71 \csdef{Footnote#2}##1{%
72 \Footnotemark##1%
73 \csuse{Footnotetext#2}{##1}%
74 }%
75 }% not "default"
76 }
77 \onlypreamble\DeclareNewFootnote

```

File 268 **l warp-marginal.sty**

§ 376 Package **marginal**

Pkg marginal **marginal** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{marginal}

2 \newcommand*\showlostmarginals(){}
3 \newcommand*\enlargefreelist(){}
4 \newcommand*\onesidemarginals(){}

```

File 269 **l warp-marginfit.sty**

§ 377 Package **marginfit**

Pkg marginfit marginfit is ignored.

**for HTML output:** Discard all options for `\warp{marginfit}`:

1 \LWR@ProvidesPackageDrop{marginfit}[2018/06/08]

File 270 **lwarp-marginfix.sty**

§ 378 Package **marginfix**

*(Emulates or patches code by STEPHEN HICKS.)*

Pkg marginfix marginfix is ignored.

**for HTML output:** Discard all options for `\warp{marginfix}`:

1 \LWR@ProvidesPackageDrop{marginfix}[2013/09/08]

File 271 **lwarp-marginnote.sty**

§ 379 Package **marginnote**

(Emulates or patches code by MARKUS KOHM.)

Pkg marginnote marginnote is emulated.

**for HTML output:** Discard all options for `\warp-marginnote`:

1 \LWR@ProvidesPackageDrop{marginnote}「2018/08/09」

```
2 \NewDocumentCommand{\marginnote}{+o +m o}{\marginpar{#2}}
```

  

```
3 \newcommand*{\marginnoteleftadjust}{}
4 \newcommand*{\marginnoterightadjust}{}
5 \newcommand*{\marginnotetextwidth}{}
6 \let\marginnotetextwidth\textwidth
7 \newcommand*{\marginnotevadjust}{}
8 \newcommand*{\marginnotetext}[1]{\marginnote{#1}}
9 \newcommand*{\marginnoteleft}[1]{\marginnoteleftadjust{#1}}
10 \newcommand*{\marginnoteright}[1]{\marginnoterightadjust{#1}}
11 \newcommand*{\marginnotetextwidth}[1]{\marginnotetextwidth{#1}}
12 \newcommand*{\marginnotevadjust}[1]{\marginnotevadjust{#1}}
```

---

```

8 \newcommand*{\marginfont}{}
9 \newcommand*{\raggedleftmarginnote}{}
10 \newcommand*{\raggedrightmarginnote}{}

11 \appto\LWR@restoreorigformatting{%
12 \RenewDocumentCommand{\marginnote}{+o +m o}{}
13 }

```

For MATHJAX:

```

14 \begin{warpMathJax}
15 \CustomizeMathJax{\newcommand{\LWRmarginnote}[1][]{}}
16 \CustomizeMathJax{\newcommand{\marginnote}[2][]{\quad{\small\textrm{\#2}}}\LWRmarginnote}
17 \end{warpMathJax}

```

---

### File 272 **l warp-marvosym.sty**

#### § 380 Package **marvosym**

(Emulates or patches code by THOMAS HENLICH, MOJCA MIKLAVEC.)

Pkg **marvosym** **marvosym** is patched for use by **l warp**.

Hashed inline images are used, as there may not be Unicode support for all icons.

**for HTML output:** 1 \LWR@ProvidesPackagePass{marvosym}[2011/07/20]

```

2 \renewcommand{\mvchr}[1]{%
3 \begin{lateximage}*[symbol #1][marvosym #1]%
4 \mvs\char#1%
5 \end{lateximage}%
6 }
7
8 \renewcommand{\textmvs}[1]{%
9 \begin{lateximage}%
10 \mvs #1%
11 \end{lateximage}%
12 }

```

---

### File 273 **l warp-mathalpha.sty**

#### § 381 Package **mathalpha**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg **mathalpha** **mathalpha** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, and some bold fonts may not be supported by MATHJAX.

**for HTML output:**

---

```

1 \LWR@ProvidesPackagePass{mathalpha}[2019/10/05]
2
3 \begin{warpMathJax}
4 \CustomizeMathJax{\newcommand{\mathbbb}{1}{\boldsymbol{\mathbb{#1}}}}% not bold
5 \CustomizeMathJax{\newcommand{\mathbcal}{1}{\boldsymbol{\mathcal{#1}}}}
6 \CustomizeMathJax{\newcommand{\mathbfrak}{1}{\boldsymbol{\mathfrak{#1}}}}
7 \CustomizeMathJax{\newcommand{\mathbscr}{1}{\boldsymbol{\mathscr{#1}}}}% not bold
8 \end{warpMathJax}

```

---

File 274 **l warp-mathastext.sty**

§ 382 Package **mathastext**

*(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)*

Pkg **mathastext** **mathastext** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{mathastext}[2019/11/16]
```

```

2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \ifmst@itgreek
6 % \LWR@mathjax@addgreek@l@it{}{}
7 \else
8 \ifmst@upgreek
9 \LWR@mathjax@addgreek@l@up{}{}
10 \else
11 \ifmst@frenchmath
12 \LWR@mathjax@addgreek@l@up{}{}
13 \else
14 \ifmst@italic
15 % \LWR@mathjax@addgreek@l@it{}{}
16 \else
17 \LWR@mathjax@addgreek@l@up{}{}
18 \fi
19 \fi
20 \fi
21 \fi
22
23 \ifcase\mst@greek@select
24 \or{\LWR@mathjax@addgreek@u@it*{}{}}
25 % \or{\LWR@mathjax@addgreek@u@up*{}{}}
26 \fi
27
28 \CustomizeMathJax{\newcommand{\mathnormalbold}{1}{\boldsymbol{\mathbb{#1}}}}
29 \CustomizeMathJax{\newcommand{\MathEulerBold}{1}{\boldsymbol{\mathcal{#1}}}}
30 \CustomizeMathJax{\newcommand{\MathEuler}{1}{\mathcal{#1}}}
31 \CustomizeMathJax{\newcommand{\MathPSymbol}{1}{\mathscr{#1}}}
32 \CustomizeMathJax{\let\fouriervec\vec}
33 \CustomizeMathJax{\let\pmvec\vec}
34 \CustomizeMathJax{\let\inodot\imath}
35 \CustomizeMathJax{\let\jnodot\jmath}

```

---

```

36 \CustomizeMathJax{\let\shortiff\iff}
37 \CustomizeMathJax{\let\longto\longrightarrow}
38 \CustomizeMathJax{\newcommand{\infty}{\mathord{\text{\scriptsize\texttt{infinity}}}}}
39 \CustomizeMathJax{\newcommand{\propto}{\mathrel{\text{\scriptsize\texttt{propto}}}}}
40 \CustomizeMathJax{\let\prodpsy\prod}
41 \CustomizeMathJax{\let\sumpsy\sum}
42 \CustomizeMathJax{\let\MToriginalprod\prod}
43 \CustomizeMathJax{\let\MToriginalsum\sum}
44 \CustomizeMathJax{\newcommand{\DotTriangle}{\mathord{\text{\scriptsize\texttt{dottriangle}}}}}
45 \end{warpMathJax}
```

---

File 275 **lwarp-mathcomp.sty**

§ 383 Package **mathcomp**

*(Emulates or patches code by TILMANN Böß.)*

Pkg **mathcomp** **mathcomp** is supported as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathcomp}[2001/01/07]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\tcohm}{\mathrm{\Omega}}}
4 \CustomizeMathJax{\newcommand{\tcelsius}{\text{\scriptsize\texttt{celsius}}}}
5 \CustomizeMathJax{\newcommand{\tcmu}{\mathrm{\mu}}}
6 \CustomizeMathJax{\newcommand{\tcpertousand}{\text{\scriptsize\texttt{perthousand}}}}
7 \CustomizeMathJax{\newcommand{\tcpertenthousand}{\text{\scriptsize\texttt{pertenthousand}}}}
8 \CustomizeMathJax{\newcommand{\tcdegree}{\mathrm{^\circ}}}
9 \CustomizeMathJax{\newcommand{\tcdigitoldstyle}[1]{\oldstyle{#1}}}
10 \end{warpMathJax}
```

---

File 276 **lwarp-mathdesign.sty**

§ 384 Package **mathdesign**

*(Emulates or patches code by PAUL PICHAUREAU.)*

Pkg **mathdesign** **mathdesign** is used as-is for SVG math, and is emulated for MATHJAX.

**⚠ limitations** The MATHJAX emulation ignores all package options except greekuppercase and greeklowercase. The dedicated macros for upright and italic greek letters work correctly, although the user may wish to swap the definitions for epsilon and phi.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathdesign}[2013/08/29]

For MATHJAX:

```
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
```

---

```

3
4 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
5
6 \begin{warpMathJax}
7 \LWR@info{processingmathjax}{mathdesign}
```

Default greek upright or italicized:

```

8 \if@MD@grupright
9 \LWR@mathjax@addgreek@l@up{}{}
10 \fi
11
12 \if@MD@GRupright
13 \else
14 \LWR@mathjax@addgreek@u@it*{}{}
15 \fi
```

Upright:

```

16 \LWR@mathjax@addgreek@l@up{}{up}
17 \LWR@mathjax@addgreek@u@up*{}{up}
```

Italicized:

```

18 \LWR@mathjax@addgreek@l@it{}{it}
19 \LWR@mathjax@addgreek@u@it*{}{it}
```

Adapt to **mathdesign** inconsistency:

```

20 \CustomizeMathJax{\let\digammaup\Digammaup}
21 \CustomizeMathJax{\renewcommand{\digammaait}{\mathit{\digammaup}}}
```

Extra symbols:

```

22 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\text{\scriptsize\texttt{\&}}}{}}
23 \CustomizeMathJax{\newcommand{\smallowns}{\mathrel{\text{\scriptsize\texttt{\&}}}{}}
24 \CustomizeMathJax{\newcommand{\notsmallin}{\mathrel{\text{\LWRoverlaysymbols{/}}}\text{\scriptsize\texttt{\&}}}{}}
25 \CustomizeMathJax{\newcommand{\notsmallowns}{\mathrel{\text{\LWRoverlaysymbols{/}}}\text{\scriptsize\texttt{\&}}}{}}
26 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\text{\scriptsize\texttt{\&}}}{}}}
```

Integrals:

```

27 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\text{\scriptsize\texttt{\&}}}{}\limits}}
28 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\text{\scriptsize\texttt{\&}}}{}\limits}}
29 \CustomizeMathJax{\newcommand{\ointctr-clockwise}{\mathop{\text{\scriptsize\texttt{\&}}}{}\limits}}
30 \CustomizeMathJax{\newcommand{\oint}{\mathop{\text{\scriptsize\texttt{\&}}}{}\limits}}
31 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\text{\scriptsize\texttt{\&}}}{}\limits}}
```

Math and text mode:

```

32 \CustomizeMathJax{\newcommand{\ddag}{\text{\scriptsize\texttt{\&}}}}
33 \CustomizeMathJax{\newcommand{\P}{\text{\scriptsize\texttt{\&}}}}
34 \CustomizeMathJax{\newcommand{\copyright}{\text{\scriptsize\texttt{\&}}}}
35 \CustomizeMathJax{\newcommand{\dag}{\text{\scriptsize\texttt{\&}}}}
36 \CustomizeMathJax{\newcommand{\pounds}{\text{\scriptsize\texttt{\&}}}}
```

Extra symbols:

```

37 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\!{\rm \kern-.1em}\cdots}}}
38 \CustomizeMathJax{\newcommand{\utimes}{\mathbin{\overline{\times}}}}
39 \CustomizeMathJax{\newcommand{\dtimes}{\mathbin{\underline{\times}}}}
40 \CustomizeMathJax{\newcommand{\udtimes}{\mathbin{\overline{\underline{\times}}}}}
41 \CustomizeMathJax{\newcommand{\leftwave}{\left\langle}}
42 \CustomizeMathJax{\newcommand{\rightwave}{\right\rangle}}
43
44 \end{warpMathJax}
```

---

### File 277 **l warp-mathdots.sty**

#### § 385 Package **mathdots**

*(Emulates or patches code by DAN LUECKING.)*

Pkg **mathdots** **mathdots** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathdots}[2014/06/11]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\!{\rm \kern-.1em}\cdots}}}
4 \CustomizeMathJax{\let\fixedddots\ddots}
5 \CustomizeMathJax{\let\fixedvdots\vdots}
6 \CustomizeMathJax{\let\fixediddots\iddots}
7 \CustomizeMathJax{\let\originalddots\ddots}
8 \CustomizeMathJax{\let\originalvdots\vdots}
9 \CustomizeMathJax{\let\originaliddots\iddots}
10 \CustomizeMathJax{\let\originaldddot\dddot}
11 \CustomizeMathJax{\let\originaldddot\dddot}
12 \end{warpMathJax}
```

---

### File 278 **l warp-mathfixs.sty**

#### § 386 Package **mathfixs**

*(Emulates or patches code by NIKLAS BEISERT.)*

Pkg **mathfixs** **mathfixs** is used as-is for SVG math, and is emulated for MATHJAX.

 Greek letters are unchanged.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathfixs}[2018/12/30]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\rfrac}[2]{\tfrac{#1}{#2}}}
4 \CustomizeMathJax{\newcommand{\vfrac}[2]{\mathinner{{}^{\!#1}\!/\!{}_{\!#2}}}}
5 \CustomizeMathJax{\newcommand{\ProvideMathFix}[1]{}}
6 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
7 \CustomizeMathJax{\newcommand{\cdot}{\cdot}}
8 \end{warpMathJax}
```

---

**File 279 l warp-mathpazo.sty****§ 387 Package mathpazo**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg mathpazo mathpazo is used as-is for SVG math, and is emulated for MATHJAX.

**⚠ limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathpazo}[2020/03/25]

For MATHJAX:

```
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathpazo}
6
7 \ifpazo@slGreek
8 \LWR@mathjax@addgreek@u@it*{}{}
9 \fi
10
11 \LWR@mathjax@addgreek@u@up*{up}{}
12
13 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
14 \end{warpMathJax}
```

---

**File 280 l warp-mathptmx.sty****§ 388 Package mathptmx**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg mathptmx mathptmx is used as-is for SVG math, and is emulated for MATHJAX.

**⚠ limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathptmx}[2020/03/25]

For MATHJAX:

```
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
```

```

3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathptmx}
6
7 \@ifpackagewith{mathptmx}{slantedGreek}
8 {\LWR@mathjax@addgreek@u@it*{}{}}
9 {}
10
11 \LWR@mathjax@addgreek@u@up*{up}{}
12 \end{warpMathJax}

```

File 281 **l warp-mathssty .sty**

§ 389 Package **mathspec**

(Emulates or patches code by ANDREW GILBERT MOSCHOU.)

Pkg **mathspec** **mathspec** is used as-is with SVG math, and is emulated for MATHJAX.

△ **quotes** Double quotes (" and the " character) are removed during MATHJAX emulation, but this also includes inside \text.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathspec}[2016/12/22]

```

2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
```

Neutralize double quotes (" and \"):

```
5 \booltrue{\LWR@MathJax@silentquotes}
```

Sort options for out Greek emulation:

```

6 \AtBeginDocument{
7 \ifcase\eu@GreekUppercase@value %% If Greek Uppercase Regular
8 \LWR@mathjax@addgreek@u@up*{}{}
9 \or %% If Greek Uppercase Italic
10 \LWR@mathjax@addgreek@u@it*{}{}
11 \or %% If Greek Uppercase Plain
12 \LWR@mathjax@addgreek@u@up*{}{}
13 \fi
14 \ifcase\eu@GreekLowercase@value %% If Greek Lowercase Regular
15 \LWR@mathjax@addgreek@l@up{}{}
16 \or %% If Greek Lowercase Italic
17 \LWR@mathjax@addgreek@l@it{}{}
18 \or %% If Greek Lowercase Plain
19 \LWR@mathjax@addgreek@l@it{}{}
20 \fi
21 }
```

Swap definitions according the **mathspec** conditionals:

```

22 \newcommand*{\LWR@mathspec@varforms}{%
23 \eu@ifbooltrue{GreekLowercase}%
24 \eu@ifbooltrue{exchangebetaforms}%
25 \CustomizeMathJax{\let\LRorigbeta\beta}
26 \CustomizeMathJax{\let\beta\varbeta}
27 \CustomizeMathJax{\let\varbeta\LRorigbeta}
28 }
29 \eu@ifbooltrue{exchangeepsilonforms}%
30 \CustomizeMathJax{\let\LRorigepsilon\epsilon}
31 \CustomizeMathJax{\let\epsilon\varepsilon}
32 \CustomizeMathJax{\let\varepsilon\LRorigepsilon}
33 }
34 \eu@ifbooltrue{exchangethetafoms}%
35 \CustomizeMathJax{\let\LRorigtheta\theta}
36 \CustomizeMathJax{\let\theta\vartheta}
37 \CustomizeMathJax{\let\vartheta\LRorigtheta}
38 }
39 \eu@ifbooltrue{exchangepkappaforms}%
40 \CustomizeMathJax{\let\LRorigkappa\kappa}
41 \CustomizeMathJax{\let\kappa\varkappa}
42 \CustomizeMathJax{\let\varkappa\LRorigkappa}
43 }
44 \eu@ifbooltrue{exchangepiiforms}%
45 \CustomizeMathJax{\let\LRorigpi\pi}
46 \CustomizeMathJax{\let\pi\varpi}
47 \CustomizeMathJax{\let\varpi\LRorigpi}
48 }
49 \eu@ifbooltrue{exchangerhoforms}%
50 \CustomizeMathJax{\let\LRorigrho\rho}
51 \CustomizeMathJax{\let\rho\varrho}
52 \CustomizeMathJax{\let\varrho\LRorigrho}
53 }
54 \eu@ifbooltrue{exchangephiiforms}%
55 \CustomizeMathJax{\let\LRorigphi\phi}
56 \CustomizeMathJax{\let\phi\varphi}
57 \CustomizeMathJax{\let\varphi\LRorigphi}
58 }
59 }
60 \eu@ifbooltrue{GreekUppercase}%
61 \eu@ifbooltrue{exchangethetafoms}%
62 \CustomizeMathJax{\let\LRorigTheta\Theta}
63 \CustomizeMathJax{\let\Theta\varTheta}
64 \CustomizeMathJax{\let\varTheta\LRorigTheta}
65 }
66 }
67 }

```

Append new action to **mathspec**'s `\AtBeginDocument` code:

```

68 \xapptocmd{\exchangeforms}
69 {\AtBeginDocument{\LWR@mathspec@varforms}}
70 {}
71 {\LWR@patcherror{mathspec}{exchangeforms}}
72
73 \end{warpMathJax}

```

---

File 282 **l warp-mathtools.sty**

§ 390 Package **mathtools**

*(Emulates or patches code by MORTEN HØGHOLM, LARS MADSEN.)*

Pkg mathtools mathtools is patched for use by l warp. Emulation macros are provided for MATHJAX.

⚠️ equation numbering showonlyrefs is disabled, as it conflicts with cleveref, which is used by l warp. Equation numbers may not match the print version.

⚠️ italic correction mathic is not emulated for HTML.

⚠️ MATHJAX If using MATHJAX:

- mathtools disallowspaces does not work for MATHJAX. Protect brackets which are not optional arguments, such as:
 

```
\begin{gathered}{}\\ [p]=1 . . . \\ \end{gathered}
```
- showonlyrefs does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.
- Due to MATHJAX limitations, the following do not render well: \overbracket, \underbracket, \overbrace, \underbrace, rcases, drcases, \Aboxed, and \ArrowBetweenLines.
- For the new cases-like environments, \text must be used to set the normal roman font if desired.
- alignat in MATHJAX requires math mode, but in LATEX it doesn't. It may be required to use warpHTML and warpprint to isolate a version for each mode.
- \DeclarePairedDelimiter and related must be in the preamble before \begin{document}.

for HTML output: 1 \LWR@ProvidesPackagePass{mathtools}[2018/01/08]

2 \RequirePackage{graphicx}

3 \MHInternalSyntaxOn

Forces showonlyrefs off because l warp uses cleveref, which is not compatible with showonlyrefs.

```
4 \renewcommand*\MT_showonlyrefs_true:{%
5 \PackageWarningNoLine{l warp}%
6 {%
7 Mathtools \space showonlyrefs \space conflicts \space
```

```

8 with \space cleveref,\MessageBreak
9 which \space is \space used \space by \space l warp, \space
10 so \space showonlyrefs \space is\MessageBreak
11 forced \space off. \space\space
12 Equation \space numbers \space may \space not \space match%
13 }
14 \MT_showonlyrefs_false:
15 }
16 \mathtoolsset{showonlyrefs=false}

```

Forces math italic correction off. Not patched for l warp.

```

17 \renewcommand*\{\MT_mathic_true:\}{\MT_mathic_false:}
18 \mathtoolsset{mathic=false}

19 \MHInternalSyntaxOff

```

For MATHJAX:

```

20 \begin{warpMathJax}
21 \LWR@infoprocessingmathjax{mathtools}
22
23 \CustomizeMathJax{\newcommand{\mathllap}[2][]{\#1\#2}}
24 \CustomizeMathJax{\newcommand{\mathrlap}[2][]{\#1\#2}}
25 \CustomizeMathJax{\newcommand{\mathclap}[2][]{\#1\#2}}
26 \CustomizeMathJax{\newcommand{\mathmbox}[1]{\#1}}
27 \CustomizeMathJax{\newcommand{\clap}[1]{\#1}}
28 \CustomizeMathJax{\newcommand{\LWRmathmakebox}[2][]{\#2}}
29 \CustomizeMathJax{\newcommand{\mathmakebox}[1][]{\LWRmathmakebox}}
30 \CustomizeMathJax{\newcommand{\cramped}[2][]{\#1\#2}}
31 \CustomizeMathJax{\newcommand{\crampedllap}[2][]{\#1\#2}}
32 \CustomizeMathJax{\newcommand{\crampedrlap}[2][]{\#1\#2}}
33 \CustomizeMathJax{\newcommand{\crampedclap}[2][]{\#1\#2}}
34 \CustomizeMathJax{\newenvironment{crampedsubarray}[1]{}{}}
35 \CustomizeMathJax{\newcommand{\crampedsubstack}{}}

36 \CustomizeMathJax{\newcommand{\smashoperator}[2][]{\#2\limits}}
37 \CustomizeMathJax{\newcommand{\adjustlimits}{}}

38 \CustomizeMathJax{\newcommand{\SwapAboveDisplaySkip}{}}
39
40 \CustomizeMathJax{\require{extpfeil}}
41 \CustomizeMathJax{\Newextarrow\xleftrightarrow{10,10}{0x2194}}
42 \CustomizeMathJax{\Newextarrow\xLeftarrow{10,10}{0x21d0}}
43 \CustomizeMathJax{\Newextarrow\xhookleftarrow{10,10}{0x21a9}}
44 \CustomizeMathJax{\Newextarrow\xmapsto{10,10}{0x21a6}}
45 \CustomizeMathJax{\Newextarrow\xRightarrow{10,10}{0x21d2}}
46 \CustomizeMathJax{\Newextarrow\xLeftrightarrow{10,10}{0x21d4}}
47 \CustomizeMathJax{\Newextarrow\xhookrightarrow{10,10}{0x21aa}}
48 \CustomizeMathJax{\Newextarrow\xrightharpoondown{10,10}{0x21c1}}
49 \CustomizeMathJax{\Newextarrow\xleftharpoondown{10,10}{0x21bd}}
50 \CustomizeMathJax{\Newextarrow\xrightleftharpoons{10,10}{0x21cc}}

```

```
51 \CustomizeMathJax{\Newextarrow\xrightharpoonup{10,10}{0x21c0}}
52 \CustomizeMathJax{\Newextarrow\xleftharpoonup{10,10}{0x21bc}}
53 \CustomizeMathJax{\Newextarrow\xleftrightharpoons{10,10}{0x21cb}}
54
55 \CustomizeMathJax{\newcommand{\LWRdounderbrace}[3]{%
56 \mathinner{\underset{\#3}{\underline{\llcorner\#1\rrcorner}}}}}
57 }
58 \CustomizeMathJax{\newcommand{\LWRunderbrace}[2][[]]{\LWRdounderbrace{\#2}}}
59 \CustomizeMathJax{\newcommand{\underbrace}[1][[]]{\LWRunderbrace{}{#1}}}
60 \CustomizeMathJax{\newcommand{\LWRdooverbrace}[3]{%
61 \mathinner{\overset{\#3}{\overline{\ulcorner\#1\urcorner}}}}}
62 }
63 \CustomizeMathJax{\newcommand{\LWRoverbrace}[2][[]]{\LWRdooverbrace{\#2}}}
64 \CustomizeMathJax{\newcommand{\overbrace}[1][[]]{\LWRoverbrace{}{#1}}}
65
66 \CustomizeMathJax{\newcommand{\LaTeXunderbrace}[1]{\underbrace{\#1}}}
67 \CustomizeMathJax{\newcommand{\LaTeXoverbrace}[1]{\overbrace{\#1}}}
68
69 \CustomizeMathJax{\newenvironment{matrix*}[1][[]]{\begin{matrix}}{\end{matrix}}}
70 \CustomizeMathJax{\newenvironment{pmatrix*}[1][[]]{\begin{pmatrix}}{\end{pmatrix}}}
71 \CustomizeMathJax{\newenvironment{bmatrix*}[1][[]]{\begin{bmatrix}}{\end{bmatrix}}}
72 \CustomizeMathJax{\newenvironment{Bmatrix*}[1][[]]{\begin{Bmatrix}}{\end{Bmatrix}}}
73 \CustomizeMathJax{\newenvironment{vmatrix*}[1][[]]{\begin{vmatrix}}{\end{vmatrix}}}
74 \CustomizeMathJax{\newenvironment{Vmatrix*}[1][[]]{\begin{Vmatrix}}{\end{Vmatrix}}}
75 \CustomizeMathJax{\newenvironment{smallmatrix*}[1][[]]{\begin{matrix}}{\end{matrix}}}
76 \CustomizeMathJax{\newenvironment{psmallmatrix*}[1][[]]{\begin{pmatrix}}{\end{pmatrix}}}
77 \CustomizeMathJax{\newenvironment{bsmallmatrix*}[1][[]]{\begin{bmatrix}}{\end{bmatrix}}}
78 \CustomizeMathJax{\newenvironment{Bsmallmatrix*}[1][[]]{\begin{Bmatrix}}{\end{Bmatrix}}}
79 \CustomizeMathJax{\newenvironment{vsmallmatrix*}[1][[]]{\begin{vmatrix}}{\end{vmatrix}}}
80 \CustomizeMathJax{\newenvironment{Vsmallmatrix*}[1][[]]{\begin{Vmatrix}}{\end{Vmatrix}}}
81 \CustomizeMathJax{\newenvironment{psmallmatrix}[1][[]]{\begin{pmatrix}}{\end{pmatrix}}}
82 \CustomizeMathJax{\newenvironment{bsmallmatrix}[1][[]]{\begin{bmatrix}}{\end{bmatrix}}}
83 \CustomizeMathJax{\newenvironment{Bsmallmatrix}[1][[]]{\begin{Bmatrix}}{\end{Bmatrix}}}
84 \CustomizeMathJax{\newenvironment{vsmallmatrix}[1][[]]{\begin{vmatrix}}{\end{vmatrix}}}
85 \CustomizeMathJax{\newenvironment{Vsmallmatrix}[1][[]]{\begin{Vmatrix}}{\end{Vmatrix}}}
86
87
88 \CustomizeMathJax{\newcommand{\LWRmultlined}[1][[]]{\begin{multline*}}}
89 \CustomizeMathJax{\newenvironment{multlined}[1][[]]{\LWRmultlined}{\end{multline*}}}
90
91 \CustomizeMathJax{\let\LWRorigshoveleft\shoveleft}
92 \CustomizeMathJax{\renewcommand{\shoveleft}[1][[]]{\LWRorigshoveleft}}
93 \CustomizeMathJax{\let\LWRorigshoveright\shoveright}
94 \CustomizeMathJax{\renewcommand{\shoveright}[1][[]]{\LWRorigshoveright}}
95
96 \CustomizeMathJax{\newenvironment{dcases}{\begin{cases}}{\end{cases}}}
97 \CustomizeMathJax{\newenvironment{dcases*}{\begin{cases}}{\end{cases}}}
98 \CustomizeMathJax{\newenvironment{rcases}{\begin{cases}}{\end{cases}}}
99 \CustomizeMathJax{\newenvironment{rcases*}{\begin{cases}}{\end{cases}}}
100 \CustomizeMathJax{\newenvironment{drcases}{\begin{cases}}{\end{cases}}}
101 \CustomizeMathJax{\newenvironment{drcases*}{\begin{cases}}{\end{cases}}}
102 \CustomizeMathJax{\newenvironment{cases*}{\begin{cases}}{\end{cases}}}
103
104 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1][[]]}
```

```

106 \CustomizeMathJax{\special{parsing to handle '&' in argument}
107 \def\lwrAboxed{\fbox{(\#1)}\&\fbox{(\#2)})}
108 \newcommand{\Aboxed}[1]{\lwrAboxed{#1}!}
109 }

110 \CustomizeMathJax{
111 \newcommand{\LWRABLines}{[\Updownarrow]\#1\notag\\}% star/notstar the same
112 \newcommand{\ArrowBetweenLines}{\ifstar\lwrABLines\lwrABLines}
113 }

114 \CustomizeMathJax{\newcommand{\shortintertext}[1]{\text{#1}\notag\\}}
115
116 \CustomizeMathJax{\newcommand{\vdotswithin}[1]{\hspace{.5em}\vdots}}
117
118 \CustomizeMathJax{\newcommand{\LWRshortvdotswithinstar}[1]{\vdots\hspace{.5em}\&\\}}
119 \CustomizeMathJax{\newcommand{\LWRshortvdotswithininnostar}[1]{\&\hspace{.5em}\vdots\\}}
120 \CustomizeMathJax{\newcommand{\shortvdotswithin}{%
121 \ifstar\lwrshortvdotswithinstar\lwrshortvdotswithininnostar}}
122 }
123
124 \CustomizeMathJax{\newcommand{\MTFlushSpaceAbove}{\\}}
125 \CustomizeMathJax{\newcommand{\MTFlushSpaceBelow}{\\}}
126
127 \LetLtxMacro{\lwr}{\mathtt{math@orig@DeclarePairedDelimiter\ DeclarePairedDelimiter}}
128 \renewcommand{\DeclarePairedDelimiter}[3]{%
129 \lwr{\#1}{\#2}{\#3}}
130 % starred:
131 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{#1}\lwrsubstar}\%}
132 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
133 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
134 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
135 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
136 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
137 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
138 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
139 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
140 % not starred:
141 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
142 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
143 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
144 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
145 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
146 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
147 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
148 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
149 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
150 % user macro:
151 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
152 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
153 \appto{\lwr}{\newcommand{\lwrbackslash}{\macro{\lwrbackslash}\lwrsubstar}\%}
154 \appto{\lwr}{\ifstar{\lwrbackslash}{\lwrbackslash\macro{\lwrbackslash}\lwrsubstar\%}{\lwrbackslash\macro{\lwrbackslash}\lwrsubstar\%}}
155 \appto{\lwr}{\lwrbackslash\macro{\lwrbackslash}\lwrsubstar\%}
156 \appto{\lwr}{\lwrbackslash\macro{\lwrbackslash}\lwrsubstar\%}

```

```
157 \}%
158 }%
159 \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}%
160 }
161 @onlypreamble\DeclareParedDelimiter
162
163 % (DeclarePairedDelimiterX is already defined to use \DeclarePairedDelimiterXPP.)
164
165 \LetLtxMacro{\LWR@mathtools@orig}{\DeclarePairedDelimiterXPP\DeclarePairedDelimiterXPP}
166 \DeclareDocumentCommand{\DeclarePairedDelimiterXPP}{m O{1} m m m m m}{%
167 \LWR@mathtools@orig{\DeclarePairedDelimiterXPP{#1}[#2]{#3}{#4}{#5}{#6}{#7}}
168 % subsubstar, second opt arg
169 \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
170 \appto{\LWR@customizedMathJax{}}{newcommand{\{\LWRbackslash\macro{#1}\LWRsubsubstar\}}}}%
171 }%
172 \appto{\LWR@customizedMathJax{[#2]}}{%
173 \appto{\LWR@customizedMathJax{\{\{\LWRbackslash\left\}}}}{%
174 \LWR@subcustomizedmathjax{\#3\#4\#7}}%
175 \appto{\LWR@customizedMathJax{\{\LWRbackslash\right\}}}{%
176 \LWR@subcustomizedmathjax{\#5\#6}}%
177 \appto{\LWR@customizedMathJax{\{\}}}{%
178 \appto{\LWR@customizedMathJax{\{\}}}{%
179 \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}%
180 % substar, first opt arg
181 \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
182 \appto{\LWR@customizedMathJax{}}{newcommand{\{\LWRbackslash\macro{#1}\LWRsubstar\}[1][[]}}%
183 }%
184 }%
185 \appto{\LWR@customizedMathJax{}}{%
186 \{%
187 \LWRbackslash{def\LWRbackslash{}delimsize\{\#1\}}%
188 \LWRbackslash\macro{#1}\LWRsubsubstar
189 \}}%
190 }%
191 \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}%
192 % subsubnostar, second opt arg
193 \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
194 \appto{\LWR@customizedMathJax{}}{%
195 \LWRbackslash{newcommand{\{\LWRbackslash\macro{#1}\LWRsubsubnostar\}}}}%
196 }%
197 \appto{\LWR@customizedMathJax{[#2]}}{%
198 \appto{\LWR@customizedMathJax{\{\{\LWRbackslash\delimsize}}}{%
199 \LWR@subcustomizedmathjax{\#3\#4\#7}}%
200 \appto{\LWR@customizedMathJax{\LWRbackslash\delimsize}}{%
201 \LWR@subcustomizedmathjax{\#5\#6}}%
202 \appto{\LWR@customizedMathJax{\{\}}}{%
203 \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}%
204 % subnostar, first opt arg
205 \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
206 \appto{\LWR@customizedMathJax{}}{%
207 \LWRbackslash{newcommand{\{\LWRbackslash\macro{#1}\LWRsubnostar\}[1][[]}}%
208 }%
209 }%
210 \appto{\LWR@customizedMathJax{}}{%
211 \{%
212 \LWRbackslash{def\LWRbackslash{}delimsize\{\#1\}}%
```

```
212 \LWRbackslash\macrotocname{\#1}\LWRsubsubnstar
213 \}%
214 }%
215 \appto{\LWR@customizedMathJax{\LWRbackslash}\par}%
216 % user macro:
217 \appto{\LWR@customizedMathJax{\LWRbackslash()}%
218 \appto{\LWR@customizedMathJax{%
219 \LWRbackslash{}newcommand\{%
220 \LWRbackslash{}\macrotocname{\#1}%
221 \}%
222 \{\LWRbackslash{}ifstar%
223 \LWRbackslash{}\macrotocname{\#1}\LWRsubstar%
224 \LWRbackslash{}\macrotocname{\#1}\LWRsubnstar%
225 \}%
226 }%
227 \appto{\LWR@customizedMathJax{\LWRbackslash}\par}%
228 }
229 \@onlypreamble\DeclareParedDelimiterXPP
230 \@onlypreamble\DeclareParedDelimiterX
231
232 \CustomizeMathJax{\newcommand{\lparen}{()}}
233 \CustomizeMathJax{\newcommand{\rparen}{()}}
234 \CustomizeMathJax{\newcommand{\ordinarycolon}{::}}
235 \CustomizeMathJax{\newcommand{\vcentcolon}{\mathrel{\text{\scriptsize\texttt{\{}}}}}
236 \CustomizeMathJax{\newcommand{\dblcolon}{\mathrel{\text{\scriptsize\texttt{\{}}}}}
237 \CustomizeMathJax{\newcommand{\coloneqq}{\mathrel{\text{\scriptsize\texttt{\{}}}}}
238 \CustomizeMathJax{\newcommand{\Coloneqq}{\mathrel{\text{\scriptsize\texttt{\{}}}}}
239 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\text{\scriptsize\texttt{\{}}}}}
240 \CustomizeMathJax{\newcommand{\Coloneq}{\mathrel{\text{\scriptsize\texttt{\{}}}}}
241 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\text{\scriptsize\texttt{\{}}}}}
242 \CustomizeMathJax{\newcommand{\eqqcolon}{\mathrel{=\!\!\text{\scriptsize\texttt{\{}}}}}
243 \CustomizeMathJax{\newcommand{\Eqqcolon}{\mathrel{=\!\!\text{\scriptsize\texttt{\{}}}}}
244 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{=\!\!\text{\scriptsize\texttt{\{}}}}}
245 \CustomizeMathJax{\newcommand{\Eqcolon}{\mathrel{=\!\!\text{\scriptsize\texttt{\{}}}}}
246 \CustomizeMathJax{\newcommand{\Colonapprox}{\mathrel{\text{\scriptsize\texttt{\{}}}}}
247 \CustomizeMathJax{\newcommand{\Colonapprox}{\mathrel{\text{\scriptsize\texttt{\{}}}}}
248 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{\text{\scriptsize\texttt{\{}}}}}
249 \CustomizeMathJax{\newcommand{\Colonapprox}{\mathrel{\text{\scriptsize\texttt{\{}}}}}
250 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{\text{\scriptsize\texttt{\{}}}}}
251 \CustomizeMathJax{\newcommand{\Colonsim}{\mathrel{\text{\scriptsize\texttt{\{}}}}}
252
253 \CustomizeMathJax{\newcommand{\nuparrow}{\mathrel{\cancel{\uparrow}}}}
254 \CustomizeMathJax{\newcommand{\ndownarrow}{\mathrel{\cancel{\downarrow}}}}
255 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\Large\times}\limits}}
256
257 \CustomizeMathJax{\newcommand{\prescript}[3]{\stackrel{\scriptstyle{#1}}{\stackrel{\scriptstyle{#2}}{\scriptstyle{#3}}}}
258
259
260 \CustomizeMathJax{\newenvironment{lgathered}{\begin{gathered}}{\end{gathered}}}
261 \CustomizeMathJax{\newenvironment{rgathered}{\begin{gathered}}{\end{gathered}}}
262
263 \LetLtxMacro{\LWR@mathtools@orig}{\newgathered\newgathered}
264 \renewcommand{\newgathered}[4]{%
```

---

```

265 \LWR@mathtools@orig@newgathered{\#1}{\#2}{\#3}{\#4}%
266 \appto{\LWR@customizedMathJax}{\LWRbackslash()%
267 \LWR@subcustomizedmathjax{%
268 \newenvironment{\#1}{\begin{gathered}}{\end{gathered}}%
269 }%
270 \appto{\LWR@customizedMathJax}{\LWRbackslash)%
271 }%
272 \onlypreamble\newgathered
273
274 \CustomizeMathJax{\newcommand{\splitfrac}[2]{\{}^{\#1}_{\#2}\}}
275 \CustomizeMathJax{\let\splitfrac\splitfrac}
276 \end{warpMathJax}
```

---

File 283 **lwarp-mattens.sty**

## § 391 Package **mattens**

*(Emulates or patches code by DANIE ELS.)*

Pkg mattens mattens is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{mattens}[2010/03/26]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWRmattensnull}{}}
4
5 \CustomizeMathJax{\newcommand{\LWRmattensnostar}[2][]{%
6 \#1{\LWRmattensundercmd{\LWRmattenovercmd{\LWRmattencross{\boldsymbol{\#2}}}}}}%
7 }}%
8
9 \CustomizeMathJax{\newcommand{\LWRmattensstar}[2][]{%
10 \#1{\LWRmattensundercmd{\LWRmattenovercmd{\LWRmattencross{\#2}}}}}}%
11 }}%
12
13 \CustomizeMathJax{\newcommand{\LWRmattens}{%
14 \ifstar\LWRmattensstar\LWRmattensnostar%
15 }}%
16
17 \CustomizeMathJax{\newcommand{\aS}{%
18 \let\LWRmattencross\LWRmattensnull%
19 \let\LWRmattenovercmd\overrightarrow%
20 \let\LWRmattensundercmd\LWRmattensnull%
21 \LWRmattens%
22 }}%
23
24 \CustomizeMathJax{\newcommand{\Sa}{%
25 \let\LWRmattencross\LWRmattensnull%
26 \let\LWRmattenovercmd\underrightarrow%
27 \let\LWRmattensundercmd\LWRmattensnull%
28 \LWRmattens%
29 }}%
30
31 \CustomizeMathJax{\newcommand{\bS}{%
```

```
32 \let\LWRmattencross\LWRmattensnull%
33 \let\LWRmattenovercmd\overline%
34 \let\LWRmattensundercmd\LWRmattensnull%
35 \LWRmattens%
36 }}
37
38 \CustomizeMathJax{\newcommand{\Sb}{%
39 \let\LWRmattencross\LWRmattensnull%
40 \let\LWRmattenovercmd\underline%
41 \let\LWRmattensundercmd\LWRmattensnull%
42 \LWRmattens%
43 }}
44
45 \CustomizeMathJax{\newcommand{\aSa}{%
46 \let\LWRmattencross\LWRmattensnull%
47 \let\LWRmattenovercmd\overrightarrow%
48 \let\LWRmattensundercmd\underrightarrow%
49 \LWRmattens%
50 }}
51
52 \CustomizeMathJax{\newcommand{\aSb}{%
53 \let\LWRmattencross\LWRmattensnull%
54 \let\LWRmattenovercmd\overrightarrow%
55 \let\LWRmattensundercmd\underline%
56 \LWRmattens%
57 }}
58
59 \CustomizeMathJax{\newcommand{\bSa}{%
60 \let\LWRmattencross\LWRmattensnull%
61 \let\LWRmattenovercmd\overline%
62 \let\LWRmattensundercmd\underrightarrow%
63 \LWRmattens%
64 }}
65
66 \CustomizeMathJax{\newcommand{\bSb}{%
67 \let\LWRmattencross\LWRmattensnull%
68 \let\LWRmattenovercmd\overline%
69 \let\LWRmattensundercmd\underline%
70 \LWRmattens%
71 }}
72
73 \CustomizeMathJax{\newcommand{\aCSa}{%
74 \let\LWRmattencross\tilde%
75 \let\LWRmattenovercmd\overrightarrow%
76 \let\LWRmattensundercmd\underrightarrow%
77 \LWRmattens%
78 }}
79
80 \CustomizeMathJax{\newcommand{\bCSb}{%
81 \let\LWRmattencross\tilde%
82 \let\LWRmattenovercmd\overline%
83 \let\LWRmattensundercmd\underline%
84 \LWRmattens%
85 }}
86 \end{warpMathJax}
```

---

File 284 **l warp-maybemath.sty**

§ 392 Package **maybemath**

(Emulates or patches code by ANDY BUCKLEY.)

Pkg **maybemath** **maybemath** is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **no effect** MATHJAX is not able to detect the surrounding text font, so all **maybemath** macros are ignored.

**for HTML output:** 1 \LWR@ProvidesPackagePass{maybemath}[2005/2/22]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mayberm}{\relax}}
4 \CustomizeMathJax{\let\maybebm\mayberm}
5 \CustomizeMathJax{\let\maybeit\mayberm}
6 \CustomizeMathJax{\let\maybeitrm\mayberm}
7 \CustomizeMathJax{\let\maybeit subscript\mayberm}
8 \CustomizeMathJax{\let\maybesf\mayberm}
9 \CustomizeMathJax{\let\maybebmsf\mayberm}
10 \end{warpMathJax}
```

---

File 285 **l warp-mcaption.sty**

§ 393 Package **mcaption**

(Emulates or patches code by STEPHAN HENNIG.)

Pkg **mcaption** **mcaption** is ignored.

**for HTML output:** Discard all options for **l warp-mcaption**:

```
1 \LWR@ProvidesPackageDrop{mcaption}[2009/03/13]
2 \newenvironment{margincap}{}{}
3 \newcommand*\margincapalign{}
4 \newlength{\margincapsep}
```

---

File 286 **l warp-mdframed.sty**

§ 394 Package **mdframed**

(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)

Pkg **mdframed** **mdframed** is loaded with options forced to **framemethod=none**.

### § 394.1 Limitations

**support** Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for `mdframed` environments and frame titles.

**⚠ loading** When used, `l warp` loads `mdframed` in `HTML` with `framemethod=none`.

**font** For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the `mdframed` source). Since `l warp` does not support `\bfseries` and friends, only one font selection may be made at a time.

**theoremtitlefont** `theoremtitlefont` is not supported, since the following text is not in braces in the `mdframed` source.

**ignored options** `userdefinedwidth` and `align` are currently ignored.

**css classes** Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `|mdframedtitle|`. Subtitles are in a `<div>` of class `|mdframedsubtitle|`, and likewise for subsubtitles.

Pre-existing hooks are used to patch extra functions before and after the frames.

### § 394.2 Package loading

**for HTML output:**

```
1 \RequirePackage{xcolor}%
2 %
3 \LWR@ProvidesPackageDrop{mdframed}[2013/07/01]
```

Do not require Tikz or pstricks:

```
4 \LWR@origRequirePackage[framemethod=none]{mdframed}
```

### § 394.3 Patches

Patch to remove PDF formatting and add HTML tags:

```
5 \AtBeginDocument{
6 \def\mdf@trivlist#1{%
7 \edef\mdf@temp{%
8 \topsep=\the\topsep\relax%
9 \partopsep=\the\partopsep\relax%
10 \parsep=\the\parsep\relax%
11 }%
12 \setlength{\topsep}{#1}%
}
```

```

13 % \topskip\z@%
14 % \partopsep\z@%
15 % \parsep\z@%
16 % \@nmbrlistfalse%
17 % \@trivlist%
18 % \labelwidth\z@%
19 % \leftmargin\z@%
20 % \itemindent\z@%
21 \let\@itemlabel\@empty%
22 \def\makelabel##1{##1}%
23 % \item\relax\mdf@temp\relax%
24 }
25
26 \renewcommand*\endmdf@trivlist}{%
27 \LWR@traceinfo{\endmdf@trivlist}%
28 % \endtrivlist%
29 \LWR@listend%
30 }
31 }% AtBeginDocument

```

#### § 394.4 Initial setup

To handle css and paragraphs, patch code at start and end of environment and contents.  
`\LWR@print@raggedright` helps avoid hyphenation.

```

32 \mdfsetup{
33 startcode={\LWR@mdframedstart\LWR@print@raggedright},
34 endcode={\LWR@mdframedend},
35 startinnercode={\LWR@startpars\LWR@print@raggedright},
36 endinnercode={\LWR@stoppars},
37 }

```

#### § 394.5 Color and length HTML conversion

`\LWR@mdfprintcolor` {*mdfcolorkey*}

Given the `mdframed` key, print the color.

```

38 \newcommand*{\LWR@mdfprintcolor}[1]{%
39 \convertcolorspec{named}{\nameuse{\mdf@#1}}{HTML}\LWR@tempcolor%
40 \LWR@origpound\LWR@tempcolor
41 }

```

`\LWR@mdfprintlength` {*mdflengthkey*}

Given the `mdframed` key, print the length.

```

42 \newcommand*{\LWR@mdfprintlength}[1]{%
43 \LWR@forceminwidth{\nameuse{\mdf@#1@length}}%
44 \LWR@printlength{\LWR@atleastonept}%
45 }

```

## § 394.6 Environment encapsulation

\LWR@mdframedstart

Actions before an mdframe starts.

Encapsulate a frame inside a <div> of the desired class.

```
46 \newcommand*{\LWR@mdframedstart}{%
47 \LWR@traceinfo{\LWR@mdframedstart start}}%
```

Warn if starting a frame inside a <span>:

```
48 \LWR@spanwarninvalid{mdframe}%
```

Turn off paragraph handling during the generation of the encapsulating tags:

```
49 \LWR@stoppars%
```

Open a <div> and with custom class and custom style. A BlockClass environment is not used because this <div> is created by the mdframed startcode and endcode settings, which do not properly nest the <div> inside the mdframed environment.

```
50 \LWR@htmllagc{div class=\textquotedbl%
51 mdframed%
52 \ifdefined{\LWR@mdthisenv}{mdframed}{}{\LWR@mdthisenv}%
53 \textquotedbl \LWR@orignewline
54 style=\textquotedbl\LWR@orignewline
```

Convert and print the background color:

```
55 background: \LWR@mdfprintcolor{backgroundcolor} ; \LWR@orignewline
```

Convert and print the border color and width:

```
56 border: \LWR@mdfprintlength{linewidth} solid
57 \LWR@mdfprintcolor{linecolor} ; \LWR@orignewline
```

Convert and print the border radius:

```
58 border-radius: \LWR@mdfprintlength{roundcorner} ; \LWR@orignewline
```

Convert and print the shadow:

```
59 \ifbool{mdf@shadow}{%
60 box-shadow:
61 \LWR@mdfprintlength{shadowsize}
62 \LWR@mdfprintlength{shadowsize}
63 \LWR@mdfprintlength{shadowsize}
64 \LWR@mdfprintcolor{shadowcolor} ;
65 }
66 {box-shadow: none ;}
67 \LWR@orignewline

68 \textquotedbl
69 % \LWR@htmldivclass{\LWR@mdthisenv}
```

mdframed environment may not work with the HTML versions of the following, so restore them to their originals while inside mdframed:

```
70 \LWR@select@print@hspace%
71 \renewcommand*{\rule}{\LWR@print@rule}
72 \LetLtxMacro{\makebox}{\LWR@print@makebox}

73 \LWR@startpars%
74 \LWR@traceinfo{\LWR@mdframedstart done}%
75 }
```

\LWR@mdframedend Actions after an mdframe ends.

After closing the <div>, globally restore to the default environment type:

```
76 \newcommand*{\LWR@mdframedend}{%
77 \LWR@traceinfo{LWR@mdframedend start}%
}
```

Close the custom <div>:

```
78 \LWR@htmldivclassend{\LWR@mdthisenv}
```

Reset future custom class to the default:

```
79 \gdef\LWR@mdthisenv{mdframed}
```

Resume paragraph handling:

```
80 \LWR@startpars%
81 \LWR@traceinfo{LWR@mdframedend done}%
82 }
```

## § 394.7 Mdframed environment

```
83 \renewenvironment{mdframed}[1][]{
84 \color@begingroup%
85 \mdfsetup{userdefinedwidth=\linewidth,#1}%
86 \mdf@startcode%
87 \mdf@preenvsetting%
88 \ifdefempty{\mdf@firstframetitle}{}%
89 {\let\mdf@frametitlesave\mdf@frametitle%
90 \let\mdf@frametitle\mdf@firstframetitle%
91 }%
92 \ifvmode\nointerlineskip\fi%
93 \ifdefempty{\mdf@frametitle}{}%
94 {\mdfframedtitleenv{\mdf@frametitle}%
95 \mdf@frametitle@use%
96 }%
97 \mdf@trivlist{\mdf@skipabove@length}%
98 \mdf@settings%
99 % \mdf@lrbox{\mdf@splitbox@one}%
100 % \mdf@startinnercode%
101 }%
102 {%
103 % \mdf@ignorelastdescenders%
104 \par%
105 % \unskip\ifvmode\nointerlineskip\hrule \@height\z@\@width\hsize\fi%
106 \ifmdf@footnoteinside%
107 \def\mdf@reserved@{%
108 \mdf@footnoteoutput%
109 % \mdf@endinnercode%
110 % \endmdf@lrbox%
111 % \ifdefempty{\mdf@frametitle}{}%
112 % {\mdfframedtitleenv{\mdf@frametitle}\mdf@frametitle@use}%
113 % \detected@mdf@put@frame%
114 }%
115 \else%
116 \def\mdf@reserved@{%
117 % \mdf@endinnercode%
```

```

118 % \endmdf@lrbox%
119 % \ifdefempty{\mdf@frametitle}{}
120 % {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
121 % \detected@mdf@put@frame%
122 % \mdf@footnoteoutput%
123 % }%
124 % \fi%
125 % \mdf@reserveda%
126 % \aftergroup\endmdf@trivlist%
127 % \color@endgroup%
128 % \mdf@endcode%
129 }

\mdf@footnoteoutput
130 \renewrobustcmd*\mdf@footnoteoutput{%
131 \LWR@printpendingmpfootnotes%
132 }

```

### § 394.8 Titles and subtitles

\mdfframedtitleenv {*<title>*}

Place the title inside a <div> of class mdframedtitle:

```

133 \newlength{\LWR@titleroundcorner}
134
135 \renewrobustcmd\mdfframedtitleenv[1]{%
136 \LWR@traceinfo{\LWR@mdfframedtitleenv start}%

```

Open a <div> with a custom class and custom style:

```
137 \begin{BlockClass}[%
```

Convert and print the title background color:

```

138 background:
139 \LWR@mdfprintcolor{frametitlebackgroundcolor}
140 ; \LWR@orignewline

```

Convert and print the title rule:

```

141 \ifbooleq{\mdf@frametitlerule}{%
142 border-bottom:
143 \LWR@mdfprintlength{frametitlerulewidth}
144 solid
145 \LWR@mdfprintcolor{frametitlerulecolor}
146 ; \LWR@orignewline
147 }{}%

```

Finish the custom style and the opening <div> tag:

```
148]{\mdfframedtitle}%
```

Print the title inside the <div>:

```
149 \mdf@frametitlefont{\LWR@textcurrentfont{\#1}}%
```

Close the <div>:

```

150 \end{BlockClass}%
151 \LWR@traceinfo{\LWR@mdfframedtitleenv end}%

```

152 }

\LWR@mdfsubtitlecommon {*sub-or-subsub*} [*options*] {*title*}

Common code for \LWR@mdfsubtitle and \LWR@mdfsubsubtitle.

Encapsulate the subtitle inside a <div> of class mdframedsubtitle:

```
153 \NewDocumentCommand{\LWR@mdfsubtitlecommon}{m o m}
154 {%
155 the following empty line is required
156 \LWR@traceinfo{LWR@mdframedsubtitlecommon start}%
157 }
```

Open a <div> with a custom class and custom style:

```
157 \begin{BlockClass}[%
```

Convert and print the background color:

```
158 background:
159 \LWR@mdfprintcolor{#1titlebackgroundcolor}
160 ; \LWR@orignewline
```

Convert and print the above line:

```
161 \ifbool{mdf@#1titleaboveline}{%
162 border-top:
163 \LWR@mdfprintlength{#1titleabovelinewidth}
164 solid
165 \LWR@mdfprintcolor{#1titleabovelinecolor}
166 ; \LWR@orignewline
167 }{}}%
```

Convert and print the below line:

```
168 \ifbool{mdf@#1titlebelowline}{%
169 border-bottom:
170 \LWR@mdfprintlength{#1titlebelowlinewidth}
171 solid
172 \LWR@mdfprintcolor{#1titlebelowlinecolor}
173 ; \LWR@orignewline
174 }{}}%
```

Finish the custom style and the opening <div> tag:

```
175]{mdframed#1title}%
```

Perform the original subtitle action:

```
176 \IfNoValueTF{#2}
177 {%
178 \nameuse{LWR@origmdf#1title}{\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}%
179 \nameuse{LWR@origmdf#1title}[#2]{\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}%
180 }
```

Close the <div>:

```
179 \end{BlockClass}%
180 \LWR@traceinfo{LWR@mdframedsubtitlecommon end}%
181 }
```

\LWR@mdfsubtitle [i>options] {*title*}

```
182 \newcommand*{\LWR@mdfsubtitle}{%
```

```

183 \LWR@mdfsubtitlecommon{sub}%
184 }
185 \let\mdfsubtitle\LWR@mdfsubtitle

\LWR@mdfsubsubtitle [\langle options \rangle] {\langle title \rangle}
186 \newcommand*{\LWR@mdfsubsubtitle}{%
187 \LWR@mdfsubtitlecommon{subsub}%
188 }
189 \let\mdfsubsubtitle\LWR@mdfsubsubtitle

```

### § 394.9 New environments

\LWR@mdthisenv Stores the environment of the frame about to be created:

```
190 \newcommand*{\LWR@mdthisenv}{mdframed}
```

\newmdenv [\langle options \rangle] {\langle env-name \rangle}

Modified from the original to remember the environment.

```

191 \renewrobustcmd*{\newmdenv}[2][]{%
192 \newenvironment{\#2}%
193 {%
194 \mdfsetup{\#1}%
195 \renewcommand*{\LWR@mdthisenv}{\#2}%
196 \begin{mdframed}%
197 }%
198 {\end{mdframed}}%
199 }

```

\surroundwithmdframed [\langle options \rangle] {\langle environment \rangle}

Modified from the original to remember the environment.

```

200 \renewrobustcmd*{\surroundwithmdframed}[2][]{%
201 \BeforeBeginEnvironment{\#2}{%
202 \renewcommand*{\LWR@mdthisenv}{\#2}%
203 \begin{mdframed}[\#1]}%
204 \AfterEndEnvironment{\#2}{\end{mdframed}}%
205 }

```

\mdtheorem [\langle mdframed-options \rangle] {\langle envname \rangle} [\langle numberedlike \rangle] {\langle caption \rangle} [\langle within \rangle]

Modified from the original to remember the environment.

```

206 \DeclareDocumentCommand{\mdtheorem}{ O{} m o m o }{%
207 {\lifcsdef{\#2}{%
208 {\mdf@PackageWarning{Environment \#2 already exists}\MessageBreak}}{%
209 {%
210 \IfNoValueTF{\#3}{%
211 {\% \#3 not given -- number relationship}%
212 \IfNoValueTF{\#5}{%
213 {\% \#3+\#5 not given}%
214 \@definecounter{\#2}{%
215 \expandafter\xdef\csname the\#2\endcsname{\@thmcounter{\#2}}}}{%
216 \newenvironment{\#2}[1]{}}{%

```

```
217 \refstepcounter{#2}%
218 \ifstrempty{##1}%
219 {\let\@temptitle\relax}%
220 {%
221 \def\@temptitle{\mdf@theoremseparator%
222 \mdf@theoremspace%
223 \mdf@theoremtitlefont%
224 \LWR@textcurrentfont{##1}}% lwarp
225 \mdf@thm@caption{#2}{##4}{\csname the#2\endcsname}{##1}}%
226 }%
227 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
228 \@temptitle}]]}%
229 {\end{mdframed}}%
230 \newenvironment{#2*}[1][]%
231 \ifstrempty{##1}{\let\@temptitle\relax}{\def\@temptitle{:#1}}%
232 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]}%
233 {\end{mdframed}}%
234 }%
235 {##5 given -- reset counter
236 \definecounter{#2}\newctr{#2}[#5]%
237 \expandafter\xdef\csname the#2\endcsname{@thmcounter{#2}}%
238 \expandafter\xdef\csname the#2\endcsname{%
239 \expandafter\noexpand\csname the#5\endcsname \@thmcountersep%
240 \@thmcounter{#2}}%
241 \newenvironment{#2}[1][]%
242 \refstepcounter{#2}%
243 \ifstrempty{##1}%
244 {\let\@temptitle\relax}%
245 {%
246 \def\@temptitle{\mdf@theoremseparator%
247 \mdf@theoremspace%
248 \mdf@theoremtitlefont%
249 \LWR@textcurrentfont{##1}}% lwarp
250 \mdf@thm@caption{#2}{##4}{\csname the#2\endcsname}{##1}}%
251 }%
252 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
253 \@temptitle}]]}%
254 {\end{mdframed}}%
255 \newenvironment{#2*}[1][]%
256 \ifstrempty{##1}%
257 {\let\@temptitle\relax}%
258 {%
259 \def\@temptitle{\mdf@theoremseparator%
260 \mdf@theoremspace%
261 \mdf@theoremtitlefont%
262 \LWR@textcurrentfont{##1}}% lwarp
263 \mdf@thm@caption{#2}{##4}{\csname the#2\endcsname}{##1}}%
264 }%
265 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]}%
266 {\end{mdframed}}%
267 }%
268 }%
269 {##3 given -- number relationship
270 \global\@namedef{the#2}{\@nameuse{the#3}}%
271 \newenvironment{#2}[1][]%
```

```

272 \refstepcounter{#3}%
273 \ifstrempty{##1}%
274 {\let\@temptitle\relax}%
275 {%
276 \def\@temptitle{\mdf@theoremseparator%
277 \mdf@theoremspace%
278 \mdf@theoremtitlefont%
279 \LWR@textcurrentfont{##1}}% lwarf
280 \mdf@thm@caption{#2}{##4}{\csname the#2\endcsname}{##1}}%
281 }
282 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
283 \atemptitle}]]}%
284 {\end{mdframed}}%
285 \newenvironment{#2*}[1][]{%
286 \ifstrempty{##1}{\let\@temptitle\relax}{\def\@temptitle{:#1}}%
287 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]}%
288 {\end{mdframed}}%
289 }%
290 \BeforeBeginEnvironment{#2}{\renewcommand*\LWR@mdthisenv{md#2}}% lwarf
291 \BeforeBeginEnvironment{#2*}{\renewcommand*\LWR@mdthisenv{md#2}}% lwarf
292 }%
293 }
```

\newmdtheoremenv [⟨1: mdframed-options⟩] {⟨2: envname⟩} [⟨3: numberedlike⟩] {⟨4: caption⟩} [⟨5: within⟩]

Modified from the original to remember the environment.

```

294 \DeclareDocumentCommand\newmdtheoremenv{O{} m o m o }{%
295 \ifboolexpr{ test {\IfNoValueTF {#3}} and test {\IfNoValueTF {#5}} }{%
296 \newtheorem{#2}{#4}}%
297 {%
298 \IfValueT{#3}{\newtheorem{#2}{#3}{#4}}%
299 \IfValueT{#5}{\newtheorem{#2}{#4}{#5}}%
300 }%
301 \BeforeBeginEnvironment{#2}{%
302 \renewcommand*\LWR@mdthisenv{md#2}%
303 \begin{mdframed}[#1]}%
304 \AfterEndEnvironment{#2}{%
305 \end{mdframed}}%
306 }
```

File 287 **lwarf-mdwmath.sty**

§ 395 Package **mdwmath**

(Emulates or patches code by MARK WOODING.)

Pkg **mdwmath** **mdwmath** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mdwmath}[1996/04/11]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\LWRmdwmathsqrt\sqrt}
4 \CustomizeMathJax{\renewcommand{\sqrt}{\ifstar{\LWRmdwmathsqrt}{\LWRmdwmathsqrt}}}
```

---

```

5 \CustomizeMathJax{\newcommand{\bitand}{\mathbin\&}}
6 \CustomizeMathJax{\def\bitor{\mathbin\mid}}
7 \CustomizeMathJax{\def\dblor{\mathbin{\mid\mid}}}
8 \CustomizeMathJax{\def\dbland{\mathbin{\mathrel\bitand\mathrel\bitand}}}
9 \end{warpMathJax}
```

---

File 288 **l warp-media9.sty**

§ 396      Package **media9**

Pkg **media9** **media9** is emulated.

The packages **multimedia**, **movie15**, and **media9** are supported.

**HTML5** `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

**HTML5** `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by **HTML5**.)

For **media9**, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each **HTML** multimedia object includes the poster text, except for `<embed>` objects. For **movie15**, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The **HTML** object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

**media9** `\addmediopath` is supported. It is assumed that the same path structure will exist for the **HTML** document.

**HTML5** media controls are always specified for each `<audio>` and `<video>` object.

**media9** slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a **YOUTUBE™** video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

 **& in a URL** Many special characters are converted to regular catcode 12 characters for use inside a URL. `&` is used in the flash variables fields, which are split with **xparse** `\SplitList`, which does not seem to work with a catcode 12 divider token, so `&` is not converted to catcode 12, and will not work in a URL with **media9**. Using `&` in a URL in a `flashvars` field may also cause parsing problems with print output, as well.

**for HTML output:**

---

1 \LWR@ProvidesPackageDrop{media9}[2019/02/21]

2 \LWR@origRequirePackage{lwarp-common-multimedia}  
 3  
 4 \RequirePackage{xkeyval}

\addmediapath {*path*}

Supported.

5 \newcommand\*{\LWR@medianine@path}{}  
 6  
 7 \newcommand\*{\addmediapath}[1]{\appto{\LWR@medianine@path}{\#1}}

The options and poster text are reused in several places.

8 \newcommand\*{\LWR@medianine@postertext}{}  
 9 \newcommand\*{\LWR@medianine@options}{}  
 10 \define@key{\LWR@medianine}{addresource}{%

11     \expandafter{\LWR@multimedia\expandafter[\LWR@medianine@options]}  
 12       {\LWR@medianine@postertext}\#1  
 13 }  
 14 }

Each addresource can generate a multimedia object.

15 \newcommand\*{\LWR@medianine@flashvarsb}[1]{%  
 16     \IfBeginWith{\#1}{source=}{%  
 17       \StrGobbleLeft{\#1}{7}[\LWR@tempone]%
 18       \expandafter{\LWR@multimedia\expandafter[\LWR@medianine@options]}%
 19       {\LWR@medianine@postertext}%
 20       {\LWR@tempone}%
 21     }{%}
 22     \IfBeginWith{\#1}{src=}{%
 23       \StrGobbleLeft{\#1}{4}[\LWR@tempone]%
 24       \expandafter{\LWR@multimedia\expandafter[\LWR@medianine@options]}%
 25       {\LWR@medianine@postertext}%
 26       {\LWR@tempone}%
 27     }{%}
 28 }
 29
 30 \NewDocumentCommand{\LWR@medianine@flashvars}{>{\SplitList{&}} m }{%
 31     \ProcessList{#1}{\LWR@medianine@flashvarsb}%
 32 }
 33
 34 \define@key{\LWR@medianine}{flashvars}{%
 35     \LWR@medianine@flashvars{\#1}%
 36 }

\includemedia [⟨options⟩] {⟨poster text⟩} {⟨file or URL⟩}

37 \newcommand\*{\LWR@includemediab}[3][]{%

```

38 \let\input@path\LWR@medianine@path%
39 \renewcommand*\LWR@medianine@options{\#1}%
40 \renewcommand*\LWR@medianine@postertext{\#2}%
41 \setkeys*\LWR@medianine{\#1}%
42 \IfBeginWith{\#3}{http}{\LWR@multimedia[\#1]{\#2}{\#3}}{%
43 \IfBeginWith{\#3}{HTTP}{\LWR@multimedia[\#1]{\#2}{\#3}}{%
44 \IfBeginWith{\#3}{ftp}{\LWR@multimedia[\#1]{\#2}{\#3}}{%
45 \IfBeginWith{\#3}{FTP}{\LWR@multimedia[\#1]{\#2}{\#3}}{%
46 }}}{%
47 }%
48 }
49
50 \newrobustcmd*\includemedia{%
51 \begingroup%
52 \LWR@linkmediacatcodes%
53 \LWR@includemediab%
54 }

\mediabutton [\langle options \rangle] {\langle text \rangle}
Ignored.
55 \newcommand*\mediabutton[2][]{}


```

---

### File 289 **l warp-memhfixc.sty**

#### § 397 Package **memhfixc**

Pkg memhfixc memhfixc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{memhfixc}[2013/05/30]

---

### File 290 **l warp-menukeys.sty**

#### § 398 Package **menukeys**

(Emulates or patches code by TOBIAS WEH.)

Pkg menukeys menukeys is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{menukeys}[2020/12/19]

Patch to use a `\textrimage` whose `alt` text is the contents of this use of the macro. A hash on these contents allows the reuse of the image for each instance of the same contents.

```

2 \xpatchcmd{\tw@define@menu@macro@}{%
3 { \nameuse{\tw@style@#4@pre} }%
4 {%
5 \begin{textrimage}*[{\detokenize{\#2}}]%
6 \nameuse{\tw@style@#4@pre}%
7 }


```

---

```

8 {}
9 {\LWR@patcherror{menukeys}{tw@define@menu@macro@}}
10
11 \xpatchcmd{\tw@define@menu@macro@}
12 {@nameuse{tw@style@#4@post}}
13 {%
14 @nameuse{tw@style@#4@post}%
15 \end{lateximage}%
16 }
17 {}
18 {\LWR@patcherror{menukeys}{tw@define@menu@macro@ B}}

```

Patch the existing macros:

```

19 \renewmenumacro{\menu}[>]{menus}
20 \renewmenumacro{\directory}[/]{paths}
21 \renewmenumacro{\keys}[+]{roundedkeys}

```

---

### File 291 **l warp-metalogo.sty**

§ 399 Package **metalogo**

*(Emulates or patches code by ANDREW GILBERT MOSCHOU.)*

Pkg **metalogo** **metalogo** is used in print mode, and emulated in HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{metalogo}[2010/05/29]

```

2 \newcommand*{\LWR@HTML@setlogokern}[2]{}
3 \newcommand*{\LWR@HTML@setlogodrop}[2][XeTeX]{}
4 \newcommand*{\LWR@HTML@setLaTeXa}[1]{}
5 \newcommand*{\LWR@HTML@setLaTeXee}[1]{}
6 \newcommand*{\LWR@HTML@seteverylogo}[1]{}
7 \newcommand*{\LWR@HTML@everylogo}[1]{}
8
9 \LWR@formatted{setlogokern}
10 \LWR@formatted{setlogodrop}
11 \LWR@formatted{setLaTeXa}
12 \LWR@formatted{setLaTeXee}
13 \LWR@formatted{seteverylogo}
14 \LWR@formatted{everylogo}

```

---

### File 292 **l warp-metalogox.sty**

§ 400 Package **metalogox**

*(Emulates or patches code by BRIAN DUNN.)*

Pkg **metalogox** **metalogox** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{metalogox}[2019/01/20]

\AtBeginDocument, adjust the logo setting according to the font which is active at that moment.

```
2 \AtBeginDocument{
3 \let\LWR@metalogox@currentformatting\LWR@formatting
4 \renewcommand*\LWR@formatting{\print} %
5 \autoadjustlogos*
6 \let\LWR@formatting\LWR@metalogox@currentformatting
7 }
```

---

File 293 **lwarf-mhchem.sty**

§ 401 Package **mhchem**

*(Emulates or patches code by MARTIN HENSEL.)*

Pkg mhchem mhchem is patched for use by lwarf.

without MATHJAX Without MATHJAX, mhchem expressions are converted to SVG math. Inline expressions use hashed filenames to allow reuse, and assume that any mhchem options are global.

MATHJAX with mhchem extension For MATHJAX, the mhchem extension is used if the mhchem expression is used inside a math expression:

$\ce{C6H5-CHO}$

To force the use of SVG math for an expression which does not work with MATHJAX, place the expression between \displaymathother and \displaymathnormal:

```
\displaymathother
[\ce{ . . . }] . . . $ \ce{ . . . } $
\displaymathnormal
```

not inside math

If *not* used inside a math expression, lwarf converts standalone mhchem expressions into SVG math images.



When producing HTML output without the MATHJAX mhchem extension, lwarf does not support the use of nested dollar signs in mhchem expressions.

For some examples from the mhchem manual, change as follows:

|                             |       |
|-----------------------------|-------|
| $\ce{NaOH(aq,\infty)}$      | % old |
| $\ce{NaOH(aq,\infty)}$      | % new |
| $\ce{Fe(CN)_{\frac{6}{2}}}$ | % old |
| $\ce{Fe(CN)_{\frac{6}{2}}}$ | % new |
| $\ce{NO_{x}}$               | % old |
| $\ce{NO_x}$                 | % new |
| $\ce{NO_{x}}$               | % old |
| $\ce{NO_x}$                 | % new |

```

$ \ce{cis{-}[PtCl2(NH3)2]}$ % old
$ \ce{\mathit{cis}{-}[PtCl2(NH3)2]}$ % new

```

**for HTML output:** 1 \LWR@ProvidesPackagePass{mhchem}[2018/06/22]

The original definition of \ce:

```
2 \LetLtxMacro{\LWR@mhchem@origce}{\ce}
```

The new definition, called from the new \ce after math shift is set. The starred `\textrimage` uses a hashed filename for the svg image. The `alt` tag is set to the `mhchem` expression.

```

3 \newcommand{\LWR@mhchem@HTML@ce}[1]{%
4 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
5 \ifbool{\LWR@xfakebold}{%
6 {\def{\LWR@tempone{Y}}{%
7 {\def{\LWR@tempone{N}}{%
8 \begin{textrimage}*\{\textbackslash ce\{\LWR@HTMLsanitize{\#1}\}\}*%
9 [%
10 FM\!\LWR@f@family%
11 SR\!\LWR@f@series%
12 SH\!\LWR@f@shape%
13 SHC\!\LWR@f@shapecaps%
14 CL\!\LWR@tempcolor%
15 FB\!\LWR@tempone{ xfakebold
16]%
17 \LWR@setcurrentfont%
18 \LWR@mhchem@origce{\#1}%
19 \end{textrimage}%
20 \endgroup%
21 \addtocounter{\LWR@mhchem@cedepth}{-1}%
22 }
```

Only set math shift if outer depth:

```
23 \newcounter{\LWR@mhchem@cedepth}
24 \setcounter{\LWR@mhchem@cedepth}{0}
```

The new \ce. Sets math shift then continues.

```

25 \renewcommand{\ce}{%
26 \begingroup%
27 \ifnumequal{\value{\LWR@mhchem@cedepth}}{0}{%
28 \catcode`\$=3% math shift
29 }{%
30 \addtocounter{\LWR@mhchem@cedepth}{1}%
31 \LWR@mhchem@HTML@ce%
32 }
```

The original definition of \cesplit:

```
33 \LetLtxMacro{\LWR@mhchem@origcesplit}{\cesplit}
```

The new definition, called from the new `\cesplit` after math shift is set. The starred `\teximage` uses a hashed filename for the SVG image. The `alt` tag is set to the `mhchem` expression.

```

34 \newcommand*{\LWR@mhchem@HTML@cesplit}[2]
35 {%
36 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
37 \ifbool{\LWR@xfakebold}{%
38 {\def\LWR@tempone{Y}}{%
39 {\def\LWR@tempone{N}}{%
40 \begin{teximage}*[\\textbackslash cesplit\{\LWR@HTMLsanitize{#2}\}]*{%
41 [%
42 FM\LWR@f@family%
43 SR\LWR@f@series%
44 SH\LWR@f@shape%
45 SHC\LWR@f@shapecaps%
46 CL\LWR@tempcolor%
47 FB\LWR@tempone% xfakebold
48]%
49 \LWR@setcurrentfont%
50 \LWR@mhchem@origcesplit{#1}{#2}%
51 \end{teximage}%
52 \endgroup%
53 }}}
```

Only set math shift if outer depth:

```

54 \newcounter{LWR@mhchem@cesplitdepth}
55 \setcounter{LWR@mhchem@cesplitdepth}{0}
```

The new `\cesplit`. Sets math shift then continues.

```

56 \renewcommand{\cesplit}{%
57 \begingroup%
58 \ifnumequal{\value{LWR@mhchem@cesplitdepth}}{0}{%
59 \catcode`\$=3% math shift
60 }{%
61 \addtocounter{LWR@mhchem@cesplitdepth}{1}%
62 \LWR@mhchem@HTML@cesplit%
63 }}
```

Resore originals inside a `\teximage`:

```

64 \appto{\LWR@restoreorigformatting}{%
65 \LetLtxMacro{\ce}{\LWR@mhchem@origce}%
66 \LetLtxMacro{\cesplit}{\LWR@mhchem@origcesplit}%
67 }%
68 %
69 \begin{warpMathJax}%
70 \CustomizeMathJax{\require{mhchem}}%
71 \end{warpMathJax}
```

§ 402 Package **microtype**

(Emulates or patches code by R SCHLICHT.)

Pkg **microtype** **microtype** is pre-loaded by **l warp**. All user options and macros are ignored and disabled.

**for HTML output:** Discard all options for **l warp-microtype**:

```

1 \LWR@ProvidesPackageDrop{microtype}[2018/01/14]

2 \DeclareDocumentCommand{\DeclareMicrotypeSet}{o m m} {}
3 \DeclareDocumentCommand{\UseMicrotypeSet}{o m} {}
4 \DeclareDocumentCommand{\DeclareMicrotypeSetDefault}{o m} {}
5 \DeclareDocumentCommand{\SetProtrusion}{o m m} {}
6 \DeclareDocumentCommand{\SetExpansion}{o m m} {}
7 \DeclareDocumentCommand{\SetTracking}{o m m} {}
8 \DeclareDocumentCommand{\SetExtraKerning}{o m m} {}
9 \DeclareDocumentCommand{\SetExtraSpacing}{o m m} {}
10 \DeclareDocumentCommand{\DisableLigatures}{o m} {}
11 \DeclareDocumentCommand{\DeclareCharacterInheritance}{o m m} {}
12 \DeclareDocumentCommand{\DeclareMicrotypeVariants}{m} {}
13 \DeclareDocumentCommand{\DeclareMicrotypeAlias}{m m} {}
14 \DeclareDocumentCommand{\LoadMicrotypeFile}{m} {}
15 \DeclareDocumentCommand{\DeclareMicrotypeBabelHook}{m m} {}
16 \DeclareDocumentCommand{\microtypesetup}{m} {}
17 \DeclareDocumentCommand{\microtypecontext}{m} {}
18 \DeclareDocumentCommand{\textmicrotypecontext}{m m} {#2}
19 \@ifpackageloaded{letterspace}{\let\MT@textls\relax}{%
20 \DeclareDocumentCommand{\lsstyle}{}{}}
21 \DeclareDocumentCommand{\textls}{o +m} {}
22 \DeclareDocumentCommand{\lslig}{m} {#1}
23 }
24 \def\DeclareMicrotypeSet#1{\gobbletwo}
25 \def\DeclareMicrotypeVariants#1{\gobble}
26 \onlypreamble\DeclareMicrotypeSet
27 \onlypreamble\UseMicrotypeSet
28 \onlypreamble\DeclareMicrotypeSetDefault
29 \onlypreamble\DisableLigatures
30 \onlypreamble\DeclareMicrotypeVariants
31 \onlypreamble\DeclareMicrotypeBabelHook

```

File 295 **l warp-midfloat.sty**

§ 403 Package **midfloat**

(Emulates or patches code by SIGITAS TOLUŠIS.)

Pkg **midfloat** **midfloat** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{midfloat}[2012/05/29]

```

2 \newenvironment{strip}[1][]{}
3 \newskip\stripsep

```

---

File 296 **l warp-midpage.sty**

§ 404 Package **midpage**

Pkg **midpage** **midpage** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{midpage}[2009/09/03]

```
2 \newenvironment{midpage}
3 {\begin{BlockClass}[%
4 \LWR@print@mbox{margin-top:6ex} ; \LWR@print@mbox{margin-bottom:6ex}%
5]{midpage}}
6 {\end{BlockClass}}
```

---

File 297 **l warp-minibox.sty**

§ 405 Package **minibox**

(Emulates or patches code by WILL ROBERTSON.)

Pkg **minibox** **minibox** is patched for use by **l warp**.

Due to HTML limitations regarding paragraphs and <div>s, miniboxes inline with other text will appear on their own line.

for HTML output: 1 \LWR@ProvidesPackagePass{minibox}[2013/06/21]

```
2 \ExplSyntaxOn
3 \newcommand{\LWR@HTML@minibox}[2][][%
4 \LWR@stoppars%
5 \group_begin:
6 \keys_set:nn {minibox} {#1}
7 \bool_if:NTF \l_minibox_frame_bool
8 {
9 \setlength\fboxrule{\l_minibox_rule_dim}
10 \setlength\fboxsep{\l_minibox_pad_dim}
11 \fboxBlock{%
12 \begin{tabular}[\l_minibox_tabular_valign_tl]%
13 {\l_minibox_tabular_preamble_tl}%
14 {#2}%
15 \end{tabular}%
16 }%
17 }
18 {
19 \begin{BlockClass}[display:inline-block]{minibox}
20 \begin{tabular}[\l_minibox_tabular_valign_tl]%
21 {\l_minibox_tabular_preamble_tl}%
22 {#2}
```

```
23 \end{tabular}
24 \end{BlockClass}
25 }
26 \group_end:
27 \LWR@startpars%
28 }
29 \ExplSyntaxOff
30
31 \LWR@formatted{minibox}
```

---

**File 298 l warp-minitoc.sty****§ 406 Package minitoc**

Pkg minitoc minitoc is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop[minitoc][2018/07/12]

mtcoff disables minitoc.

2 \usepackage{mtcoff}

---

**File 299 l warp-minted.sty****§ 407 Package minted**

(Emulates or patches code by GEOFFREY M. POORE.)

Pkg minted minted is patched for use by l warp.

⚠ **limitations** mathescape and highlightlines don't work. Line numbers on the right will not be aligned. Due to pdftotext, extra spaces may appear in broken lines if other formatting is included.

for HTML output: 1 \LWR@ProvidesPackagePass[minited][2017/07/19]

```
2 \xpatchcmd{\minted}
3 {\setkeys{minted@opt@cmd}{#1}}
4 {%
5 \setkeys{minted@opt@cmd}{%
6 #1,%
7 mathescape=false,breaklines,texcomments=false,highlightlines={}}%
8 }%
9 {}
10 {}%
11 {\LWR@patcherror{minted}{minted}}
12
13 \xpatchcmd{\mintinline}
14 {\setkeys{minted@opt@cmd}{#1}}
15 {\setkeys{minted@opt@cmd}{%
```

---

```

16 #1,%
17 mathescape=false,breaklines,texcomments=false,highlightlines={}
18 }%
19 }
20 {}
21 {\LWR@patcherror{minted}{mintinline}}
22
23 \xpatchcmd{\mint}
24 {\setkeys{minted@opt@cmd}{#1}}
25 {%
26 \setkeys{minted@opt@cmd}{%
27 #1,%
28 mathescape=false,breaklines,texcomments=false,highlightlines={}
29 }%
30 }
31 {}
32 {\LWR@patcherror{minted}{mint}}
33
34 \xpatchcmd{\inputminted}
35 {\setkeys{minted@opt@cmd}{#1}}
36 {\setkeys{minted@opt@cmd}{%
37 #1,%
38 mathescape=false,breaklines,texcomments=false,highlightlines={}
39 }%
40 }
41 {}
42 {\LWR@patcherror{minted}{inputminted}}

```

---

File 300 **lwarf-mismath.sty**

§ 408 Package **mismath**

(Emulates or patches code by ANTOINE MISSIER.)

Pkg **mismath** **mismath** is patched for SVG math, and emulated for MATHJAX.

 **MATHJAX** `\enumber`, `\inumber`, `\jnumber`, and `\pinumber` are ignored for MATHJAX, except that `\itpi` is made available as a clone of `\pi`.

For MATHJAX, `\boldvect` and `\arrowvect` are honored if in the preamble.

If `\boldvectcommand` is set to `\mathbf` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathit`. `\boldvectcommand` may also be set with `\CustomizeMathJax` in the preamble. See section 8.7.5. Note that as of this writing there is not a bold italic font across all MATHJAX fonts.

If `\probastyle` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathrm`. `\probastyle` may be set with `\CustomizeMathJax` in the preamble.

If `\mathset` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathbf`. `\mathset` may be set with `\CustomizeMathJax` in the preamble.

For MATHJAX, used in the HTML comment before the environment.

```

2 \ifbool{mathjax}{
3 \RenewEnviron{mathcols}{%
4 \preto{\BODY}{\begin{aligned}\displaystyle}
5 \appto{\BODY}{\end{aligned}}
6 \expandafter{(\BODY\)}
7 }
8 }% mathjax

```

For svg math. The `\latextimage` restores the original defintion of the `math` environment.

```

9 {%
10 \renewenvironment{mathcols}{%
11 \begin{latextimage}
12 \begin{math}
13 \begin{aligned}\displaystyle
14 }{
15 \end{aligned}%
16 \end{math}
17 \end{latextimage}
18 }
19 }% svg
20
21 \renewcommand{\changeocol}{%
22 \end{aligned} \quad
23 \begin{aligned}\displaystyle
24 }
25
26 \begin{warpMathJax}
27 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}
28 \CustomizeMathJax{\newcommand{\e}{\mathrm{e}}}
29 \CustomizeMathJax{\newcommand{\i}{\mathrm{i}}}
30 \CustomizeMathJax{\newcommand{\j}{\mathrm{j}}}
31
32 \CustomizeMathJax{\newcommand{\boldvect}{}}
33 \CustomizeMathJax{\newcommand{\arrowvect}{}}
34 \CustomizeMathJax{\newcommand{\pinumber}[1][]{\mathrm{#1}}}
35 \CustomizeMathJax{\newcommand{\hvect}[1]{\vec{}{#1}}}
36 \CustomizeMathJax{\newcommand{\hvec}[1]{\vec{}{#1}}}
37 \CustomizeMathJax{%
38 \newcommand{\norm}[1]{\left\| #1 \right\|}}
39 }
40 \CustomizeMathJax{\newcommand{\di}{\mathop{\!}\!\mathrm{d}}}
41
42 \CustomizeMathJax{\newcommand{\P}{\operatorname{\!probastyle{P}}}}
43 \CustomizeMathJax{\newcommand{\E}{\operatorname{\!probastyle{E}}}}
44 \CustomizeMathJax{\newcommand{\V}{\operatorname{\!probastyle{V}}}}
45 \CustomizeMathJax{\newcommand{\Par}{\text{\scriptsize{\texttt{\!unicode{x00B6}}}}}}
46
47 \CustomizeMathJax{\DeclareMathOperator{\adj}{adj}}
48 \CustomizeMathJax{\DeclareMathOperator{\Aut}{Aut}}
49 \CustomizeMathJax{\DeclareMathOperator{\Conv}{Conv}}
50 \CustomizeMathJax{\DeclareMathOperator{\cov}{cov}}
51 \CustomizeMathJax{\DeclareMathOperator{\Cov}{Cov}}

```

```
52 \CustomizeMathJax{\newcommand{\curl}{\operatorname{\vect{\mathbf{curl}}}}}
53 \CustomizeMathJax{\DeclareMathOperator{\divg}{div}}
54 \CustomizeMathJax{\DeclareMathOperator{\End}{End}}
55
56 \CustomizeMathJax{\DeclareMathOperator{\erf}{erf}}
57 \CustomizeMathJax{\newcommand{\grad}{\operatorname{\vect{\mathbf{grad}}}}}
58 \CustomizeMathJax{\DeclareMathOperator{\id}{id}}
59 \CustomizeMathJax{\DeclareMathOperator{\Id}{Id}}
60 \CustomizeMathJax{\DeclareMathOperator{\im}{im}}
61 \CustomizeMathJax{\let\oldIm\Im}
62 \CustomizeMathJax{\renewcommand{\Im}{\operatorname{Im}}}
63 \CustomizeMathJax{\DeclareMathOperator{\lb}{lb}}
64 \CustomizeMathJax{\DeclareMathOperator{\lcm}{lcm}}
65
66 \CustomizeMathJax{\DeclareMathOperator{\rank}{rank}}
67 \CustomizeMathJax{\let\oldRe\Re}
68 \CustomizeMathJax{\renewcommand{\Re}{\operatorname{Re}}}
69 \CustomizeMathJax{\newcommand{\rot}{\operatorname{\vect{\mathbf{rot}}}}}
70 \CustomizeMathJax{\DeclareMathOperator{\sgn}{sgn}}
71 \CustomizeMathJax{\DeclareMathOperator{\spa}{span}}
72 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
73 \CustomizeMathJax{\DeclareMathOperator{\Var}{Var}}
74 \CustomizeMathJax{\DeclareMathOperator{\Zu}{Z}}
75
76 \CustomizeMathJax{\DeclareMathOperator{\arccot}{arccot}}
77 \CustomizeMathJax{\DeclareMathOperator{\sech}{sech}}
78 \CustomizeMathJax{\DeclareMathOperator{\csch}{csch}}
79 \CustomizeMathJax{\DeclareMathOperator{\arsinh}{arsinh}}
80 \CustomizeMathJax{\DeclareMathOperator{\arcosh}{arcosh}}
81 \CustomizeMathJax{\DeclareMathOperator{\artanh}{artanh}}
82 \CustomizeMathJax{\DeclareMathOperator{\arcoth}{arcoth}}
83 \CustomizeMathJax{\DeclareMathOperator{\arsech}{arsech}}
84 \CustomizeMathJax{\DeclareMathOperator{\arcsch}{arcsch}}
85
86 \CustomizeMathJax{\DeclareMathOperator{\bigO}{\mathcal{O}}}
87 \CustomizeMathJax{\DeclareMathOperator{\bigo}{O}}
88 \CustomizeMathJax{\DeclareMathOperator{\lito}{o}}
89
90 \CustomizeMathJax{\newcommand{\R}{\mathset{R}}}
91 \CustomizeMathJax{\newcommand{\C}{\mathset{C}}}
92 \CustomizeMathJax{\newcommand{\N}{\mathset{N}}}
93 \CustomizeMathJax{\newcommand{\Z}{\mathset{Z}}}
94 \CustomizeMathJax{\newcommand{\Q}{\mathset{Q}}}
95 \CustomizeMathJax{\newcommand{\F}{\mathset{F}}}
96 \CustomizeMathJax{\newcommand{\K}{\mathset{K}}}
97
98 \CustomizeMathJax{\newcommand{\ds}{\displaystyle}}
99 \CustomizeMathJax{\newcommand{\dlim}{\lim\limits}}
100 \CustomizeMathJax{\newcommand{\dsum}{\sum\limits}}
101 \CustomizeMathJax{\newcommand{\dprod}{\prod\limits}}
102 \CustomizeMathJax{\newcommand{\dcup}{\bigcup\limits}}
103 \CustomizeMathJax{\newcommand{\dcap}{\bigcap\limits}}
104 \CustomizeMathJax{\newcommand{\lbar}{\overline{}}}
105 \CustomizeMathJax{\newcommand{\hlbar}[1]{\overline{\vphantom{h}\#1}}}
106 \CustomizeMathJax{\newcommand{\eqdef}{\stackrel{\mathbf{def}}{=}}}
```

```

107 \CustomizeMathJax{\newcommand{\unbr}{\underbrace}}
108 \CustomizeMathJax{\newcommand{\iif}{if and only if }}
109
110 \CustomizeMathJax{\newcommand{\mul}{\mathord{\times}}}
111 \CustomizeMathJax{\newcommand{\then}{\Longrightarrow \ \mbox{ }}}
112 \CustomizeMathJax{\newcommand{\txt}[1]{\quad\text{\#1}\quad}}
113 \CustomizeMathJax{\newcommand{\paren}[1]{\mathopen{\left(\#1\right) }}}
114 \CustomizeMathJax{\newcommand{\pow}[2]{\left(#1 \right)^{\! \#2}}}
115 \CustomizeMathJax{\newcommand{\abs}[1]{\left| #1 \right|}}
116 \CustomizeMathJax{\newcommand{\lfrac}[2]{\frac{\#1}{\#2}}}
117
118 \CustomizeMathJax{\newenvironment{system}[1][l]%
119 {\left\{\begin{array}{@{.15em}#1@{}}\right.}
120 {\end{array}\right.}
121 }
122
123 \CustomizeMathJax{\newenvironment{spmatrix}%
124 {\left(\begin{smallmatrix}}
125 {\end{smallmatrix}\right)}
126 }
127
128 \CustomizeMathJax{%
129 \newenvironment{mathcols}%
130 {\begin{aligned}\displaystyle}
131 {\end{aligned}}
132 }
133 \CustomizeMathJax{\newcommand{\changecol}{\end{aligned}\qquad\begin{aligned}}}
```

User-adjustable settings, detected if in the preamble.

```

134 \AtBeginDocument{
135 \ifdef{\itpi}{%
136 \CustomizeMathJax{\let\itpi\pi}
137 }{%
138 \ifdefstring{\boldvectcommand}{\mathbf}{%
139 \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\mathbf{\#1}}}}
140 }{%
141 \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\boldsymbol{\#1}}}}
142 }
143 \ifbool{arrowvect}{%
144 \CustomizeMathJax{\newcommand{\vect}[1]{\overrightarrow{\#1}}}
145 }{%
146 \CustomizeMathJax{\newcommand{\vect}[1]{\boldsymbol{\#1}}}}
147 }
148 \ifdefstring{\probastyle}{\mathbb}{%
149 \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathbb{\#1}}}}
150 }{%
151 \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathrm{\#1}}}}
152 }
153 \ifdefstring{\mathset}{\mathbb}{%
154 \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbb{\#1}}}}
155 }{%
156 \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbf{\#1}}}}
157 }
158 }
```

```
159 \end{warpMathJax}
```

---

File 301 **l warp-mleftright.sty**

§ 409 Package **mleftright**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg **mleftright** **mleftright** is used as-is, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{mleftright}[2019/12/03]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mleft}{\left}}
4 \CustomizeMathJax{\newcommand{\mright}{\right}}
5 \CustomizeMathJax{\newcommand{\mleftright}{\left.\right}}
6 \CustomizeMathJax{\newcommand{\mleftrightrestore}{\left.\right}}
7 \end{warpMathJax}
```

---

File 302 **l warp-morefloats.sty**

§ 410 Package **morefloats**

Pkg **morefloats** **morefloats** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{morefloats}[2015/07/22]

---

File 303 **l warp-moreverb.sty**

§ 411 Package **moreverb**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

Pkg **moreverb** **moreverb** is supported with some patches.

```
1 \LWR@ProvidesPackagePass{moreverb}[2008/06/03]
2 \BeforeBeginEnvironment{verbatimtab}{%
3 \LWR@forcenewpage
4 \LWR@atbeginverbatim{Verbatim}%
5 }
6 \AfterEndEnvironment{verbatimtab}{%
7 \LWR@afterendverbatim%
8 }
9
10
11 \LetLtxMacro{\LWRMV@orig@verbatimtabininput}{\verbatimtabininput}
```

```
12
13 \renewcommand{\@verbatimtabinput}[2][]{%
14 \LWR@forcenewpage
15 \LWR@atbeginverbatim{Verbatim}%
16 \LWRMV@orig@verbatimtabinput[#1]{#2}%
17 \LWR@afterendverbatim%
18 }
19
20 \BeforeBeginEnvironment{listing}{%
21 \LWR@forcenewpage
22 \LWR@atbeginverbatim{programlisting}%
23 }
24
25 \AfterEndEnvironment{listing}{%
26 \LWR@afterendverbatim%
27 }
28
29 \BeforeBeginEnvironment{listingcont}{%
30 \LWR@forcenewpage
31 \LWR@atbeginverbatim{programlisting}%
32 }
33
34 \AfterEndEnvironment{listingcont}{%
35 \LWR@afterendverbatim%
36 }

37 \LetLtxMacro{\LWRMV@@listinginput}{\listinginput}
38
39 \renewcommand{\@listinginput}[3][]{%
40 \LWR@forcenewpage
41 \LWR@atbeginverbatim{programlisting}%
42 \LWRMV@@listinginput[#1]{#2}{#3}%
43 \LWR@afterendverbatim%
44 }
45
46
47 \renewenvironment*{boxedverbatim}{%
48 {
49 \LWR@forcenewpage
50 \LWR@atbeginverbatim{boxedverbatim}%
51 \verbatim{%
52 }
53 {
54 \endverbatim{%
55 \LWR@afterendverbatim%
56 }}
```

---

File 304 **lwarf-movie15.sty**

§ 412 Package **movie15**

Pkg movie15 **movie15** is emualted.

The packages **multimedia**, **movie15**, and **media9** are supported.

**HTML5** **<audio>** and **<video>** objects are created for **.mp3** and **.mp4** files.

**HTML5** **<embed>** objects are created for **http** and **ftp** links.

**\href** links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by **HTML5**.)

For **media9**, a multimedia object is inserted for each **addresource=**, as well as each **flashvars source=** and **src=**. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside **\warpprintonly** or the **warpprint** environment.

Each **HTML** multimedia object includes the poster text, except for **<embed>** objects. For **movie15**, the **text** option is supported to specify the poster text.

The **width**, **height**, and **totalheight** options are supported. The **HTML** object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

**media9 \addmediapath** is supported. It is assumed that the same path structure will exist for the **HTML** document.

**HTML5** media controls are always specified for each **<audio>** and **<video>** object.

**media9** slideshows are not supported.

**\hyperlink{movie}**, **\movieref**, and **\mediabutton** are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with **.../embed/...** instead of **.../v/...**

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{movie15}[2012/05/16]

2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}
5
6 \newcommand*\{\LWR@moviefifteen@text}{}%
7
8 \define@key{LWR@moviefifteen}{text}{\renewcommand{\LWR@moviefifteen@text}{#1}}
9
10 \newcommand*\{\LWR@includemovieb}[4][]{%
11 \renewcommand{\LWR@moviefifteen@text}{(multimedia)}%
12 \setkeys*{LWR@moviefifteen}{#1}%
13 \LWR@multimediacat[#1,width=#2,height=#3]{\LWR@moviefifteen@text}{#4}%
14 }
15
16 \newrobustcmd*\{\includemovie}{%
17 \begingroup%
18 \LWR@linkmediacatcodes%
19 \LWR@includemovieb%
20 }
```

```
21
22
23 \newcommand*{\movieref}[3][]{}
24
25 \LetLtxMacro\movie\LWR@multimedia
26 % \LetLtxMacro\sound\LWR@multimedia% not in media15
27
28 \newcommand{\hyperlinkmovie}[3][]{}

```

File 305 **l warp-mparhack.sty**

§ 413 Package **mparhack**

Pkg **mparhack** **mparhack** is ignored.

**for HTML output:** Discard all options for **l warp-mparhack**:

```
1 \LWR@ProvidesPackageDrop{mparhack}[2005/04/17]

```

File 306 **l warp-multibib.sty**

§ 414 Package **multibib**

(Emulates or patches code by THORSTEN HANSEN.)

Pkg **multibib** **multibib** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{multibib}[2008/12/10]

```
2 \xpatchcmd{\newcites}
3 {{\@suffix}}
4 {{\@suffix_html}}
5 {}
6 {\LWR@patcherror{multibib}{newcites}}

```

File 307 **l warp-multicap.sty**

§ 415 Package **multicap**

Pkg **multicap** **multicap** is emualted.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multicap}[2002/05/04]

```
2 \newcommand*{\mfcaption}{\captionof{figure}}
3 \newcommand*{\mtcaption}{\captionof{table}}
4 \newcounter{mcapsize}
5 \newcounter{mcapskip}
6 \newlength{\abvmcapskip}
7 \newlength{\blwmcapskip}

```

---

File 308 **l warp-multicol.sty**

§ 416      Package **multicol**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg **multicol** **multicol** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{multicol}[2018/12/27]

Multicols are converted into a 1–3 column display, browser-supported.

The optional multicol heading is placed inside a <div> of class **multicolshading**.

The content is placed inside a <div> of class **multicol**.

Env **multicol** \* {<numcols>} [<heading>]  
2 \NewDocumentEnvironment{multicol}{s m o}

HTML <div> class to contain everything:

3 {  
4     \LWR@forcenewpage  
5     \BlockClass{multicol}

Optional HTML <div> class for the heading:

6     \IfValueT{#3}{\begin{BlockClass}{multicolshading}#3\end{BlockClass}}%

Change \linewidth to compensate for expected size:

7     \setlength{\linewidth}{\linewidth/#2}

Locally force any minipages to be fullwidth:

8     \booltrue{\LWR@forceminipagefullwidth}  
9 }

When done with the environment, close the <div>:

10 {\endBlockClass}

Emulated null functions which are not used in HTML:

11 \newcommand\*{\columnbreak}{}  
12 \newcommand\*{\RLmulticolcolumns}{}  
13 \newcommand\*{\LRmulticolcolumns}{}  
14  
15 \newlength{\premulticols}  
16 \newlength{\postmulticols}  
17 \newlength{\multicolsep}  
18 \newlength{\multicolbaselineskip}  
19 \newlength{\multicoltolerance}  
20 \newlength{\multicolpretolerance}  
21 \newcommand\*{\columnseprulecolor}{\normalcolor}

```
22 \newcounter{columnbadness}
23 \newcounter{finalcolumnbadness}
24 \newcounter{collectmore}
25 \newcounter{unbalance}
26 \newlength{\multicolovershoot}
27 \newlength{\multicolundershoot}

28 \NewDocumentCommand{\docolaction}{s o m m}{%
29 \IfValueTF{#2}{#2}{#3}%
30 }
```

---

**File 309 l warp-multicolrule.sty****§ 417 Package multicolrule**

Pkg **multicolrule** **multicolrule** is ignored.

**for HTML output:**

```
1 \RequirePackage{multicol}
2
3 \LWR@ProvidesPackageDrop{multicolrule}[2019/01/01]

4 \newcommand*\SetMCRule[1]{}
5 \NewDocumentCommand{\DeclareMCRulePattern}{m m}{}
```

---

**File 310 l warp-multimedia.sty****§ 418 Package multimedia**

Pkg **multimedia** **multimedia** is emulated.

The packages **multimedia**, **movie15**, and **media9** are supported.

HTML5 **<audio>** and **<video>** objects are created for **.mp3** and **.mp4** files.

HTML5 **<embed>** objects are created for **http** and **ftp** links.

**\href** links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For **media9**, a multimedia object is inserted for each **addresource=**, as well as each **flashvars source=** and **src=**. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside **\warpprintonly** or the **warpprint** environment.

Each **HTML** multimedia object includes the poster text, except for **<embed>** objects. For **movie15**, the **text** option is supported to specify the poster text.

The **width**, **height**, and **totalheight** options are supported. The **HTML** object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

**media9** \addmediopath is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each <audio> and <video> object.

**media9** slideshows are not supported.

\hyperlinkmovie, \movieref, and \mediabutton are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with .../embed/... instead of .../v/...

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{multimedia}[2012/05/02]

2 \LWR@origRequirePackage{l warp-common-multimedia}
3
4 \LetLtxMacro\movie\LWR@multimedia
5 \LetLtxMacro\sound\LWR@multimedia
6
7 \newcommand{\hyperlinkmovie}[3][]{}

```

---

### File 311 l warp-multiobjective.sty

## § 419 Package **multiobjective**

(Emulates or patches code by LUIS MARTÍ.)

Pkg multiobjective **multiobjective** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{multiobjective}[2008/08/19]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\dom}{\mathord{\prec}}}
4 \CustomizeMathJax{\newcommand{\negdom}{\mathord{\not\prec}}}
5 \CustomizeMathJax{\newcommand{\weakdom}{\mathord{\preccurlyeq}}}
6 \CustomizeMathJax{\newcommand{\negweakdom}{\mathord{\not\preccurlyeq}}}

7 \CustomizeMathJax{\newcommand{\strictdom}{\mathord{\prec}\!\!\!\prec\mathord{\prec}}}
8 \CustomizeMathJax{\newcommand{\negstrictdom}{\mathord{\not\prec}\!\!\!\not\prec\mathord{\prec}}}
9 \CustomizeMathJax{\newcommand{\multepsilon}{\mathord{\preccurlyeq_{\epsilon}}}}
10 \CustomizeMathJax{\newcommand{\addepsilon}{\mathord{\preccurlyeq_{\epsilon+}}}}
11 \CustomizeMathJax{\newcommand{\better}{\triangleleft}}
12 \CustomizeMathJax{\def\vec#1{%
13 \mathchoice%
14 {{\displaystyle\boldsymbol{#1}}}%
15 {{\textstyle\boldsymbol{#1}}}%
16 {\scriptstyle\boldsymbol{#1}}%
17 {\scriptscriptstyle\boldsymbol{#1}}%
18 }%
19

```

---

```

20 \CustomizeMathJax{\newcommand{\set}[1]{%
21 \mathchoice{%
22 {\displaystyle\mathcal{#1}}{%
23 {\textstyle\mathcal{#1}}{%
24 {\scriptstyle\mathcal{#1}}{%
25 {\scriptscriptstyle\mathcal{#1}}{%
26 }{%
27 \CustomizeMathJax{\def\argmax{\mathop{\{\mathbf{arg}\}}\limits^{\max}}{%
28 \CustomizeMathJax{\def\argmin{\mathop{\{\mathbf{arg}\}}\limits^{\min}}{%
29 }{%
30 \end{warpMathJax}

```

---

### File 312 **lwarp-multirow.sty**

## § 420 Package **multirow**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

Pkg **multirow** **multirow** is emulated during HTML output, and used as-is while inside a `\textrimage`.

### vposn

- Note that recent versions of **multirow** include a new optional `vposn` argument.

### multirow cells

- For **multirow**, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```

. . . & \multirow{2}{.5in}{text} & . . .
. . . & \mrowcell & . . .

```

### colored cells

- The **multirow** documentation regarding colored cells recommends using a negative number of rows. This will not work with **lwarp**, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

### with `\multicolumn`

⚠ `\multicolumn` & `\multirow`

**lwarp** does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0][1in][0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

```

. . . & \multicolumnrow{2}{c}[c]{3}[0][1in][0pt]{Text} & . . .
. . . & \mcolrowcell & \mcolrowcell & . . .
. . . & \mcolrowcell & \mcolrowcell & . . .

```

### ⚠ MathJax

- MATHJAX does not support `multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text `tabulars` or `SVG` math.

In a `\teximage`, the print versions are restored.

See section [75.25](#) for the print-mode versions.

**for HTML output:** Remove the placeholder macro which was used if `multirow` was not loaded:

```
1 \LetLtxMacro\multirow\relax
2 \LWR@ProvidesPackagePass{multirow}[2021/01/29]
```

`\LWR@multirowborder` Set to `left` or `right` to create a thick border for the cell, for use by `bigdelim`:

```
3 \newcommand{\LWR@multirowborder}{}%
```

### § 420.1 Multirow

```
\LWR@multirow@par \par inside a \multirow.
4 \newcommand*{\LWR@multirow@par}{\LWR@htmltag{br /}\LWR@origpar}%
\multirow [\langle vpos \rangle] [\langle numrows \rangle] [\langle bigstruts \rangle] [\langle width \rangle] [\langle fixup \rangle] [\langle text \rangle]
5 \NewDocumentCommand{\LWR@HTML@multirow}{O{c} m o m o +m}%
6 {%
7 \LWR@traceinfo{*** LWR@HTML@multirow #1 #2 #4}%
8 \booltrue{LWR@usedmultirow}%
9 \LWR@maybenewtablerow%
10 \LWR@tabularleftedge%
```

Print the start of a new table data cell:

```
11 \LWR@htmltag{td rowspan=\textquotedbl#2\textquotedbl\ %}
```

A class adds the column spec and the rule:

```
12 class=\textquotedbl{}td%
```

Append this column's spec:

```
13 \LWR@getexpparray{\LWR@tablecols}{\arabic{\LWR@tableLaTeXcolindex}}%
```

If this column has a `cmidrule`, add “rule” to the end of the `HTML` class tag. Also add the vertical bar class.

```
14 \LWR@addcmidruletrim%
15 \LWR@addleftmostbartag%
16 \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
17 \textquotedbl%
```

```
18 \LWR@tdstartstyles%
```

The vertical alignment, if given:

```
19 \ifstreq{\#1}{c}{\LWR@tdaddstyle\LWR@print@mbox{vertical-align:middle}}{}%
20 \ifstreq{\#1}{b}{\LWR@tdaddstyle\LWR@print@mbox{vertical-align:bottom}}{}%
21 \ifstreq{\#1}{t}{\LWR@tdaddstyle\LWR@print@mbox{vertical-align:top}}{}%
```

The left/right border, if given:

```
22 \ifdefvoid{\LWR@multirowborder}{}{%
23 \LWR@tdaddstyle%
24 \LWR@print@mbox{border-\LWR@multirowborder:} 2px dotted black ; %
25 \LWR@print@mbox{padding-\LWR@multirowborder:} 2px%
26 }%
```

Additional style elements:

```
27 \LWR@addcmidrulewidth%
28 \LWR@addcdashline%
29 \LWR@addtabularrulecolors%
30 \LWR@tdendstyles%
31 }%
```

The column's < spec:

```
32 \LWR@getexpparray{\LWR@colbeforespec}{\arabic{\LWR@tableTeXcolindex}}%
```

While printing the text, redefine \\ to generate a new line. If a nested tabular occurs, \\ is redefined to \LWR@tabularendofline at the start of the tabular, then \LWR@endofline before again printing any \multirow contents inside the nested tabular.

\par is redefined to insert an HTML break, and if tabular is nested, it is redefined at the start of tabular.

```
33 \begingroup%
34 \LetLtxMacro{\\"}{\LWR@endofline}%
35 \Let\par{\LWR@multirow\par}%
36 #6%
37 \endgroup%
38 \LWR@stoppars%
39 \boolfalse{\LWR@intabularmetadata}%
40 \renewcommand{\LWR@multirowborder}{}%
41 \LWR@traceinfo{*** \LWR@HTML@multirow done}%
42 }%
43
44 \LWR@formatted{multirow}
```

## § 420.2 Combined multicolumn and multirow

```
\multicolumnrow {<1:cols>} {<2:halign>} [<3:vpos>] {<4:numrows>} [<5:bigstruts>] {<6:width>} [<7:fixup>]
{<8:text>}
```

\@ifpackageloaded{multirow} determines if v2.0 or later of `multirow` was used, which included the \ProvidesPackage macro.

The HTML version follows.

\AtBeginDocument because the print version had to see if `multirow` was loaded before determining how to define \LWR@print@multicolumnrow.

```
45 \AtBeginDocument{
46
47 \NewExpandableDocumentCommand{\LWR@HTML@multicolumnrow}{m m O{} m O{} m O{} +m}{%
48 \booltrue{\LWR@usedmultirow}%
```

Figure out how many extra HTML columns to add for @ and ! columns:

```
49 \LWR@tabularhtmlcolumns{\arabic{\LWR@tableLaTeXcolindex}}{#1}
```

Create the multicolumn/multirow tag, temporarily redefining the end of line. (Using a group caused problems with a nested tabular.

```
50 \LetLtxMacro{\\"}{\LWR@endofline}%
51 \LWR@domulticolumn[#3][#4]{#1}{\arabic{\LWR@tabhtmlcoltotal}}{#2}{#8}%
52 \LetLtxMacro{\\"}{\LWR@tabularendofline}%
```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
53 \defaddtocounter{\LWR@tableLaTeXcolindex}{#1}%
54 \defaddtocounter{\LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
55 \booltrue{\LWR@skipatbang}%
56 }
57
58 \LWR@expandableformatted{multicolumnrow}
59
60 }% \AtBeginDocument
```

For MATHJAX. Only the text is used. All other parameters are ignored.

```
61 \begin{warpMathJax}
62 % \multirow[vpos]{num}[bigstruts][width][vmove]{text}
63 \CustomizeMathJax{\newcommand{\LWRsubmultirow}[2][]{\#2}}
64 \CustomizeMathJax{\newcommand{\LWRmultirow}[2][]{\LWRsubmultirow}}
65 \CustomizeMathJax{\newcommand{\multirow}[2][]{\LWRmultirow}}
66 %
67 \CustomizeMathJax{\newcommand{\mrowcell}{}}
68 \CustomizeMathJax{\newcommand{\mcolrowcell}{}}
```

---

```
69 \CustomizeMathJax{\newcommand{\STneed}[1]{}}
70 \end{warpMathJax}
```

---

File 313 **l warp-multitoc.sty**

§ 421 Package **multitoc**

Pkg **multitoc** **multitoc** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multitoc}[1999/06/08]

```
2 \newcommand{\multicolumntoc}{2}
3 \newcommand{\multicolumnlot}{2}
4 \newcommand{\multicolumnlof}{2}
5 \newcommand*{\immediateaddtocontents}[2]{}
```

---

File 314 **l warp-musicography.sty**

§ 422 Package **musicography**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg **musicography** **musicography** is patched for use by **l warp**.

Images are used for the meter symbols and fingered bass, since the HTML fonts tend not to be the correct size and HTML cannot stack items. The HTML alt tag copies C and 3/2, etc. Hashes are used for the meter images, which are then reused as necessary.

 Note that browser support for musical symbols may be buggy. ALT text and copy/paste into a text editor work well.

**for HTML output:** 1 \LWR@ProvidesPackagePass{musicography}[2019/05/28]

```
2 \NewDocumentCommand{\LWR@HTML@musSymbol}{ O{\musFont} m m m m }{%
3 \begin{lateximage}%
4 {#1\kern#2\raisebox{#3}{#5}\kern#4}%
5 \end{lateximage}%
6 }
7
8 \LWR@formatted{musSymbol}
9
10 \NewDocumentCommand{\LWR@HTML@musStemmedNote}{ m }{%
11 \begin{lateximage}%
12 \musSymbol{0.05em}{0.5ex}{0.2em}{#1\musStem}%
13 \end{lateximage}%
14 }
15
16 \LWR@formatted{musStemmedNote}
17
18 \NewDocumentCommand{\LWR@HTML@musFlaggedNote}{ m m }{%
```

```
19 \begin{lateximage}%
20 \musSymbol{0.05em}{0.5ex}{0pt}{#1\musStem}%
21 \musSymbol{0pt}{0pt}{0.9em}{#2}%
22 \end{lateximage}%
23 }%
24
25 \LWR@formatted{\musFlaggedNote}%
26
27 \NewDocumentCommand{\LWR@HTML@musDottedNote}{ m }{%
28 \begin{lateximage}%
29 #1\musDot%
30 \end{lateximage}%
31 }%
32
33 \LWR@formatted{\musDottedNote}%
34
35 \NewDocumentCommand{\LWR@HTML@musMeter}{ m m }{%
36 \begin{lateximage}*{[#1/#2][#1#2]*}%
37 \musStack{#1 #2}\kern0.05em%
38 \end{lateximage}%
39 }%
40
41 \LWR@formatted{\musMeter}%
42
43 \NewDocumentCommand{\LWR@HTML@meterCplus}{ m }{%
44 \begin{lateximage}*{C#1}*%
45 \meterC{}\kern-0.7pt#1%
46 \end{lateximage}%
47 }%
48
49 \LWR@formatted{\meterCplus}%
50
51 \NewDocumentCommand{\LWR@HTML@meterC}{}{%
52 \begin{lateximage}*{C}*%
53 \musSymbolMeter{\symbol{83}}%
54 \end{lateximage}%
55 }%
56
57 \LWR@formatted{\meterC}%
58
59 \NewDocumentCommand{\LWR@HTML@meterCutC}{}{%
60 \begin{lateximage}*{C|}*%
61 \musSymbolMeter{\symbol{82}}%
62 \end{lateximage}%
63 }%
64
65 \LWR@formatted{\meterCutC}%
66
67 \NewDocumentCommand{\LWR@HTML@meterCThreeTwo}{}{%
68 \begin{lateximage}*{C3/2}*%
69 \meterCplus{\musStack{3 2}}%
70 \end{lateximage}%
71 }%
72
73 \LWR@formatted{\meterCThreeTwo}
```

```
74
75 \NewDocumentCommand{\LWR@HTML@meter0}{}{\HTMLunicode{25EF}}
76
77 \LWR@formatted{meter0}
78
79 \newcommand{\LWR@null@noFig}[1][]{}%
80
81 \NewDocumentCommand{\LWR@HTML@musFig}{ m }{%
82 \begin{lateximage}*[%
83 %% ALT text for copy/paste
84 \LetLtxMacro{\noFig}{\LWR@null@noFig}
85 \LetLtxMacro{\musSharp}{\LWR@HTML@musSharp}
86 \LetLtxMacro{\musDoubleSharp}{\LWR@HTML@musDoubleSharp}
87 \LetLtxMacro{\musFlat}{\LWR@HTML@musFlat}
88 \LetLtxMacro{\musDoubleFlat}{\LWR@HTML@musDoubleFlat}
89 \LetLtxMacro{\musNatural}{\LWR@HTML@musNatural}
90 {#1}% braces here because \noFig uses []
91 }
92]*%
93 \musStack[\musFigFont]{#1}%
94 \end{lateximage}%
95 }
96
97 \LWR@formatted{musFig}
98
99 \NewDocumentCommand{\LWR@HTML@musFlat}{}{\HTMLunicode{266D}}
100 \NewDocumentCommand{\LWR@HTML@musDoubleFlat}{}{\HTMLunicode{1D12B}}
101 \NewDocumentCommand{\LWR@HTML@musSharp}{}{\HTMLunicode{266F}}
102 \NewDocumentCommand{\LWR@HTML@musDoubleSharp}{}{\HTMLunicode{1D12A}}
103 \NewDocumentCommand{\LWR@HTML@musNatural}{}{\HTMLunicode{266E}}
104
105 \LWR@formatted{musFlat}
106 \LWR@formatted{musDoubleFlat}
107 \LWR@formatted{musSharp}
108 \LWR@formatted{musDoubleSharp}
109 \LWR@formatted{musNatural}
110
111 \NewDocumentCommand{\LWR@HTML@musWhole}{}{\HTMLunicode{1D15D}}
112 \NewDocumentCommand{\LWR@HTML@musHalf}{}{\HTMLunicode{1D15E}}
113 \NewDocumentCommand{\LWR@HTML@musQuarter}{}{\HTMLunicode{1D15F}}
114 \NewDocumentCommand{\LWR@HTML@musEighth}{}{\HTMLunicode{1D160}}
115 \NewDocumentCommand{\LWR@HTML@musSixteenth}{}{\HTMLunicode{1D161}}
116 \NewDocumentCommand{\LWR@HTML@musThirtySecond}{}{\HTMLunicode{1D162}}
117 \NewDocumentCommand{\LWR@HTML@musSixtyFourth}{}{\HTMLunicode{1D163}}
118
119 \LWR@formatted{musWhole}
120 \LWR@formatted{musHalf}
121 \LWR@formatted{musQuarter}
122 \LWR@formatted{musEighth}
123 \LWR@formatted{musSixteenth}
124 \LWR@formatted{musThirtySecond}
125 \LWR@formatted{musSixtyFourth}
126
127 \NewDocumentCommand{\LWR@HTML@musWholeDotted}{}{\HTMLunicode{1D15D}\HTMLunicode{1D16D}}
```

---

```

129 \NewDocumentCommand{\LWR@HTML@musHalfDotted}{}
130 {\HTMLUnicode{1D15E}\HTMLUnicode{1D16D}}
131 \NewDocumentCommand{\LWR@HTML@musQuarterDotted}{}
132 {\HTMLUnicode{1D15F}\HTMLUnicode{1D16D}}
133 \NewDocumentCommand{\LWR@HTML@musEighthDotted}{}
134 {\HTMLUnicode{1D160}\HTMLUnicode{1D16D}}
135 \NewDocumentCommand{\LWR@HTML@musSixteenthDotted}{}
136 {\HTMLUnicode{1D161}\HTMLUnicode{1D16D}}
137 \NewDocumentCommand{\LWR@HTML@musThirtySecondDotted}{}
138 {\HTMLUnicode{1D162}\HTMLUnicode{1D16D}}
139 \NewDocumentCommand{\LWR@HTML@musSixtyFourthDotted}{}
140 {\HTMLUnicode{1D163}\HTMLUnicode{1D16D}}
141
142 \LWR@formatted{musWholeDotted}
143 \LWR@formatted{musHalfDotted}
144 \LWR@formatted{musQuarterDotted}
145 \LWR@formatted{musEighthDotted}
146 \LWR@formatted{musSixteenthDotted}
147 \LWR@formatted{musThirtySecondDotted}
148 \LWR@formatted{musSixtyFourthDotted}

```

---

### File 315 l warp-nameauth.sty

§ 423 Package **nameauth**

*(Emulates or patches code by CHARLES P. SCHAUM.)*

Pkg nameauth nameauth is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{nameauth}[2017/03/22]

l warp formatting is inserted in the following.

```

2 \renewcommand*{\nameauth@Hook}[1]
3 {%
4 \if@nameauth@Lock
5 \nameauth@InHooktrue%
6 \protected@edef\test{\#1}%
7 \expandafter\nameauth@TestDot\expandafter{\test}%
8 \if@nameauth@InAKA
9 \if@nameauth@AlwaysFormat
10 \nameauth@FirstFormattrue%
11 \else
12 \unless\if@nameauth@AKAFormat
13 \nameauth@FirstFormatfalse\fi
14 \fi
15 \if@nameauth@MainFormat
16 \if@nameauth@FirstFormat
17 \bgroup\NamesFormat{%
18 \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% l warp
19 }\egroup%
20 \else
21 \bgroup\MainNameHook{%

```

```

22 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% l warp
23 }\egroup%
24 \fi
25 \else
26 \if@nameauth@FirstFormat
27 \bgroup\FrontNamesFormat{%
28 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% l warp
29 }\egroup%
30 \else
31 \bgroup\FrontNameHook{%
32 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% l warp
33 }\egroup%
34 \fi
35 \fi
36 \else
37 \if@nameauth@AlwaysFormat
38 \@nameauth@FirstFormattrue%
39 \fi
40 \if@nameauth@MainFormat
41 \if@nameauth@FirstFormat
42 \bgroup\NamesFormat{%
43 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% l warp
44 }\egroup%
45 \else
46 \bgroup\MainNameHook{%
47 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% l warp
48 }\egroup%
49 \fi
50 \else
51 \if@nameauth@FirstFormat
52 \bgroup\FrontNamesFormat{%
53 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% l warp
54 }\egroup%
55 \else
56 \bgroup\FrontNameHook{%
57 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% l warp
58 }\egroup%
59 \fi
60 \fi
61 \fi
62 \@nameauth@FirstFormatfalse%
63 \@nameauth@InHookfalse%
64 \fi
65 }

```

---

File 316 **l warp-nameref.sty**

§ 424 Package **nameref**

Pkg **nameref** **nameref** is emulated by **l warp**.

**for HTML output:** Discard all options for **l warp-nameref**:

---

```

1 \PackageInfo{l warp}{%
2 Using the l warp HTML version of package 'nameref', \MessageBreak
3 and discarding options.\MessageBreak
4 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak
5 do not attempt to patch l warp's version of 'nameref').)\MessageBreak
6 }
7 \DeclareOption*{}
8 \ProcessOptions\relax

```

---

File 317 **l warp-natbib.sty**

§ 425 Package **natbib**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg natbib natbib is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{natbib}[2010/09/13]

Replace math < and > with \textless and \textgreater:

A macro to compare:

```
2 \newcommand{\LWRNB@NAT@open}{$<$}
```

To patch \NAT@open and \NAT@close

```

3 \newcommand{\LWRNB@patchnatbibopenclose}{%
4 \ifdefstreq{\NAT@open}{\LWRNB@NAT@open}%
5 {%
6 \renewcommand{\NAT@open}{\textless}%
7 \renewcommand{\NAT@close}{\textgreater}%
8 }%
9 }
```

Do it now in case angle was selected as an option:

```
10 \LWRNB@patchnatbibopenclose
```

Also patch \setcitestyle to patch after settings are made:

```

11 \let\LWRNB@origsetcitestyle\setcitestyle
12
13 \renewcommand{\setcitestyle}[1]{%
14 \LWRNB@origsetcitestyle{#1}%
15 \LWRNB@patchnatbibopenclose%
16 }
```

Synchronize the autopage labels:

```

17 \xpretocmd{\NAT@reset@parser}{%
18 {\LWR@newautopagelabel{page}}%
```

```
19 {}
20 {\LWR@patcherror{natbib}{\NAT@reset@parser}}
```

---

File 318 **l warp-nccfancyhdr .sty**

§ 426      Package    **nccfancyhdr**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg nccfancyhdr nccfancyhdr is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nccfancyhdr}[2004/12/07]

```
2 \newcommand*{\headrulewidth}{}%
3 \newcommand*{\footrulewidth}{}%
4 \newcommand{\headstrutheight}{}%
5 \newcommand{\footstrutheight}{}%
6 \newcommand*{\headrule}{}%
7 \newcommand*{\footrule}{}%
8
9 \newdimen\headwidth
10 \newcommand*{\extendedheaders}{}%
11 \newcommand*{\normalheaders}{}%
12
13 \newcommand*{\fancyhead}[2][]{}
14 \newcommand*{\fancyfoot}[2][]{}
15 \newcommand*{\fancyhf}[2][]{}
16 \newcommand*{\fancypagestyle}[2]{}%
17 \newcommand*{\lhead}[2][]{}
18 \newcommand*{\chead}[2][]{}
19 \newcommand*{\rhead}[2][]{}
20 \newcommand*{\lfoot}[2][]{}
21 \newcommand*{\cfoot}[2][]{}
22 \newcommand*{\rfoot}[2][]{}
23
24 \newcommand{\nouppercase}[1]{#1}%
25
26 \NewDocumentCommand{\fancycenter}{o o m m m}{}%
27
28 \NewDocumentCommand{\newpagestyle}{m o m}{}%
29
30 \newcommand*{\iffloatpage}[2]{#2}%
31 \newcommand*{\ifftopfloat}[2]{#2}%
32 \newcommand*{\iffbotfloat}[2]{#2}
```

---

File 319 **l warp-nccfoots .sty**

§ 427      Package    **nccfoots**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg nccfoots nccfoots is used as-is, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{nccfoots}[2005/02/03]

 For MATHJAX. There is no way to test for an empty argument, so the mark is not automatically duplicated.

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\Footnotemark}{\{}{\}^{\mathrm{\#1}}\}}
4 \CustomizeMathJax{\newcommand{\Footnote}{\footnotemark\footnotemark\#1}}
5 \end{warpMathJax}
```

File 320 **l warp-nccmath.sty**

## § 428 Package **nccmath**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg nccmath nccmath is patched for use by l warp, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{nccmath}[2006/01/20]

```
2 \let\origeqnarray\eqnarray
3 \let\origendeqnarray\endeqnarray
4
5 \csletcs{\origeqnarraystar}{\eqnarray*}
6 \csletcs{\origendeqnarraystar}{\endeqnarray*}
7
8 \RenewEnviron{eqnarray}{%
9 \LWR@eqnarrayfactor
10 }
11 \RenewEnviron{eqnarray*}{%
12 \LWR@eqnarrayfactor
13 }
14 \RenewEnviron{eqnarray}{%
15 \LWR@eqnarrayfactor
16 }
17
18 \begingroup
19 \csletcs{\origeqnarray}{\origeqnarraystar}
20 \csletcs{\origendeqnarray}{\origendeqnarraystar}
21 \boolfalse{\numbereqnarray}
22 \LWR@eqnarrayfactor
23 \endgroup
24
25 }
26
27 \def\eqs{%
28 \ifstar\NCCmath@eqsstar\NCCmath@eqs%
29 }
30 \newcommand*{\NCCmath@eqsstar}[2][]{\begin{eqnarray*}#2\end{eqnarray*}}
31 \newcommand*{\NCCmath@eqs}[2][]{\begin{eqnarray}#2\end{eqnarray}}
```

---

```

33 \begin{warpMathJax}

34 \CustomizeMathJax{\renewcommand{\intertext}[2][]{\text{\#2}\notag \\}}
35 \CustomizeMathJax{\newenvironment{fleqn}[1][]{\{}{\}}
36 \CustomizeMathJax{\newenvironment{ceqn}{}{\}}
37 \CustomizeMathJax{\newenvironment{darray}[2][c]{\begin{array}{#1}{#2}}{\end{array}}}
38 \CustomizeMathJax{\newcommand{\dmulticolumn}[3]{#3}}

```

As of v0.86, MATHJAX v3 does not offer  $\backslash\backslash*$ , so the unstarred version is used here.

```

39 \CustomizeMathJax{\newcommand{\LWRnrnstar}[1][0.5ex]{\backslash[#1]}}
40 \CustomizeMathJax{\newcommand{\nr}{\ifstar{\LWRnrnstar}{\LWRnrnstar}}}
41
42 \CustomizeMathJax{\newcommand{\mrel}[1]{\begin{aligned}#1\end{aligned}}}
43 \CustomizeMathJax{\newcommand{\underrel}[2]{\underset{\#2}{\#1}}}
44 \CustomizeMathJax{\newcommand{\medmath}[1]{#1}}
45 \CustomizeMathJax{\newcommand{\medop}[1]{#1}}
46 \CustomizeMathJax{\newcommand{\medint}[1]{#1}}
47 \CustomizeMathJax{\newcommand{\medintcorr}[1]{#1}}
48 \CustomizeMathJax{\newcommand{\mfrac}[2]{\frac{\#1}{\#2}}}
49 \CustomizeMathJax{\newcommand{\mbinom}[2]{\binom{\#1}{\#2}}}
50 \CustomizeMathJax{\newenvironment{mmatrix}{\begin{matrix}}{\end{matrix}}}

51 \CustomizeMathJax{\newcommand{\displaybreak}[1][]{}}

\eq, \eqs, \eqalign are created by LATEX, not MATHJAX.

52 \end{warpMathJax}

```

---

### File 321 **l warp-needspace.sty**

#### § 429 Package **needspace**

(Emulates or patches code by PETER WILSON.)

Pkg **needspace** **needspace** is ignored.

**for HTML output:** Discard all options for **l warp-needspace**:

```

1 \LWR@ProvidesPackageDrop{needspace}[2010/09/12]
2
3 \DeclareDocumentCommand{\needspace}{m}{}
4 \DeclareDocumentCommand{\Needspace}{s m}{}

```

---

### File 322 **l warp-newpxmath.sty**

#### § 430 Package **newpxmath**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg newpxmath **newpxmath** is used as-is for SVG math, and is emulated for MATHJAX.

**⚠ limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored. The dedicated macros for upright and italic Greek do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** The MATHJAX code from `newtxmath` is used:

```

1 \LWR@ProvidesPackagePass{newpxmath}[2020/01/09]
2
3 \LWR@infoprocessingmathjax{newpxmath}
4
5 \LWR@origRequirePackage{l warp-common-mathjax-newpxmath}
6
7 \LWR@origRequirePackage{l warp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}
14 \LWR@mathjax@addgreek@l@up{}{up}
15 \LWR@mathjax@addgreek@l@up{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
```

Optional slanted Greek:

```

18 \ifpx@slantedG
19 \LWR@mathjax@addgreek@u@it*{}{}
20 \fi
21
22 \end{warpMathJax}
```

### File 323 **l warp-newtxmath.sty**

## § 431 Package **newtxmath**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg newtxmath **newtxmath** is used as-is for SVG math, and is emulated for MATHJAX.

**⚠ limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored, and except that bold italic Latin letters are not defined for MATHJAX if the option is not selected.

The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{newtxmath}[2020/08/04]
2
```

```

3 \LWR@infoprocessingmathjax{newtxmath}
4
5 \LWR@origRequirePackage{lwarf-common-mathjax-newpxmath}
6
7 \LWR@origRequirePackage{lwarf-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}{}
14 \LWR@mathjax@addgreek@l@up{up}{}
15 \LWR@mathjax@addgreek@l@up{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{}{it}{}
21 \LWR@mathjax@addgreek@l@it{it}{}
22
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{%
25 \iftx@BI
26 \LWR@mathjax@addlatin@u@bfit{BI}
27 \LWR@mathjax@addlatin@l@bfit{BI}
28 \fi
29 }{}
```

Optional slanted Greek:

```

30 \iftx@slantedG
31 \LWR@mathjax@addgreek@u@it*{}{it}{}
32 \fi
33
34 \end{warpMathJax}
```

File 324 **lwarf-newtxsf.sty**

§ 432 Package **newtxsf**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg **newtxsf** **newtxsf** is used as-is for SVG math, and is emulated for MATHJAX.

**⚠ limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored. The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

- 1 \LWR@ProvidesPackagePass{newtxsf}[2020/05/02]
- 2
- 3 \LWR@infoprocessingmathjax{newtxsf}

```

4
5 \LWR@origRequirePackage{l warp-common-mathjax-newpxmath}
6
7 \LWR@origRequirePackage{l warp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}{}
14 \LWR@mathjax@addgreek@l@up{up}{}
15 \LWR@mathjax@addgreek@l@up{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{}{it}{}
21 \LWR@mathjax@addgreek@l@it{it}{}
22 %
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{%
25 \iftx@BI
26 \LWR@mathjax@addlatin@u@bfit{BI}
27 \LWR@mathjax@addlatin@l@bfit{BI}
28 \fi
29 }{}
```

Optional slanted Greek:

```

30 \iftx@slantedG
31 \LWR@mathjax@addgreek@u@it*{}{it}{}
32 \fi
33
34 \end{warpMathJax}
```

### File 325 **l warp-nextpage.sty**

#### § 433 Package **nextpage**

(Emulates or patches code by PETER WILSON.)

Pkg nextpage **nextpage** is ignored.

**for HTML output:** Discard all options for **l warp-nextpage**.

```

1 \LWR@ProvidesPackageDrop{nextpage}[2009/09/03]
2 \DeclareDocumentCommand{\cleartoevenpage}{o}{}
3 \DeclareDocumentCommand{\movetoevenpage}{o}{}
4 \DeclareDocumentCommand{\cleartooddpage}{o}{}
5 \DeclareDocumentCommand{\movetooddpage}{o}{}
```

---

File 326 **l warp-nfssext-cfr.sty**

§ 434 Package **nfssext-cfr**

(Emulates or patches code by CLEA F. REES.)

Pkg nfssext-cfr nfssext-cfr is emulated in HTML, and used as-is in print output.

Results depend on the browser's font.

for HTML output: 1 \LWR@ProvidesPackagePass{nfssext-cfr}[2017/03/28]

Macros which are present in the l warp core are commented out here.

```
2 \newrobustcmd{\LWR@HTML@lnstyle}{}
3 \newrobustcmd{\LWR@HTML@osstyle}{\LWR@HTML@scshape}
4 \newrobustcmd{\LWR@HTML@instyle}{}
5 \newrobustcmd{\LWR@HTML@sustyle}{}
6 \newrobustcmd{\LWR@HTML@swstyle}{}
7 \newrobustcmd{\LWR@HTML@pstyle}{}
8 \newrobustcmd{\LWR@HTML@tistyle}{}
9 \newrobustcmd{\LWR@HTML@ostyle}{\LWR@HTML@scshape}
10 \newrobustcmd{\LWR@HTML@postyle}{\LWR@HTML@scshape}
11 \newrobustcmd{\LWR@HTML@ltstyle}{}
12 \newrobustcmd{\LWR@HTML@ofstyle}{}
13 \newrobustcmd{\LWR@HTML@altstyle}{}
14 \newrobustcmd{\LWR@HTML@regstyle}{}
15 \newrobustcmd{\LWR@HTML@embossstyle}{}
16 \newrobustcmd{\LWR@HTML@ornamentalstyle}{}
17 \newrobustcmd{\LWR@HTML@qtstyle}{}
18 \newrobustcmd{\LWR@HTML@shstyle}{}
19 \newrobustcmd{\LWR@HTML@swashstyle}{}
20 \newrobustcmd{\LWR@HTML@tmstyle}{\renewcommand*\LWR@f@family{tt}}
21 \newrobustcmd{\LWR@HTML@tvstyle}{\renewcommand*\LWR@f@family{tt}}
22 \newrobustcmd{\LWR@HTML@tstyle}{}
23 \newrobustcmd{\LWR@HTML@lstyle}{}
24 \newrobustcmd{\LWR@HTML@tlstyle}{}
25 \newrobustcmd{\LWR@HTML@plstyle}{}
26 \newrobustcmd{\LWR@HTML@tostyle}{\LWR@HTML@scshape}
27 % \newrobustcmd{\LWR@HTML@sishape}{}
28 \newrobustcmd{\LWR@HTML@olshape}{}
29 \newrobustcmd{\LWR@HTML@scolshape}{}
30 \newrobustcmd{\LWR@HTML@ushape}{}
31 \newrobustcmd{\LWR@HTML@scushape}{}
32 \newrobustcmd{\LWR@HTML@uishape}{\LWR@HTML@itshape}
33 \newrobustcmd{\LWR@HTML@rishape}{}
34 \newrobustcmd{\LWR@HTML@regwidth}{}
35 \newrobustcmd{\LWR@HTML@nwwidth}{}
36 \newrobustcmd{\LWR@HTML@cdwidth}{}
37 \newrobustcmd{\LWR@HTML@ecwidth}{}
38 \newrobustcmd{\LWR@HTML@ucwidth}{}
39 \newrobustcmd{\LWR@HTML@etwidth}{}
40 \newrobustcmd{\LWR@HTML@ewwidth}{}
41 \newrobustcmd{\LWR@HTML@ewshape}{}
42 \newrobustcmd{\LWR@HTML@ewcolor}{}
43 \newrobustcmd{\LWR@HTML@ewshape}{\LWR@HTML@ewcolor}
```

```
40 \newrobustcmd{\LWR@HTML@epwidth}{}
41 \newrobustcmd{\LWR@HTML@exwidth}{}
42 \newrobustcmd{\LWR@HTML@uxwidth}{}
43 \newrobustcmd{\LWR@HTML@mbweight}{\renewcommand*{\LWR@f@series}{md}}
44 \newrobustcmd{\LWR@HTML@dbweight}{\renewcommand*{\LWR@f@series}{db}}
45 \newrobustcmd{\LWR@HTML@sbweight}{\renewcommand*{\LWR@f@series}{sb}}
46 % \newrobustcmd{\LWR@HTML@ebweight}{\renewcommand*{\LWR@f@series}{eb}}
47 \newrobustcmd{\LWR@HTML@ubweight}{\renewcommand*{\LWR@f@series}{ub}}
48 % \newrobustcmd{\LWR@HTML@lgweight}{\renewcommand*{\LWR@f@series}{lg}}
49 \newrobustcmd{\LWR@HTML@elweight}{\renewcommand*{\LWR@f@series}{el}}
50 \newrobustcmd{\LWR@HTML@ulweight}{\renewcommand*{\LWR@f@series}{ul}}
51 % \newrobustcmd{\LWR@HTML@itshape}{}
52 % \newrobustcmd{\LWR@HTML@scshape}{}
53 % \newrobustcmd{\LWR@HTML@upshape}{}
54 \newrobustcmd{\LWR@HTML@dfshape}{}
55
56 \ifdef{\LWR@HTML@swshape}{}% duplicated by fontaxes
57 \newrobustcmd{\LWR@HTML@swshape}{}
58 }
59
60 \newrobustcmd{\LWR@HTML@ornament}[1]{}
61
62 \LWR@formatted{lnstyle}
63 \LWR@formatted{osstyle}
64 \LWR@formatted{instyle}
65 \LWR@formatted{sustyle}
66 \LWR@formatted{swstyle}
67 \LWR@formatted{pstyle}
68 \LWR@formatted{tistyle}
69 \LWR@formatted{ostyle}
70 \LWR@formatted{postyle}
71 \LWR@formatted{ltstyle}
72 \LWR@formatted{ofstyle}
73 \LWR@formatted{altstyle}
74 \LWR@formatted{regstyle}
75 \LWR@formatted{embossstyle}
76 \LWR@formatted{ornamentalstyle}
77 \LWR@formatted{qtstyle}
78 \LWR@formatted{shstyle}
79 \LWR@formatted{swashstyle}
80 \LWR@formatted{tmstyle}
81 \LWR@formatted{tvstyle}
82 \LWR@formatted{tstyle}
83 \LWR@formatted{lstyle}
84 \LWR@formatted{tlstyle}
85 \LWR@formatted{plstyle}
86 \LWR@formatted{tostyle}
87 % \LWR@formatted{sishape}
88 \LWR@formatted{olshape}
89 \LWR@formatted{scolshape}
90 \LWR@formatted{ushape}
91 \LWR@formatted{scushape}
92 \LWR@formatted{uishape}
93 \LWR@formatted{rishape}
94 \LWR@formatted{regwidth}
```

```
95 \LWR@formatted{nwwidth}
96 \LWR@formatted{cdwidth}
97 \LWR@formatted{ecwidth}
98 \LWR@formatted{ucwidth}
99 \LWR@formatted{etwidth}
100 \LWR@formatted{epwidth}
101 \LWR@formatted{exwidth}
102 \LWR@formatted{uxwidth}
103 \LWR@formatted{mbweight}
104 \LWR@formatted{dbweight}
105 \LWR@formatted{sbweight}
106 % \LWR@formatted{ebweight}
107 \LWR@formatted{ubweight}
108 % \LWR@formatted{lgweight}
109 \LWR@formatted{elweight}
110 \LWR@formatted{ulweight}
111 \LWR@formatted{itshape}%
112 \LWR@formatted{scshape}%
113 \LWR@formatted{upshape}%
114 \LWR@formatted{dfshape}
115
116 \ifdef{\LWR@HTML@swshape}{}{%
117 \LWR@formatted{swshape}
118 }
119
120 \LWR@formatted{ornament}

121 \FilenameNullify{%
122 \LetLtxMacro\lnstyle\empty%
123 \LetLtxMacro\osstyle\empty%
124 \LetLtxMacro\instyle\empty%
125 \LetLtxMacro\sustyle\empty%
126 \LetLtxMacro\swstyle\empty%
127 \LetLtxMacro\pstyle\empty%
128 \LetLtxMacro\tistyle\empty%
129 \LetLtxMacro\ostyle\empty%
130 \LetLtxMacro\postyle\empty%
131 \LetLtxMacro\ltstyle\empty%
132 \LetLtxMacro\ofstyle\empty%
133 \LetLtxMacro\altstyle\empty%
134 \LetLtxMacro\regstyle\empty%
135 \LetLtxMacro\embossstyle\empty%
136 \LetLtxMacro\ornamentalstyle\empty%
137 \LetLtxMacro\qstyle\empty%
138 \LetLtxMacro\shstyle\empty%
139 \LetLtxMacro\swashstyle\empty%
140 \LetLtxMacro\tmstyle\empty%
141 \LetLtxMacro\tvstyle\empty%
142 \LetLtxMacro\tstyle\empty%
143 \LetLtxMacro\lstyle\empty%
144 \LetLtxMacro\tlstyle\empty%
145 \LetLtxMacro\plstyle\empty%
146 \LetLtxMacro\tostyle\empty%
147 % \LetLtxMacro\sishape\empty%
148 \LetLtxMacro\olshape\empty%
```

```
149 \LetLtxMacro\scolshape\@empty%
150 \LetLtxMacro\ushape\@empty%
151 \LetLtxMacro\scushape\@empty%
152 \LetLtxMacro\uishape\@empty%
153 \LetLtxMacro\rishape\@empty%
154 \LetLtxMacro\regwidth\@empty%
155 \LetLtxMacro\newidth\@empty%
156 \LetLtxMacro\cdwidth\@empty%
157 \LetLtxMacro\ecwidth\@empty%
158 \LetLtxMacro\ucwidth\@empty%
159 \LetLtxMacro\etwidth\@empty%
160 \LetLtxMacro\epwidth\@empty%
161 \LetLtxMacro\exwidth\@empty%
162 \LetLtxMacro\uxwidth\@empty%
163 \LetLtxMacro\mbweight\@empty%
164 \LetLtxMacro\dbweight\@empty%
165 \LetLtxMacro\sbweight\@empty%
166 % \LetLtxMacro\ebweight\@empty%
167 \LetLtxMacro\ubweight\@empty%
168 % \LetLtxMacro\lgweight\@empty%
169 \LetLtxMacro\elweight\@empty%
170 \LetLtxMacro\ulweight\@empty%
171 % \LetLtxMacro\itshape\@empty%
172 % \LetLtxMacro\scshape\@empty%
173 % \LetLtxMacro\upshape\@empty%
174 \LetLtxMacro\dfshape\@empty%
175 \LetLtxMacro\swshape\@empty%
176 \LetLtxMacro\ornament\@gobble%
177 }
178
179 \newrobustcmd{\LWR@HTML@textln}[1]{\InLineClass{textln}{#1}}
180 \newrobustcmd{\LWR@HTML@textos}[1]{\textsc{#1}}
181 \newrobustcmd{\LWR@HTML@textin}[1]{#1}
182 \newrobustcmd{\LWR@HTML@textsu}[1]{#1}
183 % \newrobustcmd{\LWR@HTML@texts i}[1]{#1}
184 \newrobustcmd{\LWR@HTML@textdf}[1]{#1}
185 \ifdef{\LWR@HTML@textsw}{}{\% duplicated by fontaxes
186 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
187 \LWR@formatted{textsw}
188 }
189
190 \newrobustcmd{\LWR@HTML@textti}[1]{#1}
191 \newrobustcmd{\LWR@HTML@textlt}[1]{#1}
192 \newrobustcmd{\LWR@HTML@textof}[1]{#1}
193 \newrobustcmd{\LWR@HTML@textalt}[1]{#1}
194 \newrobustcmd{\LWR@HTML@textreg}[1]{#1}
195 \newrobustcmd{\LWR@HTML@emboss}[1]{#1}
196 \newrobustcmd{\LWR@HTML@textorn}[1]{#1}
197 \newrobustcmd{\LWR@HTML@textqt}[1]{#1}
198 \newrobustcmd{\LWR@HTML@textsh}[1]{#1}
199 \newrobustcmd{\LWR@HTML@texttm}[1]{\texttt{#1}}
200 \newrobustcmd{\LWR@HTML@texttv}[1]{\texttt{#1}}
201 \newrobustcmd{\LWR@HTML@textl}[1]{\InLineClass{textln}{#1}}
202 \newrobustcmd{\LWR@HTML@texto}[1]{\textsc{#1}}
```

```
203 \newrobustcmd{\LWR@HTML@textp}[1]{\InlineClass{textp}{#1}}
204 \newrobustcmd{\LWR@HTML@textt}[1]{\InlineClass{textt}{#1}}
205 \newrobustcmd{\LWR@HTML@textpl}[1]{#1}
206 \newrobustcmd{\LWR@HTML@textpo}[1]{\textsc{#1}}
207 \newrobustcmd{\LWR@HTML@texttl}[1]{\InlineClass{textln}{#1}}
208 \newrobustcmd{\LWR@HTML@textto}[1]{\textsc{#1}}
209 \newrobustcmd{\LWR@HTML@textol}[1]{#1}
210 \newrobustcmd{\LWR@HTML@textwash}[1]{#1}
211 \newrobustcmd{\LWR@HTML@textu}[1]{#1}
212 \newrobustcmd{\LWR@HTML@textscu}[1]{#1}
213 \newrobustcmd{\LWR@HTML@textui}[1]{\LWR@HTML@textit{#1}}
214 \newrobustcmd{\LWR@HTML@textri}[1]{#1}
215 \newrobustcmd{\LWR@HTML@textnw}[1]{#1}
216 \newrobustcmd{\LWR@HTML@textcd}[1]{#1}
217 \newrobustcmd{\LWR@HTML@textec}[1]{#1}
218 \newrobustcmd{\LWR@HTML@textuc}[1]{#1}
219 \newrobustcmd{\LWR@HTML@textet}[1]{#1}
220 \newrobustcmd{\LWR@HTML@textep}[1]{#1}
221 \newrobustcmd{\LWR@HTML@textex}[1]{#1}
222 \newrobustcmd{\LWR@HTML@textux}[1]{#1}
223 \newrobustcmd{\LWR@HTML@textrw}[1]{#1}
224 \newrobustcmd{\LWR@HTML@textmb}[1]{\LWR@HTML@mbweight\InlineClass{textmb}{#1}}
225 \newrobustcmd{\LWR@HTML@textdb}[1]{\LWR@HTML@dbweight\InlineClass{textdb}{#1}}
226 \newrobustcmd{\LWR@HTML@textsbs}[1]{\LWR@HTML@sbweight\InlineClass{textsb}{#1}}
227 % \newrobustcmd{\LWR@HTML@texteb}[1]{#1}
228 \newrobustcmd{\LWR@HTML@textub}[1]{\LWR@HTML@ubweight\InlineClass{textub}{#1}}
229 % \newrobustcmd{\LWR@HTML@textlg}[1]{#1}
230 \newrobustcmd{\LWR@HTML@textel}[1]{\LWR@HTML@elweight\InlineClass{textel}{#1}}
231 \newrobustcmd{\LWR@HTML@textul}[1]{\LWR@HTML@ulweight\InlineClass{textul}{#1}}
232
233 \LWR@formatted{textln}
234 \LWR@formatted{textos}
235 \LWR@formatted{textin}
236 \LWR@formatted{textsu}
237 % \LWR@formatted{textsi}
238 \LWR@formatted{textdf}
239 \LWR@formatted{textti}
240 \LWR@formatted{textlt}
241 \LWR@formatted{textof}
242 \LWR@formatted{textalt}
243 \LWR@formatted{textreg}
244 \LWR@formatted{emboss}
245 \LWR@formatted{textorn}
246 \LWR@formatted{textqt}
247 \LWR@formatted{textsh}
248 \LWR@formatted{texttm}
249 \LWR@formatted{texttv}
250 \LWR@formatted{textl}
251 \LWR@formatted{texto}
252 \LWR@formatted{textp}
253 \LWR@formatted{textt}
254 \LWR@formatted{textpl}
255 \LWR@formatted{textpo}
256 \LWR@formatted{texttl}
257 \LWR@formatted{textto}
```

```
258 \LWR@formatted{textol}
259 \LWR@formatted{textwash}
260 \LWR@formatted{textu}
261 \LWR@formatted{textscu}
262 \LWR@formatted{textui}
263 \LWR@formatted{texttri}
264 \LWR@formatted{textnw}
265 \LWR@formatted{textcd}
266 \LWR@formatted{textec}
267 \LWR@formatted{textuc}
268 \LWR@formatted{texttet}
269 \LWR@formatted{textep}
270 \LWR@formatted{textex}
271 \LWR@formatted{textux}
272 \LWR@formatted{textrw}
273 \LWR@formatted{textmb}
274 \LWR@formatted{textdb}
275 \LWR@formatted{textsb}
276 % \LWR@formatted{texteb}
277 \LWR@formatted{textub}
278 % \LWR@formatted{textlg}
279 \LWR@formatted{textel}
280 \LWR@formatted{textul}
281

282 \FilenameNullify{%
283 \LetLtxMacro{textln}{\firstofone}
284 \LetLtxMacro{textos}{\firstofone}
285 \LetLtxMacro{textin}{\firstofone}
286 \LetLtxMacro{textsu}{\firstofone}
287 % \LetLtxMacro{textsi}{\firstofone}
288 \LetLtxMacro{textdf}{\firstofone}
289 \LetLtxMacro{textsw}{\firstofone}
290 \LetLtxMacro{textti}{\firstofone}
291 \LetLtxMacro{textlt}{\firstofone}
292 \LetLtxMacro{textof}{\firstofone}
293 \LetLtxMacro{textalt}{\firstofone}
294 \LetLtxMacro{textreg}{\firstofone}
295 \LetLtxMacro{emboss}{\firstofone}
296 \LetLtxMacro{textorn}{\firstofone}
297 \LetLtxMacro{textqt}{\firstofone}
298 \LetLtxMacro{textsh}{\firstofone}
299 \LetLtxMacro{texttm}{\firstofone}
300 \LetLtxMacro{texttv}{\firstofone}
301 \LetLtxMacro{textl}{\firstofone}
302 \LetLtxMacro{texto}{\firstofone}
303 \LetLtxMacro{textp}{\firstofone}
304 \LetLtxMacro{textt}{\firstofone}
305 \LetLtxMacro{textpl}{\firstofone}
306 \LetLtxMacro{textpo}{\firstofone}
307 \LetLtxMacro{texttl}{\firstofone}
308 \LetLtxMacro{textto}{\firstofone}
309 \LetLtxMacro{textol}{\firstofone}
310 \LetLtxMacro{textwash}{\firstofone}
311 \LetLtxMacro{textu}{\firstofone}
```

---

```

312 \LetLtxMacro\textscu{@firstofone%
313 \LetLtxMacro\textui{@firstofone%
314 \LetLtxMacro\textri{@firstofone%
315 \LetLtxMacro\textnw{@firstofone%
316 \LetLtxMacro\textcd{@firstofone%
317 \LetLtxMacro\textec{@firstofone%
318 \LetLtxMacro\textuc{@firstofone%
319 \LetLtxMacro\textet{@firstofone%
320 \LetLtxMacro\textep{@firstofone%
321 \LetLtxMacro\textex{@firstofone%
322 \LetLtxMacro\textux{@firstofone%
323 \LetLtxMacro\textrw{@firstofone%
324 \LetLtxMacro\textmb{@firstofone%
325 \LetLtxMacro\textdb{@firstofone%
326 \LetLtxMacro\textsb{@firstofone%
327 % \LetLtxMacro\texteb{@firstofone%
328 \LetLtxMacro\textub{@firstofone%
329 % \LetLtxMacro\textlg{@firstofone%
330 \LetLtxMacro\textel{@firstofone%
331 \LetLtxMacro\textul{@firstofone%
332 }
333
334 \providecommand*\{\\zeroslash}{0}
335 \newrobustcmd*\{\LWR@HTML@zeroslash}{0}
336 \LWR@formatted{zeroslash}
```

---

File 327 **l warp-nicefrac.sty**

§ 435 Package **nicefrac**

*(Emulates or patches code by AXEL REICHERT.)*

Pkg nicefrac nicefrac is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{nicefrac}[1998/08/04]

```

2 \DeclareRobustCommand*\{\LWR@HTML@@UnitsNiceFrac}[3][]{%
3 {% localize font selection
4 #1{%
5 \LWR@textcurrentfont{%
6 \InlineClass{numerator}{#2}%
7 /%
8 \InlineClass{denominator}{#3}%
9 }%
10 }%
11 }%
12 }
13
14 \LWR@formatted{@UnitsNiceFrac}
15
16 \DeclareRobustCommand*\{\LWR@HTML@@UnitsUglyFrac}[3][]{%
17 {% localize font selection
18 #1{\LWR@textcurrentfont{#2/#3}}%
```

---

```

19 }%
20 }
21
22 \LWR@formatted{@UnitsUglyFrac}

```

For MATHJAX:

```

23 \begin{warpMathJax}
24 \CustomizeMathJax{\newcommand{\nicefrac}[3][]{\mathinner{{}^{\#2}\!/\!_{\#3}}}}
25 \end{warpMathJax}

```

---

File 328 **lwarp-niceframe.sty**

## § 436 Package **niceframe**

Pkg niceframe niceframe is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{niceframe}% the original date is in yyyy/dd/mm format

```

2 \newcommand{\LWR@niceframe}[3]{%
3 \begin{LWR@setvirtualpage}*%
4 \setlength{\LWR@templengthone}{#1}%
5 \begin{BlockClass}[max-width:\LWR@printlength{\LWR@templengthone}]{#3}%
6 #2
7 \end{BlockClass}%
8 \end{LWR@setvirtualpage}%
9 }
10
11 \newcommand{\niceframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{niceframe}}
12 \newcommand{\curlyframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{curlyframe}}
13 \newcommand{\artdecoframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{artdecoframe}}
14
15 \newcommand{\generalframe}[9]{\LWR@niceframe{\textwidth}{#9}{generalframe}}

```

---

File 329 **lwarp-nicematrix.sty**

## § 437 Package **nicematrix**

(Emulates or patches code by F. PANTIGNY.)

Pkg nicematrix nicematrix is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **MATHJAX** Keys/values are ignored in MATHJAX. \Cdots, etc. do not span multiple cells. AutoNiceMatrix, etc. are not supported for MATHJAX. SVG math output preserves all nicematrix features. To force SVG output for one or more consecutive math expressions, for inline math use \inlinemathother and \inlinemathnormal, or for display math use \displaymathother and \displaymathnormal.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nicematrix}[2020/11/23]

`NiceTabular` must be converted to `svg` to support the various `nicematrix` options:

```

2 \begin{warpHTML}
3 \BeforeBeginEnvironment{NiceTabular}{%
4 \begin{lateximage}[-nicematrix-\PackageDiagramAltText]%
5 }
6 \AfterEndEnvironment{NiceTabular}{\end{lateximage}}
7 \BeforeBeginEnvironment{NiceTabular*}{%
8 \begin{lateximage}[-nicematrix-\PackageDiagramAltText]%
9 }
10 \AfterEndEnvironment{NiceTabular*}{\end{lateximage}}
11 \end{warpHTML}
```

Special handling for the optional arguments, and the lack of a delimiter:

```

12 \begin{warpMathJax}
13 \CustomizeMathJax{\newcommand{\LWRnicearrayarray}[1]{\begin{array}{#1}}}
14 \CustomizeMathJax{\def\LWRnicearrayarrayopt#1[#2]{\begin{array}{#1}}}
15
16 \CustomizeMathJax{%
17 \newenvironment{NiceArray}[2][]%
18 {\ifnextchar[\{\LWRnicearrayarrayopt{#2}\}\LWRnicearrayarray{#2}}%
19 {\end{array}}%
20 }
21
22 \CustomizeMathJax{%
23 \newcommand{\LWRnicearraywithdelimtwo}[2][]{%
24 \ifnextchar[\{\LWRnicearrayarrayopt{#2}\}\LWRnicearrayarray{#2}}%
25 }%
26 }
```

General case with left/right delimiters:

```

27 \CustomizeMathJax{%
28 \newenvironment{NiceArrayWithDelims}[2]{%
29 {%
30 \def\LWRnicearrayrightdelim{\right#2}%
31 \left#1%
32 \LWRnicearraywithdelimtwo%
33 }%
34 {\end{array}\LWRnicearrayrightdelim}%
35 }
```

Instances of specific delimiters:

```

36 \CustomizeMathJax{%
37 \newenvironment{pNiceArray}%
38 {\begin{NiceArrayWithDelims}{}{}{}}%
39 {\end{NiceArrayWithDelims}}%
40 }
41
42 \CustomizeMathJax{%
43 \newenvironment{bNiceArray}%
44 {\begin{NiceArrayWithDelims}[]{}{}}%
45 {\end{NiceArrayWithDelims}}
```

```
46 }
47
48 \CustomizeMathJax{%
49 \newenvironment{BNiceArray}{%
50 \begin{NiceArrayWithDelims}{\{\}\{\backslash\}}{%
51 \end{NiceArrayWithDelims}}{%
52 }{%
53
54 \CustomizeMathJax{%
55 \newenvironment{vNiceArray}{%
56 \begin{NiceArrayWithDelims}{\vert}{\vert}{%
57 \end{NiceArrayWithDelims}}{%
58 }{%
59
60 \CustomizeMathJax{%
61 \newenvironment{VNiceArray}{%
62 \begin{NiceArrayWithDelims}{\Vert}{\Vert}{%
63 \end{NiceArrayWithDelims}}{%
64 }
```

Ignore optional arg and use standard environments:

```

65 \CustomizeMathJax{\newenvironment{NiceMatrix}[1][]{\begin{matrix}}{\end{matrix}}}
66 \CustomizeMathJax{\newenvironment{pNiceMatrix}[1][]{\begin{pmatrix}}{\end{pmatrix}}}
67 \CustomizeMathJax{\newenvironment{bNiceMatrix}[1][]{\begin{bmatrix}}{\end{bmatrix}}}
68 \CustomizeMathJax{\newenvironment{BNiceMatrix}[1][]{\begin{Bmatrix}}{\end{Bmatrix}}}
69 \CustomizeMathJax{\newenvironment{vNiceMatrix}[1][]{\begin{vmatrix}}{\end{vmatrix}}}
70 \CustomizeMathJax{\newenvironment{VNiceMatrix}[1][]{\begin{Vmatrix}}{\end{Vmatrix}}}

```

Ignore optional argument and size. Print contents.

```
71 \CustomizeMathJax{\newcommand{\LWRnicematrixBlock}[1]{#1}}
72 \CustomizeMathJax{\def\LWRnicematrixBlockopt<#1>#2{#2}}
73
74 \CustomizeMathJax{%
75 \newcommand{\Block}[2][]{\ifnextchar<\LWRnicematrixBlockopt\LWRnicematrixBlock%}
76 }
```

Form an approximation:

```
77 \CustomizeMathJax{%
78 \newcommand{\diagbox}{[2]{%
79 \begin{array}{l}\hfill\quad#2\\\hline#1\quad\hfill\end{array}%
80 }%
81 }
```

More approximations:

```
82 \CustomizeMathJax{\let\hdottedline\hdashline}
83
84 \CustomizeMathJax{\newcommand{\ldots}{[1][]{\dots}}}
85 \CustomizeMathJax{\newcommand{\cdots}{[1][]{\cdots}}}
86 \CustomizeMathJax{\newcommand{\vdots}{[1][]{\vdots}}}
87 \CustomizeMathJax{\newcommand{\ddots}{[1][]{\ddots}}}
88 \CustomizeMathJax{\newcommand{\Idots}{[1][]{\mathinner{\{\!\!unicode{x22F0}\!\!}}}}}
```

---

```

89
90 \CustomizeMathJax{\newcommand{\Hdotsfor}[1]{\ldots}}
91 \CustomizeMathJax{\newcommand{\Vdotsfor}[1]{\vdots}}

```

There is no way to emulate `AutoNiceMatrix` in MATHJAX.

```

92 \CustomizeMathJax{\newcommand{\AutoNiceMatrix}[2]{\text{(AutoNiceMatrix #1)}}}
93 \CustomizeMathJax{\let\pAutoNiceMatrix\AutoNiceMatrix}
94 \CustomizeMathJax{\let\bAutoNiceMatrix\AutoNiceMatrix}
95 \CustomizeMathJax{\let\BAutoNiceMatrix\AutoNiceMatrix}
96 \CustomizeMathJax{\let\vAutoNiceMatrix\AutoNiceMatrix}
97 \CustomizeMathJax{\let\VAutoNiceMatrix\AutoNiceMatrix}
98 \end{warpMathJax}

```

---

### File 330 **l warp-noitcru $\backslash$ l.sty**

#### § 438 Package **noitcru**

*(Emulates or patches code by PAUL EBERMANN.)*

Pkg **noitcru** **noitcru** is used as-is for SVG and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{noitcru}[2006/04/11]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\noitUnderline}[1]{\underline{\#1}\!}}
4 \end{warpMathJax}

```

---

### File 331 **l warp-nolbreaks.sty**

#### § 439 Package **nolbreaks**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg **nolbreaks** **nolbreaks** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nolbreaks}[2012/05/31]

```

2 \NewDocumentCommand{\nolbreaks}{s m}{\InlineClass{nolbreaks}{#2}}

```

---

### File 332 **l warp-nomencl.sty**

#### § 440 Package **nomencl**

*(Emulates or patches code by BORIS VEYTSMAN, BERND SCHANDL, LEE NETHERTON, CV RADHAKRISHNAN.)*

Pkg **nomencl** **nomencl** is patched for use by **l warp**.

To process the `HTML` nomenclature:

```
makeindex <project>_html.nlo -s nomencl.list -o <project>_html.nls
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{nomencl}[2005/09/22]

\BaseJobname is added to the label in case `xr` or `xr-hyper` are used.

```
2 \def\@@nomenclature[#1]#3{%
3 \def\@tempa{#2}\def\@tempb{#3}%
4 \protected@write\@nomenclaturefile{}{%
5 {\string\nomenclatureentry{#1\nom@verb\@tempa @[\{\nom@verb\@tempa]}%
6 \begingroup\ nom@verb\@tempb\protect\nameqref{\theequation}%
7 |nompageref{\theLWR@previousautopagelabel}}\% l warp
8 \endgroup
9 \@esphack}
10
11 \renewcommand*\pagedeclaration[1]{, \nameref{\BaseJobname-autopage-#1}}%
```

### File 333 **l warp-nonfloat.sty**

#### § 441 Package **nonfloat**

(Emulates or patches code by KAI RASCHER.)

Pkg `nonfloat` `nonfloat` is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nonfloat}[1999/07/05]

```
2 \LetLtxMacro\topcaption\caption
3 \newcommand{\figcaption}{\def\@capttype{figure}\caption}
4 \newcommand{\tabcaption}{\def\@capttype{table}\topcaption}
5 \newenvironment{narrow}[2]{}{}
```

### File 334 **l warp-nonumonpart.sty**

#### § 442 Package **nonumonpart**

Pkg `nonumonpart` `nonumonpart` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nonumonpart}[2011/04/15]

### File 335 **l warp-nopageno.sty**

#### § 443 Package **nopageno**

Pkg `nopageno` `nopageno` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nopageno}[1989/01/01]

---

**File 336 l warp-notes.sty****§ 444 Package notes**

Pkg notes notes is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{notes}[2002/10/29]

```
2 \newcommand*{\LWR@notes@onenote}[2]{%
3 \newenvironment{#1}{%
4 \BlockClass{notes#1}%
5 \begin{BlockClass}{notesicon}\textcircled{~#2~}\end{BlockClass}%
6 \BlockClass{notescontents}%
7 }%
8 {\endBlockClass\endBlockClass}%
9 }%
10 }%
11 \LWR@notes@onenote{importantnote}{!}%
12 \LWR@notes@onenote{warningnote}{--}%
13 \LWR@notes@onenote{informationnote}{i}
```

---

**File 337 l warp-notespages.sty****§ 445 Package notespages**

Pkg notespages notespages is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{notespages}[2016/08/21]

```
2 \newcommand*{\npnotesname}{}%
3 \newcommand*{\npnotestext}{}%
4 \newcommand*{\remainingtextheight}{}%
5 \newdimen\remainingtextheight%
6 \newcommand*{\notestitletext}{}%
7 \newcommand*{\notesareatext}{}%
8 \newcommand*{\npnpiinfo}[1]{}%
9 \newcommand*{\tracingnpmarks}{}%
10 \newcommand*{\notespage}[1]{}%
11 \newcommand*{\notespages}[1]{}%
12 \newcommand*{\notesfill}[1]{}%
13 \newcommand*{\setnotespages}[1]{}%
14 \newcommand*{\definenotesoption}[2]{}%
15 \newcommand{\definenotesstyle}[2]{}%
16 \newcommand{\definetitlestyle}[2]{}%
17 \newcommand{\nppatchchapter}[1]{}%
18 \newcommand{\npunpatchchapter}{}%
```

---

**File 338 l warp-nowidow.sty****§ 446 Package nowidow**

(Emulates or patches code by RAPHAËL PINSON.)

Pkg nowidow nowidow is ignored.

for HTML output: Discard options for l warp-nowidow [2011/09/20]

```
\nowidow [⟨lines⟩]
\setnowidow [⟨lines⟩]
 2 \newcommand*{\nowidow}[1][]{
 3 \newcommand*{\setnowidow}[1][]{

\noclub [⟨lines⟩]
\setnoclub [⟨lines⟩]
 4 \newcommand*{\noclub}[1][]{
 5 \newcommand*{\setnoclub}[1][]{}
```

---

**File 339 l warp-ntheorem.sty****§ 447 Package ntheorem**

(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)

Pkg ntheorem ntheorem is patched for use by l warp.

---

Table 18: Ntheorem package – css styling of theorems and proofs

**Theorem:** <div> of class theorembody<theoremstyle>

**Theorem Header:** <span> of class theoremheader<style>

where <theoremstyle> is plain, break, etc.

---

## § 447.1 Limitations

⚠ **Font control** This conversion is not total. Font control is via css, and the custom L<sup>A</sup>T<sub>E</sub>X font settings are ignored.

⚠ **Equation numbering** **ntheorem** has a bug with equation numbering in *AMS* environments when the option `thref` is used. **l warp** does not share this bug, so equations with `\split`, etc, are numbered correctly with **l warp**'s HTML output, but not with the print output. It is recommended to use **cleveref** instead of **ntheorem**'s `thref` option.

## § 447.2 Options

Options **amsthm** or **standard** choose which set of theorems and proofs to initialize.

⚠ **Disabled options** The options **thmmarks** and **amsmath** are disabled, since they heavily modify the underlying math code. Theorem marks are emulated. The AMS-math modifications are not done.

Option `thref` is disabled because **cleveref** functions are used instead. `\thref` is emulated.

Option `hyperref` is disabled because **l warp** emulated **hyperref**.

**for HTML output:** Some disabled options:

```
1 \DeclareOption{thref}{
2 \AtEndDocument{
3 \PackageWarningNoLine{l warp}{%
4 L warp uses cleveref, which takes over ntheorem's\MessageBreak
5 referencing, including
6 \protect\label \space and \protect\thref.\MessageBreak
7 Cleveref does not accept ntheorem's optional\MessageBreak
8 argument for \protect\label, so it will appear\MessageBreak
9 in the text. It is recommended to remove the\MessageBreak
10 thref option, \protect\usepackage{cleveref} instead,\MessageBreak
11 and remove any trailing optional arguments for \protect\label%
12 }%
13 }
14 }
15
16
17 \newbool{LWR@ntheoremarks}
18 \boolfalse{LWR@ntheoremarks}
19
20 \DeclareOption{thmmarks}{
21 \booltrue{LWR@ntheoremarks}
22 \newif\ifsetendmark\setendmarktrue
23 }
24
25
26 \newbool{LWR@ntheoremamsthm}
27 \boolfalse{LWR@ntheoremamsthm}
28
29 \DeclareOption{amsthm}{\booltrue{LWR@ntheoremamsthm}}
30
31
32 \DeclareOption{amsmath}{}%
33 \DeclareOption{hyperref}{}%
```

<sup>34</sup>  
 35 \LWR@ProvidesPackagePass{nttheorem}[2011/08/15]

### § 447.3 Remembering the theorem style

Storage for the style being used for new theorems.

```

36 \newcommand{\LWR@newtheoremstyle}{plain}

37 \AtBeginDocument{
38 \@ifpackageloaded{cleveref}{
39 \gdef\@thm#1#2#3{%
40 \if@thmmarks
41 \stepcounter{end\InTheoType ctr}%
42 \fi
43 \renewcommand{\InTheoType}{#1}%
44 \if@thmmarks
45 \stepcounter{curr#1ctr}%
46 \setcounter{end#1ctr}{0}%
47 \fi
48 \refstepcounter[#1]{#2}% <<< cleveref modification
49 \theorem@prework
50 \LWR@forcenewpage% l warp

51 \LWR@printpendingfootnotes% l warp

52 \BlockClass{theorembody#1}%
53 \LWR@thisthmstyle% l warp
54 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
55 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
56 \ifthm@inframe
57 \thm@topsep\theoreminframepreskipamount
58 \thm@topsepadd\theoreminframepostskipamount
59 \else
60 \thm@topsep\theorempreskipamount
61 \thm@topsepadd\theorempostskipamount
62 \fi
63 \else% oldframeskips
64 \thm@topsep\theorempreskipamount
65 \thm@topsepadd \theorempostskipamount
66 \ifvmode\advance\thm@topsepadd\partopsep\fi
67 \fi
68 \@topsep\thm@topsep
69 \@topsepadd\thm@topsepadd
70 \advance\linewidth -\theorem@indent
71 \advance\linewidth -\theorem@rightindent
72 \advance\@totalleftmargin \theorem@indent
73 \parshape \one \@totalleftmargin \linewidth
74 }{%
75 }% not @ifpackageloaded{cleveref}
76 \gdef\@thm#1#2#3{%
77 \if@thmmarks
78 \stepcounter{end\InTheoType ctr}%
79 \fi
80 \renewcommand{\InTheoType}{#1}%

```

```

81 \if@thmmarks
82 \stepcounter{curr#1ctr}%
83 \setcounter{end#1ctr}{0}%
84 \fi
85 \refstepcounter{#2}%
86 \theorem@prework
87 \LWR@forcenewpage% lwarp

88 \LWR@printpendingfootnotes% lwarp

89 \BlockClass{theorembody#1}\LWR@thisthmstyle% lwarp
90 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
91 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
92 \ifthm@inframe
93 \thm@topsep\theoreminframepreskipamount
94 \thm@topsepadd\theoreminframepostskipamount
95 \else
96 \thm@topsep\theorempreskipamount
97 \thm@topsepadd\theorempostskipamount
98 \fi
99 \else% oldframeskips
100 \thm@topsep\theorempreskipamount
101 \thm@topsepadd \theorempostskipamount
102 \ifvmode\advance\thm@topsepadd\partopsep\fi
103 \fi
104 \atopsep\thm@topsep
105 \atopsepadd\thm@topsepadd
106 \advance\linewidth -\theorem@indent
107 \advance\linewidth -\theorem@rightindent
108 \advance\@totalleftmargin \theorem@indent
109 \parshape \one \@totalleftmargin \linewidth
110 \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
111 }
112 }
113 }% AtBeginDocument

```

Patched to remember the style being used for new theorems:

```

114 \gdef\theoremstyle#1{%
115 \@ifundefined{th@#1}{\@warning
116 {Unknown theoremstyle '#1'. Using 'plain'}%
117 \theorem@style{plain}
118 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
119 }%
120 {
121 \theorem@style{#1}
122 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
123 }
124 }

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```
126 \gdef\xnuthm#1#2[#3]{%
127 \iftthm@tempif
128 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}{% lwarp
129 \expandafter\@ifundefined{c@#1}%
130 {\@definecounter{#1}}{}%
131 \@newctr{#1}[#3]%
132 \expandafter\xdef\csname the#1\endcsname{%
133 \expandafter\noexpand\csname the#3\endcsname \thmcoutersep
134 {\noexpand\csname the\theoremnumbering\endcsname{#1}}}%
135 \expandafter\gdef\csname mkheader@#1\endcsname
136 {\csname setparms@#1\endcsname
137 \@thm{#1}{#1}{#2}
138 }%
139 \global\@namedef{end#1}{\@endtheorem}
140 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}{% lwarp
141 \fi
142 }
143
144 \gdef\ynuthm#1#2{%
145 \iftthm@tempif
146 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}{% lwarp
147 \expandafter\@ifundefined{c@#1}%
148 {\@definecounter{#1}}{}%
149 \expandafter\xdef\csname the#1\endcsname
150 {\noexpand\csname the\theoremnumbering\endcsname{#1}}%
151 \expandafter\gdef\csname mkheader@#1\endcsname
152 {\csname setparms@#1\endcsname
153 \@thm{#1}{#1}{#2}
154 }%
155 \global\@namedef{end#1}{\@endtheorem}
156 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}{% lwarp
157 \fi
158 }
159
160 \gdef@othm#1[#2]{%
161 \@ifundefined{c@#2}{\@nocounterr{#2}}{%
162 \iftthm@tempif
163 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}{% lwarp
164 \global\@namedef{the#1}{\@nameuse{the#2}}%
165 \expandafter\protected\xdef\csname num@addtheoremline#1\endcsname{%
166 \noexpand\enum@addtheoremline{#1}{#3}}%
167 \expandafter\protected\xdef\csname nonum@addtheoremline#1\endcsname{%
168 \noexpand\nonum@addtheoremline{#1}{#3}}%
169 \theoremkeyword{#3}%
170 \expandafter\protected\xdef\csname #1Keyword\endcsname
171 {\the\theoremkeyword}%
172 \expandafter\gdef\csname mkheader@#1\endcsname
173 {\csname setparms@#1\endcsname
174 \@thm{#1}{#2}{#3}
175 }%
176 \global\@namedef{end#1}{\@endtheorem}
177 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}{% lwarp
178 \fi
179 }
```

#### § 447.4 HTML cross-referencing

Mimics a float by incrementing the float counter and generating an HTML anchor. These are used for list-of-theorem cross-references.

```

180 \newcommand{\LWR@inctheorem}{%
181 \addtocounter{LWR@thisautoid}{1}%
182 \LWR@stoppars%
183 \LWR@htmltag{%
184 a id=\textquotedbl\LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}\textquotedbl%
185 }%
186 \LWR@htmltag{/a}%
187 \LWR@startpars%
188 }
```

#### § 447.5 \newtheoremstyle

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an \InlineClass of class theoremheader<style>.

```

189 \gdef\newtheoremstyle#1#2#3{%
190 \expandafter\ifundefined{th@#1}%
191 {\expandafter\gdef\csname th@#1\endcsname{%
192 \def\@begintheorem##1####2{%
193 \LWR@inctheorem% l warp
194 #2}%
195 \def\@opargbegintheorem##1####2####3{%
196 \LWR@inctheorem% l warp
197 #3}%
198 }%
199 }%
200 {\PackageError{\basename}{Theorem style #1 already defined}\@eha}%
201 }
```

#### § 447.6 Standard styles

```

202 \renewtheoremstyle{plain}%
203 {\item[%
204 \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]}%
205 {\item[%
206 \InlineClass{theoremheaderplain}{##1\ ##2\ (#3)\theorem@separator}]}%
207
208 \renewtheoremstyle{break}%
209 {\item[%
210 \InlineClass{theoremheaderbreak}{##1\ ##2\theorem@separator}\newline
211]}%
212 {\item[%
213 \InlineClass{theoremheaderbreak}{%
214 {##1\ ##2\ (#3)\theorem@separator}\newline
215 }]
```

```
216 \renewtheoremstyle{change}%
217 {\\item[
218 \\InLineClass{theoremheaderchange}{##2\\ ##1\\theorem@separator}]}%
219 {\\item[
220 \\InLineClass{theoremheaderchange}{##2\\ ##1\\ (###3)\\theorem@separator}]}
221
222 \renewtheoremstyle{changebreak}%
223 {\\item[
224 \\InLineClass{theoremheaderchangebreak}%
225 {##2\\ ##1\\theorem@separator}\\newline
226]}%
227 {\\item[
228 \\InLineClass{theoremheaderchangebreak}%
229 {##2\\ ##1\\ (###3)\\theorem@separator}\\newline
230]}%
231
232 \renewtheoremstyle{margin}%
233 {\\item[
234 \\InLineClass{theoremheadermargin}{##2 \\qquad ##1\\theorem@separator}%
235]}%
236 {\\item[
237 \\InLineClass{theoremheadermargin}{##2 \\qquad ##1\\ (###3)\\theorem@separator}%
238]}%
239
240 \renewtheoremstyle{marginbreak}%
241 {\\item[
242 \\InLineClass{theoremheadermarginbreak}%
243 {##2 \\qquad ##1\\theorem@separator}\\newline
244]}%
245 {\\item[
246 \\InLineClass{theoremheadermarginbreak}%
247 {##2 \\qquad ##1\\ (###3)\\theorem@separator}\\newline
248]}%
249
250 \renewtheoremstyle{nonumberplain}%
251 {\\item[
252 \\InLineClass{theoremheaderplain}{##1\\theorem@separator}]}%
253 {\\item[
254 \\InLineClass{theoremheaderplain}{##1\\ (###3)\\theorem@separator}]}%
255
256 \renewtheoremstyle{nonumberbreak}%
257 {\\item[
258 \\InLineClass{theoremheaderbreak}{##1\\theorem@separator}\\newline
259]}%
260 {\\item[
261 \\InLineClass{theoremheaderbreak}{##1\\ (###3)\\theorem@separator}\\newline
262]}%
263
264 \renewtheoremstyle{empty}%
265 {\\item[]}%
266 {\\item[
267 \\InLineClass{theoremheaderplain}{##3}]}%
268
269 \renewtheoremstyle{emptybreak}%
```

```

271 {\item[]}%
272 {\item[%
273 \InlineClass{theoremheaderplain}{##3}] \ \newline}

```

### § 447.7 Additional objects

The following manually adjust the css for the standard configuration objects which are not a purely plain style:

```
274 \ifbool{LWR@ntheoremamsthm}{}{%
```

Upright text via CSS:

```

275 \newtheoremstyle{plainupright}%
276 {\item[%
277 \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]}%
278 {\item[%
279 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theorem@separator}]}%

```

Upright text and small caps header via CSS:

```

280 \newtheoremstyle{nonumberplainuprightsc}%
281 {\item[%
282 \InlineClass{theoremheadersc}{##1\theorem@separator}]}%
283 {\item[%
284 \InlineClass{theoremheadersc}{##1\ (##3)\theorem@separator}]}%
285 }% not amsthm

```

### § 447.8 Renewed standard configuration

The following standard configuration is renewed using the new css:

```
286 \ifbool{LWR@ntheoremamsthm}{}{%
```

```

287 \ifx\thm@usestd\@undefined
288 \else
289 \theoremnumbering{arabic}
290 \theoremstyle{plain}
291 \RequirePackage{latexsym}
292 \theoremsymbol{\Box}
293 \theorembodyfont{\itshape}
294 \theoremheaderfont{\normalfont\bfseries}
295 \theoremseparator{}
296 \renewtheorem{Theorem}{Theorem}
297 \renewtheorem{theorem}{Theorem}
298 \renewtheorem{Satz}{Satz}
299 \renewtheorem{satz}{Satz}
300 \renewtheorem{Proposition}{Proposition}
301 \renewtheorem{proposition}{Proposition}
302 \renewtheorem{Lemma}{Lemma}
303 \renewtheorem{lemma}{Lemma}
304 \renewtheorem{Korollar}{Korollar}
305 \renewtheorem{korollar}{Korollar}
306 \renewtheorem{Corollary}{Corollary}

```

```

307 \renewtheorem{corollary}{Corollary}
308
309 \theoremstyle{plainupright}
310 \theorembbodyfont{\upshape}
311 \theoremsymbol{\HTMLunicode{25A1}}% UTF-8 white box
312 \renewtheorem{Example}{Example}
313 \renewtheorem{example}{Example}
314 \renewtheorem{Beispiel}{Beispiel}
315 \renewtheorem{beispiel}{Beispiel}
316 \renewtheorem{Bemerkung}{Bemerkung}
317 \renewtheorem{bemerkung}{Bemerkung}
318 \renewtheorem{Anmerkung}{Anmerkung}
319 \renewtheorem{anmerkung}{Anmerkung}
320 \renewtheorem{Remark}{Remark}
321 \renewtheorem{remark}{Remark}
322 \renewtheorem{Definition}{Definition}
323 \renewtheorem{definition}{Definition}
324
325 \theoremstyle{nonumberplainuprightsc}
326 \theoremsymbol{\HTMLunicode{220E}}% UTF-8 end-of-proof
327 \renewtheorem{Proof}{Proof}
328 \renewtheorem{proof}{Proof}
329 \renewtheorem{Beweis}{Beweis}
330 \renewtheorem{beweis}{Beweis}
331 \qedsymbol{\HTMLunicode{220E}}% UTF-8 end-of-proof
332
333 \theoremsymbol{}
334 \fi
335 }% not amsthm

```

### § 447.9 amsthm option

Only if the `amsthm` option was given:

```

336 \ifbool{LWR@ntheoremamsthm}%
337
338 \gdef\th@plain{%
339 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
340 \def\@begintheorem##1##2{%
341 \LWR@inctheorem% l warp
342 \item[%
343 \InLineClass{theoremheaderplain}{##1\ ##2.}%
344]}%
345 \def\@opargbegintheorem##1##2##3{%
346 \LWR@inctheorem% l warp
347 \item[%
348 \InLineClass{theoremheaderplain}{##1\ ##2\ (#3).}%
349]}}%
350
351 \gdef\th@nonumberplain{%
352 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
353 \def\@begintheorem##1##2{%
354 \LWR@inctheorem% l warp
355 \item[%
356 \InLineClass{theoremheaderplain}{##1.}%
357]}}%

```

```
357]}%
358 \def\@opargbegintheorem##1##2##3{%
359 \LWR@inctheorem% l warp
360 \item[
361 \InlineClass{theoremheaderplain}{##1\ (###3).}
362]}}
363
364 \gdef\th@definition{%
365 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
366 \def\@begintheorem##1##2{%
367 \LWR@inctheorem% l warp
368 \item[
369 \InlineClass{theoremheaderdefinition}{##1\ ##2.}
370]}%
371 \def\@opargbegintheorem##1##2##3{%
372 \LWR@inctheorem% l warp
373 \item[
374 \InlineClass{theoremheaderdefinition}{##1\ ##2\ (###3).}
375]}}
376
377 \gdef\th@nonumberdefinition{%
378 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
379 \def\@begintheorem##1##2{%
380 \LWR@inctheorem% l warp
381 \item[
382 \InlineClass{theoremheaderdefinition}{##1.}
383]}%
384 \def\@opargbegintheorem##1##2##3{%
385 \LWR@inctheorem% l warp
386 \item[
387 \InlineClass{theoremheaderdefinition}{##1\ (###3).}
388]}}
389
390 \gdef\th@remark{%
391 \def\theorem@headerfont{\itshape}\normalfont%
392 \def\@begintheorem##1##2{%
393 \LWR@inctheorem% l warp
394 \item[
395 \InlineClass{theoremheaderremark}{##1\ ##2.}
396]}%
397 \def\@opargbegintheorem##1##2##3{%
398 \LWR@inctheorem% l warp
399 \item[
400 \InlineClass{theoremheaderremark}{##1\ ##2\ (###3).}
401]}}
402
403 \gdef\th@nonumberremark{%
404 \def\theorem@headerfont{\itshape}\normalfont%
405 \def\@begintheorem##1##2{%
406 \LWR@inctheorem% l warp
407 \item[
408 \InlineClass{theoremheaderremark}{##1.}
409]}%
410 \def\@opargbegintheorem##1##2##3{%
411 \LWR@inctheorem% l warp
```

```

412 \item[
413 \InlineClass{theoremheaderremark}{##1\ (##3).}
414]}}
415
416 \gdef\th@proof{%
417 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
418 \def\@begintheorem##1##2{%
419 \LWR@inctheorem% l warp
420 \item[
421 \InlineClass{theoremheaderproof}{##1.}
422]}%
423 \def\@opargbegintheorem##1##2##3{%
424 \LWR@inctheorem% l warp
425 \item[
426 \InlineClass{theoremheaderproof}{##1\ (##3).}
427]}}
428
429
430
431 \newcounter{proof}%
432 \if@thmmarks
433 \newcounter{currproofctr}%
434 \newcounter{endproofctr}%
435 \fi
436
437 \gdef\proofSymbol{\openbox}
438
439 \newcommand{\proofname}{Proof}
440
441 \newenvironment{proof}[1][\proofname]{%
442 \th@proof
443 \def\theorem@headerfont{\itshape}%
444 \normalfont
445 \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
446 \atthm{proof}{proof}{#1}
447 }%
448 {\endtheorem}
449
450 }{}% amsthm option

```

### § 447.10 Ending a theorem

Patched for css:

```

451 \let\LWR@origendtheorem@\endtheorem
452 \renewcommand{\endtheorem}{%
453 \ifbool{\LWR@ntheoremarks}{%
454 \ifsetendmark%
455 \InlineClass{theoremendmark}{\csname\InTheoType Symbol\endcsname}%
456 \setendmarkfalse%
457 \fi%
458 }{}%
459 \LWR@origendtheorem% also does \endtrivlist
460 \ifbool{\LWR@ntheoremarks}{\global\setendmarktrue}{}

```

```

461 \LWR@printpendingfootnotes%
462 \endBlockClass%
463 }

```

### § 447.11 \NoEndMark

```
464 \gdef\NoEndMark{\global\setendmarkfalse}
```

### § 447.12 List-of

Redefined to reuse the float mechanism to add list-of-theorem links:

```
\thm@thmline {\langle 1: printed type\rangle} {\langle 2: #\rangle} {\langle 3: optional\rangle} {\langle 4: page\rangle}
```

```

465 \renewcommand{\thm@thmline@noname}[4]{%
466 \hypertocfloat{1}{theorem}{thm}{#2 #3}{}}%
467 }
468
469 \renewcommand{\thm@thmline@name}[4]{%
470 \hypertocfloat{1}{theorem}{thm}{#1 #2 #3}{}}%
471 }

```

This was redefined by `ntheorem` when loaded, so it is now redefined for `l warp`:

```
472 \def\thm@thmline{\thm@thmline@name}
```

Patch for css:

```

473 \def\listtheorems#1{%
474 \LWR@htmlelementclass{nav}{lothm}%
475 \begingroup
476 \c@tocdepth=-2%
477 \def\thm@list{\#1}\thm@processlist
478 \endgroup
479 \LWR@htmlelementclassend{nav}{lothm}%
480 }

```

### § 447.13 Symbols

Proof QED symbol:

```

481 \newcommand{\qed}{\qquad\the\qedsymbol}
482
483 \AtBeginDocument{
484 \@ifundefined{\LWR@orig@openbox}{%
485 \LetLtxMacro{\LWR@orig@openbox}{\openbox}
486 \LetLtxMacro{\LWR@orig@blacksquare}{\blacksquare}
487 \LetLtxMacro{\LWR@orig@Box}{\Box}
488
489 \def\openbox{\text{\HTMLunicode{25A1}}}% UTF-8 white box
490 \def\blacksquare{\text{\HTMLunicode{220E}}}% UTF-8 end-of-proof
491 \def\Box{\text{\HTMLunicode{25A1}}}% UTF-8 white box
492

```

```

493 \appto\LWR@restoreorigformatting{%
494 \LetLtxMacro\openbox\LWR@orig@openbox%
495 \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
496 \LetLtxMacro\Box\LWR@orig@Box%
497 }% appto
498 }{}% @ifundefined
499 }% AtBeginDocument

```

#### § 447.14 Cross-referencing

```

\thref {\langle label \rangle}

500 \newcommand*{\thref}[1]{\cref{#1}}%

```

---

File 340 **l warp-octave.sty**

#### § 448 Package **octave**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg octave octave is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{octave}[2017/10/31]

Remove the leading 1pt kern:

```

2 \RenewDocumentCommand{\@PrintTicks}{ m }{%
3 \kern-1pt% l warp
4 \@TickNum = #1%
5 \loop
6 \@Tick{}%
7 \advance\@TickNum by -1
8 \ifnum\@TickNum > 0
9 \repeat
10 }

```

Use unicode for the prime character:

```
11 \RenewDocumentCommand{\@Tick}{}{\HTMLunicode{2032}}
```

Catch the inline font:

```

12 \RenewDocumentCommand{\pitch}{ m o m }{%
13 \if@OctaveNumber%
14 {%
15 \pitchfont{%
16 \LWR@textcurrentfont% l warp
17 \MakeUppercase{#1}%
18 \IfValueTF{#2}{#2}{\textsubscript{#3}}%
19 }%
20 }%
21 }%

```

```

22 \else%
23 {%
24 \pitchfont{%
25 \LWR@textcurrentfont{\% l warp
26 \@GetOctaveTick{#1}[#2]{#3}%
27 }%
28 }%
29 }%
30 \fi%
31 }

```

The original was hard to adapt to `l warp`'s handling of &.

```

32 \StartDefiningTabulars
33 \renewcommand{\octavetable}{%
34 \begin{tabular}{ll}
35 \octaveprimes \pitch{C}{0} & \octavenumbers \pitch{C}{0} \\
36 \octaveprimes \pitch{C}{1} & \octavenumbers \pitch{C}{1} \\
37 \octaveprimes \pitch{C}{2} & \octavenumbers \pitch{C}{2} \\
38 \octaveprimes \pitch{C}{3} & \octavenumbers \pitch{C}{3} \\
39 \octaveprimes \pitch{C}{4} & \octavenumbers \pitch{C}{4} \\
40 \octaveprimes \pitch{C}{5} & \octavenumbers \pitch{C}{5} \\
41 \octaveprimes \pitch{C}{6} & \octavenumbers \pitch{C}{6} \\
42 \octaveprimes \pitch{C}{7} & \octavenumbers \pitch{C}{7} \\
43 \end{tabular}
44 }
45 \StopDefiningTabulars

```

### File 341 `l warp-orcidlink.sty`

#### § 449 Package **orcidlink**

(Emulates or patches code by LEO C. STEIN.)

Pkg `orcidlink` `orcidlink` is patched for use by `l warp`.

**for HTML output:**

```

1 \RequirePackage{l warp-scalerel}
2
3 \LWR@ProvidesPackagePass{orcidlink}[2020/11/21]

4 \renewcommand\orcidlink[1]{%
5 \texorpdfstring{%
6 {%
7 \href{%
8 \https://orcid.org/#1}{%
9 \begin{tikzimage}[orcid #1]\% l warp
10 \mbox{%
11 \scalerel*{%
12 \begin{tikzpicture}[yscale=-1, transform shape]
13 \pic{orcidlogo};
14 \end{tikzpicture}
15 }{|}\%
16 }{|}\%
17 }{|}\%
18 }{|}\%
19 }{|}\%
20 }{|}\%
21 }
22 }
```

---

```

17 }%
18 \end{lateximage}%
19 l warp
20 }%
21 {}%
22 }
23
24 \begin{warpMathJax}
25 \CustomizeMathJax{\newcommand{\orcidlink}[1]{}}
26 \end{warpMathJax}
```

---

File 342 **l warp-overpic.sty**

§ 450 Package **overpic**

*(Emulates or patches code by ROLF NIEPRASCHK.)*

Pkg overpic overpic is patched for use by l warp.

⚠ **scaling** The macros \overpicfontsize and \overpicfontskip are used during HTML generation. These are sent to \fontsize to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the overpic and Overpic environments.

See section 88.2 for the print-mode version of \overpicfontsize and \overpicfontskip.

**for HTML output:** 1 \LWR@ProvidesPackagePass{overpic}[2017/10/06]

```

2 \newcommand*\overpicfontsize{12}
3 \newcommand*\overpicfontskip{14}
4
5 \BeforeBeginEnvironment{overpic}{%
6 \begin{lateximage}%
7 \fontsize{\overpicfontsize}{\overpicfontskip}%
8 \selectfont%
9 }
10
11 \AfterEndEnvironment{overpic}{\end{lateximage}}
12
13 \BeforeBeginEnvironment{Overpic}{%
14 \begin{lateximage}%
15 \fontsize{\overpicfontsize}{\overpicfontskip}%
16 \selectfont%
17 }
18
19 \AfterEndEnvironment{Overpic}{\end{lateximage}}
```

---

File 343 **l warp-pagegrid.sty**

§ 451      Package **pagegrid**

Pkg pagegrid **pagegrid** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pagegrid}[2016/05/16]

2 \newcommand\*\{\pagegridsetup}[1]{}

---

File 344 **l warp-pagenote.sty**

§ 452      Package **pagenote**

Pkg pagenote **pagenote** works as-is, but the page option is disabled.

 **labels** Note that labels in page notes do not appear as expected, even in the print version.

for HTML output: 1 \DeclareOption{page}{}  
2 \LWR@ProvidesPackagePass{pagenote}[2009/09/03]

For MATHJAX:

3 \begin{warpMathJax}  
4 \appto\lwr@syncnotenumbers{\lwr@synconenotenumber{\lwrpagenote}{\thepagenote}}  
5 \CustomizeMathJax{\def\lwrpagenote{1}}  
6 \CustomizeMathJax{\newcommand{\pagenote}[2][\lwrpagenote]{\{}^{\mathrm{#1}}\}}  
7 \end{warpMathJax}

There is no \pagenotemark, so the following are not required:

\providecommand{\pagenotename}{pagenote}  
\appto\lwr@syncnotenames{\lwr@synconenotename{\lwrpagenote}{\pagenotename}}

---

File 345 **l warp-pagesel.sty**

§ 453      Package **pagesel**

Pkg pagesel **pagesel** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pagesel}[2016/05/16]

---

File 346 **l warp-paralist.sty**

§ 454      Package **paralist**

(Emulates or patches code by BERND SCHANDL.)

Pkg paralist **paralist** is supported with minor changes.

for HTML output: 1 \LWR@ProvidesPackagePass{paralist}[2017/01/22]

The compact environments are identical to the regular ones:

```

2 \LetLtxMacro\compactitem\itemize
3 \LetLtxMacro\compactenum\enumerate
4 \LetLtxMacro\compactdesc\description
5 \LetLtxMacro\endcompactitem\enditemize
6 \LetLtxMacro\endcompactenum\endenumerate
7 \LetLtxMacro\endcompactdesc\enddescription

```

For the inline environments, revert \item to its original print-mode version:

```

8 \AtBeginEnvironment{inparaitem}{\LetLtxMacro\item\lwr@origitem}
9 \AtBeginEnvironment{inparaenum}{\LetLtxMacro\item\lwr@origitem}
10 \AtBeginEnvironment{inparadesc}{\LetLtxMacro\item\lwr@origitem}

```

Manual formatting of the description labels:

```
11 \def\paradescriptionlabel#1{{\normalfont\textrm{\bfseries}#1}}
```

### File 347 **l warp-parallel.sty**

## § 455 Package **parallel**

*(Emulates or patches code by MATTHIAS ECKERMANN.)*

Pkg **parallel** **parallel** is emulated.

Package options are ignored. Footnotes are treated as normal l warp footnotes.

Environment option c gives side-by-side <div>s of class minipage, each of whose width is a percent depending on the given left and right widths, proportional to \ linewidth.

Inside each environment, \ linewidth and \ textwidth are set for the print-output sizes.

**for HTML output:** Discard all options for **l warp-parallel**:

```

1 \lwr@ProvidesPackageDrop{parallel}[2003/04/13]

2 \newcounter{\lwr@parallel@Lwidth}
3 \newcounter{\lwr@parallel@Rwidth}
4 \newcommand*{\lwr@parallel@border}{}
5
6 \newenvironment*{Parallel}[3][]{%
7 {%
8 \lwr@printpendingfootnotes%
9 \setlength{\linewidth}{\lwr@userstextwidth}%
10 \setlength{\textwidth}{\lwr@userstextwidth}%
11 \renewcommand*{\lwr@parallel@border}{}%
12 \ifstreq{\#1}{v}{%
13 {%
14 \renewcommand*{\lwr@parallel@border}{; border-left: 2px solid black}%
15 }%
16 }%
}

```

```
17 \ifblank{#2}{%
18 \ifblank{#3}{%
19 \setcounter{LWR@parallel@Lwidth}{45}%
20 \setcounter{LWR@parallel@Rwidth}{45}%
21 }%
22 \setlength{\LWR@templengthone}{\linewidth-#3}%
23 \setcounter{LWR@parallel@Lwidth}{%
24 90*\ratio{\LWR@templengthone}{\linewidth}%
25 }%
26 \setcounter{LWR@parallel@Rwidth}{%
27 90*\ratio{#3}{\linewidth}%
28 }%
29 \setlength{\LWR@templengthone}{\linewidth-#2}%
30 \setcounter{LWR@parallel@Rwidth}{%
31 90*\ratio{#2}{\linewidth}%
32 }%
33 \ifblank{#3}{%
34 \setcounter{LWR@parallel@Lwidth}{%
35 90*\ratio{#2}{\linewidth}%
36 }%
37 \setlength{\LWR@templengthone}{\linewidth-#2}%
38 \setcounter{LWR@parallel@Rwidth}{%
39 90*\ratio{\LWR@templengthone}{\linewidth}%
40 }%
41 \setlength{\LWR@templengthone}{\linewidth-#3}%
42 \setcounter{LWR@parallel@Lwidth}{%
43 90*\ratio{#2}{\linewidth}%
44 }%
45 \setcounter{LWR@parallel@Rwidth}{%
46 90*\ratio{#3}{\linewidth}%
47 }%
48 \setlength{\LWR@templengthone}{\linewidth-#2}%
49 \setcounter{LWR@parallel@Rwidth}{%
50 90*\ratio{#2}{\linewidth}%
51 }%
52 }%
53 \ParallelAtEnd%
54 \renewcommand*{\ParallelAtEnd}{()}%
55 \LWR@printpendingfootnotes%
56 }
57
58 \newcommand*{\ParallelLTText}[1]{%
59 \begin{BlockClass}[%]
60 width:\arabic{LWR@parallel@Lwidth}\% ; % space
61 padding: .5ex 1\% ; % space
62]{\minipage}%
63 #1%
64 \end{BlockClass}%
65 }
66
67 \newcommand*{\ParallelRTText}[1]{%
68 \begin{BlockClass}[%]
69 width:\arabic{LWR@parallel@Rwidth}\% ; % space
70 padding: .5ex 1\% ; % space
71 \LWR@parallel@border%
```

---

```

72]{minipage}%
73 #1%
74 \end{BlockClass}%
75 }
76
77 \newcommand*{\ParallelPar}{\LWR@printpendingfootnotes}
78
79 \newcommand*{\ParallelAtEnd}{}

```

---

File 348 **l warp-parcolumns.sty**

§ 456      Package **parcolumns**

*(Emulates or patches code by JONATHAN SAUER.)*

Pkg **parcolumns** **parcolumns** is emulated.

**rulebetween** is honored. The other keys are ignored, including **colwidths**.

Each column is placed inside a **<div>** of class **minipage**, each of whose width is fixed at 85% divided by the number of columns. In most cases, this results in side-by-side minipages adapting to the browser width. Inside each minipage, **\ linewidth**, **\ textwidth**, and **\ textheight** are set for a virtual 6 × 9 inch page, with **\ linewidth** divided by the number of columns.

**for HTML output:** Discard all options for **l warp-parcolumns**:

```

1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDrop{parcolumns}[2004/11/25]

4 \newcounter{\LWR@parcolumns@numcols}
5 \newcounter{\LWR@parcolumns@thiscol}
6 \newcounter{\LWR@parcolumns@width}
7 \newbool{\LWR@parcolumns@started}
8 \newbool{\LWR@parcolumns@rule}
9
10 \define@key{\LWRparcols}{colwidths}{}
11 \define@key{\LWRparcols}{distance}{}
12 \define@key{\LWRparcols}{rulebetween}[true]{%
13 \setbool{\LWR@parcolumns@rule}{#1}%
14 }
15 \define@key{\LWRparcols}{nofirstindent}{}
16 \define@key{\LWRparcols}{sloppy}{}
17 \define@key{\LWRparcols}{sloppyspaces}{}
18
19 \newenvironment*{parcolumns}[2][]{%
20 \begin{LWR@setvirtualpage}*{#2}%
21 \setcounter{\LWR@parcolumns@numcols}{#2}%
22 \setcounter{\LWR@parcolumns@thiscol}{1}%
23 \boolfalse{\LWR@parcolumns@started}%
24 \boolfalse{\LWR@parcolumns@rule}%

```

```
26 \setcounter{LWR@parcolumns@width}{%
27 85/#2
28 }%
29 \setkeys{LWR@parcols}{#1}%
30 }
31 {%

32 \colplacechunks%
33 \end[LWR@setvirtualpage]%
34 }
35

36 \newcommand{\LWR@parcolumns@onecol}[1]{%
37 \ifbool{LWR@parcolumns@started}{%
38 {}%
39 {%
40 \LWR@htmldivclass{parcolumns}%
41 \booltrue{LWR@parcolumns@started}%
42 }%
43 \ifboolexpr{%
44 bool {LWR@parcolumns@rule} and
45 test {%
46 \ifnumgreater
47 {\value{LWR@parcolumns@thiscol}}%
48 {1}
49 }%
50 }%
51 {\renewcommand{\LWR@tempone}{ ; border-left: 2px solid black}%
52 {\renewcommand{\LWR@tempone}{} }%
53 \begin{BlockClass}[% width:\arabic{LWR@parcolumns@width}\% ; % space
54 padding: .5ex 1\% ; % space
55 \LWR@tempone%
56]{\minipage}%
57 #1%
58 \end{BlockClass}%
59 \addtocounter{LWR@parcolumns@thiscol}{1}%
60 }
61 }

62 \newcommand{\colchunk}[2][\value{LWR@parcolumns@thiscol}]{%
63 \whileboolexpr{%
64 \test {%
65 \ifnumcomp%
66 {\value{LWR@parcolumns@thiscol}}
67 {<}
68 {#1}%
69 }%
70 }%
71 }{%
72 \LWR@parcolumns@onecol{}%
73 }%
74 \LWR@parcolumns@onecol{#2}%
75 }

76 \newcommand*\colplacechunks{%
77 \ifbool{LWR@parcolumns@started}{%
78 {}%
79 }%
```

---

```

80 \LWR@htmldivclassend{div}%
81 \boolfalse{LWR@parcolumns@started}%
82 }%
83 {}%
84 \setcounter{LWR@parcolumns@thiscol}{1}%
85 }

```

---

File 349 **lwarp-parnotes.sty**

§ 457 Package **parnotes**

(Emulates or patches code by CHELSEA HUGHES.)

Pkg parnotes parnotes is supported with some patches.

**for HTML output:** 1 \LWR@ProvidesPackagePass{parnotes}[2016/08/15]

```

2 \long\def\PN@parnote@real#1#2{%
3 \parnotemark{#1}%
4 % Unless this is the first parnote in \PN@text, add a separator first
5 \unless\ifx\PN@text\empty\g@addto@macro\PN@text{\parnoteintercmd}\fi
6 % Redefine \@currentlabel to the parnote label, so \label works
7 \g@addto@macro\PN@text{%
8 \phantomsection%
9 \def\@currentlabel{#1}%
10 \def\cref@currentlabel{}% lwarp
11 [parnotemark][\arabic{parnotemark}][]\theparnotemark%
12 }%
13 }%
14 \g@addto@macro\PN@text{%
15 \LWR@textcurrentfont{}% lwarp
16 \parnotemark{#1}\nolinebreak\thinspace#2%
17 }%
18 }%
19 }
20
21 \def\PN@parnotes@real{%
22 % We call \par later, so this avoids recursion with \PN@parnotes@auto
23 \PN@inparnotestruue
24 \unless\ifvmode\par\fi
25 % Avoid page breaks between a paragraph and its parnotes
26 \nopagebreak\addvspace{\parnotevskip}%
27 \LWR@forcenewpage% lwarp
28 \begin{BlockClass}(note){footnotes}% lwarp
29 {\parnotefmt{\PN@text}\par}%
30 \end{BlockClass}% lwarp
31 \global\def\PN@text{}%
32 \addvspace{\parnotevskip}%
33 %
34 % These can be enabled or disabled by package options
35 %
36 \PN@disable@indent
37 \PN@reset@optional

```

---

```

38 \PN@inparnotesfalse
39 }
40
41 \AtBeginDocument{
42 \crefname{parnotemark}{paragraph note}{paragraph notes}
43 \Crefname{parnotemark}{Paragraph note}{Paragraph notes}
44 }
```

For MATHJAX:

```

45 \begin{warpMathJax}
46 \providecommand{\parnotename}{parnote}
47 \appto{\LWR@syncnotenumbers}{%
48 \addtocounter{parnotemark}{-1}%
49 \LWR@synconenotenumber{\LWRparnote}{\the\parnotemark}%
50 \addtocounter{parnotemark}{1}%
51 }%
52 \appto{\LWR@syncnotenames}{\LWR@synconenotename{\LWRparnote}{\parnotename}}%
53 \CustomizeMathJax{\def{\LWRparnote}{1}}%
54 \CustomizeMathJax{\newcommand{\parnote}[2][\LWRparnote]{\{}^{\mathrm{#1}}\}}%
55 \CustomizeMathJax{\newcommand{\parnotemark}[1][\LWRparnote]{\{}^{\mathrm{#1}}\}}%
56 \end{warpMathJax}
```

---

File 350 **lwarf-parskip.sty**

§ 458 Package **parskip**

Pkg **parskip** **parskip** is ignored.

**for HTML output:** Discard all options for **lwarf-parskip**.

```
1 \LWR@ProvidesPackageDrop{parskip}[2001/04/09]
```

---

File 351 **lwarf-pbox.sty**

§ 459 Package **pbox**

(Emulates or patches code by SIMON LAW.)

Pkg **pbox** **pbox** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pbox}[2011/12/07]

```

2 \NewDocumentCommand{\pbox}{O{t} O{} O{t} m +m}{%
3 \global\booltrue{\LWR@minipagefullwidth}%
4 \parbox[#1][#2][#3]{#4}{#5}%
5 }%
6
7 \newcommand{\settominwidth}[3][\columnwidth]{%
8 \settowidth{#2}{#3}%
}
```

```
 9 }
10
11 \newcommand{\widthofpbox}[1]{%
12 \widthof{#1}%
13 }
```

---

File 352 **l warp-pdfcol.sty**

§ 460 Package **pdfcol**

Pkg pdfcol pdfcol is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pdfcol}[2018/11/01]
2
3 \ltx@newif\ifpdfcolAvailable
4 \pdfcolAvailablefalse
5
6 \def\pdfcolErrorNoStacks{
7 \PackageInfo{l warp-pdfcol}{Ignoring pdfcol for HTML output.}
8 }
9
10 \def\pdfcolInitStack#1{}%
11
12 \long\def\pdfcolIfStackExists#1#2#3{#3}%
13
14 \def\pdfcolSwitchStack#1{}%
15
16 \def\pdfcolSetCurrentColor{}%
17
18 \def\pdfcolSetCurrent#1{}%
```

---

File 353 **l warp-pdfcolfoot.sty**

§ 461 Package **pdfcolfoot**

Pkg pdfcolfoot pdfcolfoot is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pdfcolfoot}[2016/05/16]
2
3 \newcommand*\pdfcolfoot@switch{}%
4
5 \newcommand*\pdfcolfoot@current{}%
```

---

File 354 **l warp-pdfcolmk.sty**

§ 462 Package **pdfcolmk**

Pkg pdfcolmk pdfcolmk is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcolmk}[2016/05/16]

---

File 355 **l warp-pdfcolparallel.sty**

§ 463 Package **pdfcolparallel**

Pkg pdfcolparallel pdfcolparallel is ignored.

**for HTML output:** 1 \RequirePackage{keyval}%
 2
 3 \LWR@ProvidesPackageDropA{pdfcolparallel}[2016/05/16]

Pass options to parallel:

4 \DeclareOption\*{%
 5 \PassOptionsToPackage{\CurrentOption}{parallel}%
 6 }

Process the options:

7 \LWR@ProvidesPackageDropB

Require parallel with the given options:

8 \RequirePackage{parallel}[2003/04/13]

Ignore the new key:

9 \define@key{parallel}{rulebetweencolor}{}

---

File 356 **l warp-pdfcolparcolumns.sty**

§ 464 Package **pdfcolparcolumns**

Pkg pdfcolparcolumns pdfcolparcolumns is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDropA{pdfcolparcolumns}[2016/05/16]

Pass options to parcolumns:

2 \DeclareOption\*{%
 3 \PassOptionsToPackage{\CurrentOption}{parcolumns}%
 4 }

Process the options:

5 \LWR@ProvidesPackageDropB

Require `parcolumns` with the given options:

```
6 \RequirePackage{parcolumns}[2004/11/25]
```

Ignore the new key:

```
7 \define@key{LWRparcols}{rulebetweencolor}{}

```

File 357 **l warp-pdfcomment.sty**

§ 465 Package **pdfcomment**

Pkg `pdfcomment` `pdfcomment` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcomment}[2016/06/13]

```
2 \newenvironment{pdfsidelinecomment}[2]{}{}
3 \newcommand{\pdfcomment}[2]{}
4 \newcommand{\pdfmargincomment}[2]{}
5 \newcommand{\pdfmarkupcomment}[3]{}
6 \newcommand{\pdffreetextcomment}[2]{}
7 \newcommand{\pdfsquarecomment}[2]{}
8 \newcommand{\pdfcirclecomment}[2]{}
9 \newcommand{\pdflinecomment}[2]{}
10 \newcommand{\pdftooltip}[3]{}
11 \newcommand{\pdfcommentsetup}[2]{}
12 \newcommand{\listofpdfcomments}[1]{}
13 \newcommand{\setliststyle}[1]{}
14 \newcommand{\defineliststyle}[2]{}
15 \newcommand{\defineavatar}[2]{}
16 \newcommand{\definestyle}[2]{}

```

For MATHJAX:

```
17 \begin{warpMathJax}
18 \CustomizeMathJax{\newcommand{\pdfmarkupcomment}[3]{}
19 \CustomizeMathJax{\newcommand{\pdftooltip}[3]{}
20 \end{warpMathJax}
```

---

File 358 **l warp-pdfcrypt.sty**

§ 466 Package **pdfcrypt**

Pkg `pdfcrypt` `pdfcrypt` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcrypt}[2016/05/16]

```
2 \newcommand*{\pdfcryptsetup}[1]{}

```

---

File 359 **l warp-pdflandscape.sty**

§ 467 Package **pdflandscape**

Pkg pdflandscape pdflandscape is ignored.

for HTML output: Discard all options for l warp-pdflandscape:

```
1 \LWR@ProvidesPackageDrop{pdflandscape}[2019/12/05]
2 \let\landscape\relax
3 \let\endlandscape\relax
4
5 \newenvironment*{\landscape}{}{}
```

---

File 360 **l warp-pdfmarginpar.sty**

§ 468 Package **pdfmarginpar**

Pkg pdfmarginpar pdfmarginpar is ignored.

for HTML output: 

```
1 \LWR@ProvidesPackageDrop{pdfmarginpar}[2011/08/05]
2 \newcommand{\pdfmarginpar}[2][]{}
3 \newcommand{\pdfmarginparset}[1]{}
```

---

File 361 **l warp-pdfpages.sty**

§ 469 Package **pdfpages**

(Emulates or patches code by ANDREAS MATTHIAS.)

Pkg pdfpages pdfpages is patched for use by l warp.

Option link and linkname work:

---

```
\hyperlink{<filename>.pdf.<pagenumber>}{some text}
\hyperlink{<linkname>.<pagenumber>}{some text}
```

---

Options which make no sense in HTML are disabled.

for HTML output: 

```
1 \LWR@ProvidesPackagePass{pdfpages}[2017-10-31]
```

Disable option which have no meaning for HTML output:

```

2 \define@key{pdffpages}{fitpaper}[false]{}
3 \define@key{pdffpages}{landscape}[false]{}
4 \define@key{pdffpages}{openright}[false]{}
5 \define@key{pdffpages}{signature}{}
6 \define@key{pdffpages}{signature*}{}
7 \define@key{pdffpages}{booklet}[false]{}
8 \define@key{pdffpages}{rotateoversize}[false]{}
9 \define@key{pdffpages}{doublepages}[false]{}
10 \define@key{pdffpages}{doublepagestwist}[false]{}
11 \define@key{pdffpages}{doublepagestwistodd}[false]{}
12 \define@key{pdffpages}{doublepagestwist*}[false]{}
13 \define@key{pdffpages}{doublepagestwistodd*}[false]{}
14 \define@key{pdffpages}{duplicatepages}[2]{}
15 \define@key{pdffpages}{thread}[false]{}
16 \define@key{pdffpages}{threadname}{}
17 \define@key{pdffpages}{linkfit}{}
18 \define@key{pdffpages}{linktodoc}[false]{}
19 \define@key{pdffpages}{linktodocfit}{}
20 \define@key{pdffpages}{linkfilename}{}
21 \define@key{pdffpages}{survey}[false]{}
22 \define@key{pdffpages}{survey-nolink}[false]{}
23 \define@key{pdffpages}{newwindow}[false]{}

```

Use print mode while measuring the page numbers:

```
24 \xpretocmd{\AM@getpagecount}{\LWR@restoreorigformatting}{}{}
```

Emulate a bit of **eso-pic**:

```

25 \newif\ifESO@texcoord
26
27 \newcommand{\ESO@HookIIBG}{}%
28
29 \renewcommand{\AM@AddToShipoutPicture}{\g@addto@macro{\ESO@HookIIBG}}
30
31 \renewcommand{\ClearShipoutPicture}{}%

```

\LWR@esopic@newpage At each \newpage.

```
32 \newcommand*{\LWR@esopic@newpage}{%
```

Is there something to draw?

```

33 \ifdefvoid{\ESO@HookIIBG}%
34 {}%
35 {}%
```

If the **link** option was specified, add a hyper target:

```

36 \ifAM@link%
37 \hypertarget{\AM@linkname.\AM@page}{}%
38 \fi%
```

Draw inside a picture environment of the size of a virtual page:

```
39 \begingroup%
40 \setlength{\unitlength}{1in}%
41 \begin{picture}(8,10.5)%
42 \ESO@HookIIBG%
43 \end{picture}%
44 \endgroup%
45 \global\let\ESO@HookIIBG\empty%
46 }
47 }
```

\AM@output Patched to use \LWR@esopic@newpage.

```
48 \xpatchcmd{\AM@output}
49 {\newpage}
50 {\LWR@esopic@newpage}
51 {}
52 {\LWR@patcherror{pdfpages}{\AM@output-1}}
53
54 \xpatchcmd{\AM@output}
55 {\newpage}
56 {\LWR@esopic@newpage}
57 {}
58 {\LWR@patcherror{pdfpages}{\AM@output-2}}
59
60 \xpatchcmd{\AM@output}
61 {\newpage}
62 {\LWR@esopic@newpage}
63 {}
64 {\LWR@patcherror{pdfpages}{\AM@output-3}}
```

\includepdf Patched to set the user's paper size.

```
65 \xpretocmd{\includepdf}{%
66 \begingroup%
67 \setlength{\paperwidth}{\LWR@userspaperwidth}%
68 \setlength{\paperheight}{\LWR@userspaperheight}%
69 }{}{%
70
71 \xapptocmd{\includepdf}{%
72 \endgroup%
73 }{}{}
```

\includepdfmerge Patched to set the user's paper size.

```
74 \xpretocmd{\includepdfmerge}{%
75 \begingroup%
76 \setlength{\paperwidth}{\LWR@userspaperwidth}%
77 \setlength{\paperheight}{\LWR@userspaperheight}%
78 }{}{%
79
80 \xapptocmd{\includepdfmerge}{%
81 \endgroup%
82 }{}{}
```

\AM@hyper@begin@i Hyper links are created by \LWR@esopic@newpage, so don't create them here:  
83 \renewcommand{\AM@hyper@begin@i}{}

---

File 362 **l warp-pdfprivacy.sty**

§ 470 Package **pdfprivacy**

Pkg pdfprivacy pdfprivacy is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfprivacy}[2017/12/03]

---

File 363 **l warp-pdfrender.sty**

§ 471 Package **pdfrender**

Pkg pdfrender pdfrender is allowed during HTML, but it has no effect on HTML text output. pdfrender is enabled for use with **xfakebold**, and it is enabled during HTML so that it may be in use when an SVG math image is started. I.e. **xfakebold**'s \setBold may be used outside of a math expression and still be detected when the math begins.

The **l warp-pdfrender** package is present because it used to disable **pdfrender**, so this newer version is to overwrite older versions.

for HTML output: 1 \LWR@ProvidesPackagePass{pdfrender}[2019/12/29]

---

File 364 **l warp-pdfsync.sty**

§ 472 Package **pdfsync**

(Emulates or patches code by J. LAURENS.)

Pkg pdfsync pdfsync is ignored.

for HTML output: Discard all options for **l warp-pdfsync**:

1 \LWR@ProvidesPackageDrop{pdfsync}[2008/01/26]

2 \newcommand\*{\pdfsync}{}  
3 \newcommand\*{\pdfsyncstart}{}  
4 \newcommand\*{\pdfsyncstop}{}

---

File 365 **l warp-pdftricks.sty**

§ 473 Package **pdftricks**

(Emulates or patches code by C. V. RADHAKRISHNAN, C. V. RAJAGOPAL, ANTOINE CHAMBERT-LOIR.)

Pkg pdftricks pdftricks is patched for use by l warp.

- ⚠ convert image files The pdftricks image files <jobname>-fig\*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

Enter ⇒ **l warpmk pdftosvg <jobname>-fig\*.pdf**

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdftricks}[2003/08/10]

Reuse the print-mode images:

2 \def\PDFTfigname{\BaseJobname-fig\thepsfig}

If the .pdf images have not yet been converted to .svg then an error about a missing file will occur. Warn the user to convert the images.

```
3 \PackageWarning{l warp-pdftricks}{}
4 When the pdftricks images change,
5 remember to convert PDF images to SVG using 'l warpmk pdftosvg *-fig.pdf',
6 }
7
8 \AfterEndDocument{\typeout{***}}
9 \AfterEndDocument{\typeout{*** Note: If pdftricks images are not found, new, or updated, }}
10 \AfterEndDocument{\typeout{*** \space use 'l warpmk pdftosvg \BaseJobname-fig*.pdf'}}}
11 \AfterEndDocument{\typeout{***}}
```

---

#### File 366 **l warp-pd\_fx.sty**

#### § 474 Package **pd\_fx**

Pkg pd\_fx pd\_fx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pd\_fx}[2017/05/18]

---

#### File 367 **l warp-perpage.sty**

#### § 475 Package **perpage**

(Emulates or patches code by DAVID KASTRUP.)

Pkg perpage perpage is mostly ignored, but support is added for footnote counters.

There is no page number in HTML, so most counters are not reset. If the document redefines \the<countername> to include \thepage, it is necessary to place that redefinition inside a warpprint environment to avoid modifying the HTML definitions.

\AddAbsoluteCounter must not be inside warpprint, as the counter must be added for HTML also, although it is not incremented.

**footnote numbering** To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For **bigfoot**, **manyfoot**, or **perpage**:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by `HTML` page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

**for HTML output:** 1 \LWR@ProvidesPackageDrop[perpage][2014/10/25]

```
2 \newcommand\AddAbsoluteCounter[1]
3 {
4 \@ifundefined{c@abs#1}{%
5 \expandafter\newcount\csname c@abs#1\endcsname
6 \global\value{abs#1}\@ne
7 \global\expandafter\let\csname cl@abs#1\endcsname\@empty
8 \expandafter\xdef\csname theabs#1\endcsname{
9 \noexpand\number \csname c@abs#1\endcsname
10 }%
11 \global\@namedef{c@pabs#1}{\pp@cl@begin
12 \stepcounter{abs#1}%
13 \pp@cl@end}%
14 \@addtoreset{pabs@#1}{#1}
15 }
16 {}
17 }
18
19 \AddAbsoluteCounter{page}
20 \def\theabspage{1}
21
22 \newcommand*\MakePerPage[2][1]{%
23 \ifltxcounter{#2Reset}{%
24 \setcounter{#2Reset}{#1}%
25 }%
26
27 }%
28 }
29
30 \newcommand*\MakeSorted[1]{}%
31
32 \newcommand*\MakeSortedPerPage[2][1]{%
33 \ifltxcounter{#2Reset}{%
34 \setcounter{#2Reset}{#1}%
35 }%
36 }%
37 }
38
39 \newcommand*\theperpage{1}
```

---

File 368 **l warp-pfnote.sty**

§ 476 Package **pfnote**

Pkg **pfnote** **pfnote** is ignored.

⚠ **pfnote numbers** While emulating **pfnote**, **l warp** is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. **l warp** therefore uses continuous footnote numbering even for **pfnote**.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pfnote}[1999/07/14]

---

File 369 **l warp-phfqit.sty**

§ 477 Package **phfqit**

(Emulates or patches code by PHILIPPE FAIST.)

Pkg **phfqit** **phfqit** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{phfqit}[2017/08/16]

```
2 \LetLtxMacro{\LWR@origbitstring}{\bitstring}
3
4 \renewcommand{\bitstring}[1]{%
5 \InlineClass[%
6 text-decoration: overline underline ;
7]{\bitstring}{#1}%
8 \phfqit@bitstring{#1}%
9 }
10
11 \appto{\LWR@restoreorigformatting}{%
12 \LetLtxMacro{\bitstring}{\LWR@origbitstring}%
13 }
```

---

File 370 **l warp-physics.sty**

§ 478 Package **physics**

(Emulates or patches code by SERGIO C. DE LA BARRERA.)

Pkg **physics** **physics** works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 **physics** extension is used.

**for HTML output:** 1 \LWR@ProvidesPackagePass{physics}% No date is provided by the package.

---

```

2 \begin{warpMathJax}
3 \PackageWarningNoLine{lwarp, physics}{The MathJax v3 extension will be used}
4 \CustomizeMathJax{\require{physics}}
5 \end{warpMathJax}
```

---

File 371 **lwarp-physunits.sty**

§ 479 Package **physunits**

*(Emulates or patches code by BRIAN W. MULLIGAN.)*

Pkg **physunits** **physunits** is supported as-is for SVG math, and is emulated for **MATHJAX**.

for **HTML output**: 1 \LWR@ProvidesPackagePass{physunits}[2020/03/26]

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{physunits}
4
5 \CustomizeMathJax{\newcommand{\micro}{\mu}}
6 \CustomizeMathJax{\newcommand{\V}{\mathrm{V}}}
7 \CustomizeMathJax{\newcommand{\Volt}{\mathrm{V}}}
8 \CustomizeMathJax{\newcommand{\Coulomb}{\mathrm{C}}}
9 \CustomizeMathJax{\newcommand{\esu}{\mathrm{esu}}}
10 \CustomizeMathJax{\newcommand{\Ohm}{\mathrm{\Omega}}}
11 \CustomizeMathJax{\newcommand{\Amp}{\mathrm{A}}}
12 \CustomizeMathJax{\newcommand{\Farad}{\mathrm{F}}}
13 \CustomizeMathJax{\newcommand{\Tesla}{\mathrm{T}}}
14 \CustomizeMathJax{\newcommand{\Gauss}{\mathrm{G}}}
15 \CustomizeMathJax{\newcommand{\Henry}{\mathrm{H}}}
16 \CustomizeMathJax{\newcommand{\eV}{\mathrm{eV}}}
17 \CustomizeMathJax{\newcommand{\keV}{\mathrm{keV}}}
18 \CustomizeMathJax{\newcommand{\MeV}{\mathrm{MeV}}}
19 \CustomizeMathJax{\newcommand{\J}{\mathrm{J}}}
20 \CustomizeMathJax{\newcommand{\Joule}{\mathrm{J}}}
21 \CustomizeMathJax{\newcommand{\erg}{\mathrm{erg}}}
22 \CustomizeMathJax{\newcommand{\kcal}{\mathrm{kcal}}}
23 \CustomizeMathJax{\newcommand{\Cal}{\mathrm{Cal}}}
24 \CustomizeMathJax{\newcommand{\calorie}{\mathrm{cal}}}
25 \CustomizeMathJax{\newcommand{\BTU}{\mathrm{BTU}}}
26 \CustomizeMathJax{\newcommand{\tnt}{\mathrm{ton}\, \mathrm{of}\, \mathrm{TNT}}}
27 \CustomizeMathJax{\newcommand{\Watt}{\mathrm{W}}}
28 \CustomizeMathJax{\newcommand{\hpi}{\mathrm{hp(I)}}}
29 \CustomizeMathJax{\newcommand{\hpm}{\mathrm{hp(M)}}}
30 \CustomizeMathJax{\newcommand{\hp}{\mathrm{hp}}}
31 \CustomizeMathJax{\newcommand{\meter}{\mathrm{m}}}
32 \CustomizeMathJax{\newcommand{\m}{\mathrm{m}}}
33 \CustomizeMathJax{\newcommand{\km}{\mathrm{km}}}
34 \CustomizeMathJax{\newcommand{\au}{\mathrm{au}}}
35 \CustomizeMathJax{\newcommand{\pc}{\mathrm{pc}}}
36 \CustomizeMathJax{\newcommand{\ly}{\mathrm{ly}}}
37 \CustomizeMathJax{\newcommand{\cm}{\mathrm{cm}}}
38 \CustomizeMathJax{\newcommand{\nm}{\mathrm{nm}}}
39 \CustomizeMathJax{\newcommand{\ft}{\mathrm{ft}}}
```

```

40 \CustomizeMathJax{\newcommand{\inch}{\mathrm{in}}}
41 \CustomizeMathJax{\newcommand{\mi}{\mathrm{mi}}}
42 \CustomizeMathJax{\newcommand{\s}[1][]{\mathrm{#1s}}}
43 \CustomizeMathJax{\newcommand{\Sec}[1][]{\mathrm{#1s}}}
44 \CustomizeMathJax{\newcommand{\Min}{\mathrm{min}}}
45 \CustomizeMathJax{\newcommand{\h}{\mathrm{h}}}
46 \CustomizeMathJax{\newcommand{\y}[1][]{\mathrm{#1y}}}
47 \CustomizeMathJax{\newcommand{\Day}{\mathrm{d}}}
48
49 \CustomizeMathJax{\newcommand{\gm}[1][]{\mathrm{#1g}}}
50 \CustomizeMathJax{\newcommand{\kg}{\mathrm{kg}}}
51 \CustomizeMathJax{\newcommand{\lb}{\mathrm{lb}}}
52 \CustomizeMathJax{\newcommand{\amu}{\mathrm{amu}}}
53 \CustomizeMathJax{\newcommand{\N}[1][]{\mathrm{#1N}}}
54 \CustomizeMathJax{\newcommand{\Newton}[1][]{\mathrm{#1N}}}
55 \CustomizeMathJax{\newcommand{\dyne}[1][]{\mathrm{#1dyn}}}
56 \CustomizeMathJax{\newcommand{\lbf}{\mathrm{lbf}}}
57 \CustomizeMathJax{\newcommand{\kmps}{\mathrm{km}\mathrm{s}^{-1}}}
58 \CustomizeMathJax{\newcommand{\kmph}{\mathrm{km}\mathrm{h}^{-1}}}
59 \CustomizeMathJax{\newcommand{\mps}{\mathrm{m}\mathrm{s}^{-1}}}
60 \CustomizeMathJax{\newcommand{\miph}{\mathrm{mi}\mathrm{h}^{-1}}}
61 \CustomizeMathJax{\newcommand{\kts}{\mathrm{kts}}}
62
63 \CustomizeMathJax{\newcommand{\mpss}{\mathrm{m}\mathrm{s}^{-2}}}
64 \CustomizeMathJax{\newcommand{\gacc}{\mathrm{g}}}
65 \CustomizeMathJax{\newcommand{\ftpss}{\mathrm{ft}\mathrm{s}^{-2}}}
66 \CustomizeMathJax{\newcommand{\K}[1][]{\mathrm{#1K}}}
67 \CustomizeMathJax{\newcommand{\Kelvin}{\mathrm{K}}}
68 \CustomizeMathJax{\newcommand{\Celcius}{\mathring{\mathit{C}}}}
69 \CustomizeMathJax{\newcommand{\Rankine}{\mathring{\mathit{R}}}}
70 \CustomizeMathJax{\newcommand{\Fahrenheit}{\mathring{\mathit{F}}}}
71
72 \CustomizeMathJax{\newcommand{\rpm}{\mathrm{rev}\mathit{Min}^{-1}}}
73
74 \CustomizeMathJax{\newcommand{\Hz}[1][]{\mathrm{#1Hz}}}
75 \CustomizeMathJax{\newcommand{\barP}[1][]{\mathrm{#1bar}}}
76 \CustomizeMathJax{\newcommand{\atm}{\mathrm{atm}}}
77 \CustomizeMathJax{\newcommand{\Pa}[1][]{\mathrm{#1Pa}}}
78 \CustomizeMathJax{\newcommand{\mmHg}{\mathrm{mmHg}}}
79 \CustomizeMathJax{\newcommand{\inHg}{\mathrm{inHg}}}
80 \CustomizeMathJax{\newcommand{\lbsi}{\mathrm{psi}}}
81 \CustomizeMathJax{\newcommand{\lbsf}{\mathrm{psf}}}
82 \CustomizeMathJax{\newcommand{\Ba}{\mathrm{#1Ba}}}
83 \CustomizeMathJax{\newcommand{\Torr}{\mathrm{Torr}}}
84 \CustomizeMathJax{\newcommand{\mol}{\mathrm{mol}}}
85 \end{warpMathJax}

```

---

File 372 **lwarf-picinpar.sty**

§ 480 Package **picinpar**

(Emulates or patches code by FRIEDHELM SOWA.)

Pkg picinpar picinpar is patched for use by lwarf.

**for HTML output:** 1 \LWR@ProvidesPackagePass{picinpar}% No date is assigned.

The window is floated by a BlockClass style.

```

2 \long\def\LWR@HTML@window[#1,#2,#3,#4] {%
3 \if #2r%
4 \begin{BlockClass}[float:right](note){marginblock}%
5 \else%
6 \begin{BlockClass}[float:left](note){marginblock}%
7 \fi%
8 #3\par%
9 #4%
10 \end{BlockClass}%
11 }
12
13 \def\endLWR@HTML@window{}%
14
15 \LWR@formattedenv{window}

```

The framepic and wframepic are placed inside a BlockClass of class framebox.

```

16 \def\LWR@HTML@framepic#1{%
17 \begin{BlockClass}{framebox}%
18 \expandafter\box\csname #1box\endcsname%
19 \end{BlockClass}%
20 }
21 \LWR@formatted{framepic}

22 \def\LWR@HTML@wframepic#1{%
23 \begin{BlockClass}{framebox}%
24 \expandafter\box\csname #1box\endcsname%
25 \end{BlockClass}%
26 }
27 \LWR@formatted{wframepic}

```

The caption is placed inside a BlockClass of class figurecaption.

```

28 \long\def\LWR@HTML@makewincaption#1#2{%
29 \begin{BlockClass}{figurecaption}%
30 #1: #2%
31 \end{BlockClass}%
32 }
33 \LWR@formatted{@makewincaption}

```

With HTML output, figwindow and tabwindow must not pre-decrement their counters.

```

34 \long\def\LWR@HTML@figwindow[#1,#2,#3,#4] {%
35 % \advance\c@figure -1%
36 \window[#1,#2,{#3},{\def\@capttype{figure}%
37 \wincaption#4\par}] }%
38
39 \def\endLWR@HTML@figwindow{\endwindow}%
40
41 \LWR@formattedenv{figwindow}

```

---

For `tabwindow`, to change the catcode of &, `\StartDefiningTabulars` is used before absorbing the arguments, and `\EndDefiningTabulars` is used at the end of the environment.

```

42 \long\def\LWR@HTML@subtabwindow[#1,#2,#3,#4] {%
43 % \advance\c@table -1
44 % \window[#1,#2,{#3},{\def\@capttype{table}%
45 % \wincaption#4\par}] }
46
47 \newcommand*\LWR@HTML@tabwindow{%
48 \StartDefiningTabulars%
49 \LWR@HTML@subtabwindow%
50 }
51
52 \def\endLWR@HTML@tabwindow{%
53 \endwindow%
54 \StopDefiningTabulars%
55 }
56
57 \LWR@formattedenv{tabwindow}

```

---

File 373 **l warp-pifont.sty**

§ 481 Package **pifont**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg `pifont` `pifont` is patched for use by `l warp`.

Hashed inline images are used, as there may not be Unicode support for all icons.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{pifont}[2005/04/12]`

```

2 \renewcommand{\Pisymbol}[2]{%
3 \begin{lateximage}*[\Pisymbol][pisymbol#1#2]%
4 {\Pifont[#1]\char#2}%
5 \end{lateximage}%
6 }
7
8 \newcommand{\LWR@HTML@Pifill}[2]{%
9 \Pisymbol[#1]{#2} \Pisymbol[#1]{#2} \Pisymbol[#1]{#2}%
10 }
11 \LWR@formatted{Pifill}
12
13 \newcommand{\LWR@HTML@Piline}[2]{%
14 \par\noindent\hspace*{0.5in}%
15 \Pifill[#1]{#2} \Pifill[#1]{#2} \Pifill[#1]{#2}%
16 }
17 \LWR@formatted{Piline}

```

---

File 374 **l warp-pinlabel.sty**

§ 482      Package **pinlabel**

(Emulates or patches code by COLIN ROURKE.)

Pkg **pinlabel** **pinlabel** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{pinlabel}% no date given

```
2 \xpretocmd{\psfig}
3 {\begin{ lateximage }[-pinlabel-\~\PackageDiagramAltText]}
4 {}
5 {\LWR@patcherror{pinlabel}{psfigA}}
6
7 \xapptocmd{\psfig}
8 {\end{ lateximage }}
9 {}
10 {\LWR@patcherror{pinlabel}{psfigB}}
```

---

File 375 **l warp-placeins.sty**

§ 483      Package **placeins**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg **placeins** **placeins** is ignored.

Discard all options for **l warp-placeins**:

for HTML output: 1 \LWR@ProvidesPackageDrop{placeins}[2005/04/18]

```
2 \newcommand*\FloatBarrier{}

```

File 376 **l warp-plarydshln.sty**

§ 484      Package **plarydshln**

Pkg **plarydshln** **plarydshln** is emulated by **l warp-arydshln**.

for HTML output: 1 \LWR@ProvidesPackageDrop{plarydshln}[2018/10/20]

```
2 \LWR@origRequirePackage{l warp-arydshln}

```

File 377 **l warp-plex.sty**

§ 485      Package **plex**

Pkg **plex** **plex** is preloaded by **jarticle** and related classes.

```

for HTML output: 1 \LWR@Loadbefore{plexit}
2
3 \LWR@ProvidesPackagePass{plexit}[2017/07/21]

4 \let\state\relax
5
6 \DeclareExpandableDocumentCommand{\rensushi}{s o m}{#3}
7
8 % \layoutfloat(width,height)[pos]#4
9 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
10
11 % \DeclareLayoutCaption{type} <dir>(width)[pos1pos2]
12 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d> d() o}{}
13
14 \LetLtxMacro\pcaption\caption
15
16 % \layoutcaption<dir>(width)[pos]
17 \DeclareDocumentCommand{\layoutcaption}{d> d() o}{}
18
19 \let\captiondir\relax

```

Add the optional <t/y> direction:

```

20 \RenewDocumentEnvironment{\LWR@HTML@minipage}{d> 0{t} 0{} 0{t} m}
21 {\LWR@HTML@sub@minipage[#2]{#3}{#4}{#5}}
22 {\endLWR@HTML@sub@minipage}
23
24 \RenewDocumentCommand{\LWR@HTML@parbox}{d> 0{t} 0{} 0{t} m +m}
25 {
26 \LWR@traceinfo{parbox of width #4}%
27 \begin{minipage}[#2][#3][#4]{#5}%
28 #6
29 \end{minipage}%
30 }
31
32 % \pbox <t/y> [width] [l/r] {contents}
33 \RenewDocumentCommand{\pbox}{d> 0{0pt} 0{c} m}{%
34 \global\booltrue{\LWR@minipagefullwidth}%
35 \parbox[#2]{#4}%
36 }

```

picture, as modified by **plexit**, is encapsulated by the **lwarp** core.

File 378 **lwarp-plexarydshln.sty**

## § 486 Package **plexarydshln**

**Pkg** **plexarydshln** **plexarydshln** is emulated by **lwarp-arydshln**.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{plexarydshln}[2018/10/20]

2 \LWR@origRequirePackage{lwarp-arydshln}

---

File 379 **l warp-plextcolortbl.sty**

§ 487 Package **plextcolortbl**

Pkg pletecolortbl pletecolortbl is emulated by l warp-colortbl.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{plextcolortbl}[2018/09/19]
2 \LWR@origRequirePackage{l warp-colortbl}
```

---

File 380 **l warp-plimsoll.sty**

§ 488 Package **plimsoll**

(Emulates or patches code by PALLE JØRGENSEN.)

Pkg plimsoll plimsoll is used as-is for SVG math, and emulated for MATHJAX.

The circ option is honored. For MATHJAX, \plimsollsans is the same as \plimsollroman.

for HTML output:

```
1 \LWR@ProvidesPackagePass{plimsoll}[2020/10/09]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\plimsollroman}{\unicode{x029B5}}}
4
5 \CustomizeMathJax{\let\plimsoll\plimsollroman}
6 \CustomizeMathJax{\let\plimsollsans\plimsoll}
7
8 \ifdefstring{\stst}{^{\circ}}
9 {\CustomizeMathJax{\newcommand{\stst}{^{\circ}}}}
10 {\CustomizeMathJax{\newcommand{\stst}{^{\plimsoll}}}}
11 \end{warpMathJax}
```

---

File 381 **l warp-prelim2e.sty**

§ 489 Package **prelim2e**

(Emulates or patches code by MARTIN SCHRÖDER.)

Pkg prelim2e prelim2e is ignored.

for HTML output:

Discard all options for l warp-prelim2e:

```
1 \LWR@ProvidesPackageDrop{prelim2e}[2009/05/29]
2 \newcommand{\PrelimText}{}
3 \newcommand{\PrelimTextStyle}{}
4 \newcommand{\PrelimWords}{}
```

---

File 382 **l warp-prettyref.sty**

§ 490 Package **prettyref**

(Emulates or patches code by KEVIN S. RULAND.)

Pkg prettyref prettyref is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{prettyref}[1998/07/09]

```
2 \newreformat{fig}{Figure \ref{\#1}}
3 \newreformat{tab}{Table \ref{\#1}}
```

---

File 383 **l warp-preview.sty**

§ 491 Package **preview**

Pkg preview preview is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{preview}[2017/04/24]

```
2 \newenvironment{preview}{}{}
3 \newenvironment{nopreview}{}{}
4 \NewDocumentCommand{\PreviewMacro}{s o o +m} {}
5 \NewDocumentCommand{\PreviewEnvironment}{s o o +m} {}
6 \newcommand{\PreviewSnarfEnvironment}[2][]{}
7 \NewDocumentCommand{\PreviewOpen}{s o} {}
8 \NewDocumentCommand{\PreviewClose}{s o} {}
9 \let\ifPreview\iffalse \fi for syntax highlighting
```

---

File 384 **l warp-psfrag.sty**

§ 492 Package **psfrag**

(Emulates or patches code by MICHAEL C. GRANT, DAVID CARLISLE.)

Pkg psfrag psfrag is patched for use by l warp.

⚠ use psfrags The psfrags environment is modified to use lateximage to encapsulate the image. Always use a psfrags environment to contain any local \psfrag macros and the associated \includegraphics or \epsfig calls. Outside of a psfrags environment, psfrags adjustments will not be seen by l warp.

⚠ Tip: Use a mono-spaced font for the tags in the EPS file.

for HTML output: 1 \LWR@ProvidesPackagePass{psfrag}[1998/04/11]

---

A `\begin{ lateximage }` captures the modified image from the document.

```

2 \BeforeBeginEnvironment{psfrags}{%
3 \begin{ lateximage }[-psfrags-\~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{psfrags}{\end{ lateximage }}
```

---

File 385 **lwarp-psfragx.sty**

§ 493 Package **psfragx**

*(Emulates or patches code by PASCAL KOCKAERT.)*

Pkg `psfragx` `psfragx` is patched for use by `lwarp`.

for HTML output: 1 \LWR@ProvidesPackagePass{psfragx}[2012/05/02]

A `\begin{ lateximage }` captures the modified image from the document.

```

2 \def\pfx@includegraphicx#1#2{%
3 \begin{ lateximage }[-psfragx-\~\PackageDiagramAltText]%
4 \mbox{\pfx@overpix{#1}{#2}\endpfx@overpix}%
5 \end{ lateximage }%
6 }
7
8 \def\@@@overpix[#1]<#2>[#3]#4{%
9 \begin{ lateximage }[-psfragx-\~\PackageDiagramAltText]%
10 \pfx@overpix{#1,ovpfgd={#2},ovpbgd={#3}}{#4}%
11 }
12
13 \def\endoverpix{%
14 \endpfx@overpix%
15 \end{ lateximage }%
16 }
```

---

File 386 **lwarp-pst-eps.sty**

§ 494 Package **pst-eps**

*(Emulates or patches code by HERBERT VOSS.)*

Pkg `pst-eps` `pst-eps` is patched for use by `lwarp`.

for HTML output: 1 \LWR@ProvidesPackagePass{pst-eps}[2005/05/20]

```

2 \renewenvironment{TeXtoEPS}{}{%
3 \renewcommand{\PSTtoEPS}[3][]{}}
```

---

**File 387 l warp-pstool.sty****§ 495 Package pstool**

(Emulates or patches code by ZEBB PRIME, WILL ROBERTSON.)

Pkg pstool pstool is patched for use by l warp.

\graphicspath is ignored, and the file directory must be stated.

 **path and filename** The filename must not have a file extension.

Use

Enter ⇒ **l warpmk html**

followed by

Enter ⇒ **l warpmk limages**

.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pstool}[2018/01/20]

Each image is placed inside a `lateximage` to capture the results of `psfrag`.

```
2 \renewcommand{\pstool@alwaysprocess[3]}{}{%
3 \begin{lateximage}[-pstool-\~\PackageDiagramAltText]{%
4 \includegraphics{#2.pdf}}%
5 \end{lateximage}%
6 }
7 \LetLtxMacro{\pstool@neverprocess}{\pstool@alwaysprocess}
8 \LetLtxMacro{\pstool@maybeprocess}{\pstool@alwaysprocess}
9
10 \renewcommand{\pstool@@psfragfig[4]}{%
11 \begin{lateximage}[-pstool-\~\PackageDiagramAltText]{%
12 \includegraphics{#2.pdf}}%
13 \end{lateximage}%
14 }
```

---

**File 388 l warp-pstricks.sty****§ 496 Package pstricks**

(Emulates or patches code by TIMOTHY VAN ZANDT.)

Pkg pstricks pstricks is patched for use by l warp.

 **use pspicture** All pstricks content should be contained inside a `pspicture` environment.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pstricks}[2018/01/06]

```
2 \BeforeBeginEnvironment{pspicture}{%
3 \begin{lateximage}[pspicture]%
4 }
5 \AfterEndEnvironment{pspicture}{\end{lateximage}}
6
7 \BeforeBeginEnvironment{pspicture*}{%
8 \begin{lateximage}[pspicture]%
9 }
10 \AfterEndEnvironment{pspicture*}{\end{lateximage}}
```

---

File 389 **l warp-pxatbegshi.sty**§ 497 Package **pxatbegshi**

Pkg pxatbegshi **pxatbegshi** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxatbegshi}[2017/11/04]  
2 \LWR@origRequirePackage{l warp-atbegshi}

---

File 390 **l warp-pxeveryshi.sty**§ 498 Package **pxeveryshi**

Pkg pxeveryshi **pxeveryshi** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxeveryshi}[2012/05/19]  
2 \LWR@origRequirePackage{l warp-everyshi}

---

File 391 **l warp-pxfonts.sty**§ 499 Package **pxfonts**

(Emulates or patches code by YOUNG RYU.)

Pkg pxfonts **pxfonts** is used as-is for SVG math, and is emulated for MATHJAX.  
for HTML output: 1 \LWR@ProvidesPackagePass{pxfonts}[2008/01/22]

For MATHJAX:

```
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{pxfonts}
6
7 \LWR@mathjax@addgreek@l@up{}{up}
8 \end{warpMathJax}
```

---

File 392 **l warp-pxftnright.sty**

§ 500 Package **pxftnright**

Pkg pxftnright pxftnright is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxftnright}[2017/02/28]

2 \LWR@origRequirePackage{l warp-ftnright}

---

File 393 **l warp-pxjahyper.sty**

§ 501 Package **pxjahyper**

Pkg pxjahyper pxjahyper is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxjahyper}[2018/07/15]

---

File 394 **l warp-quotchap.sty**

§ 502 Package **quotchap**

(Emulates or patches code by KARSTEN TINNEFELD, JAN KLEVER.)

Pkg quotchap quotchap is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{quotchap}[2019/07/09]

2 \newcommand{\@quotchap}{}  
3 \newlength{\LWR@quotchapwidth}  
4  
5 \let\@printcites\relax  
6  
7 \newcommand\*{\@iprintcites}{%

Place the quotes inside a <div> of class quotchap, of the maximum selected width:

8 \begin{BlockClass}[max-width: \LWR@printlength{\LWR@quotchapwidth}]{quotchap}  
9 %\begin{minipage}{\LWR@quotchapwidth}  
10 \@quotchap  
11 %\end{minipage}  
12 \end{BlockClass}

Deactivate the quote printing:

```

13 \global\let\@printcites\relax
14 }
15
16 \NewEnviron{savequote}[1][\linewidth]{%

```

Remember the width, adjusted for HTML, and make the length assignment global, per:  
<https://tex.stackexchange.com/questions/300823/why-is-setlength-ineffective-inside-a-tabular-environment>

```

17 \setlength{\LWR@quotchapwidth}{#1*2}%
18 \global\LWR@quotchapwidth=\LWR@quotchapwidth%

```

Remember the body, and activate the quote printing:

```

19 \global\let\@quotchap\BODY
20 \global\let\@printcites\@iprintcites%
21 }

```

The quotation author is placed inside a <div> of class qauthor:

```

22 \newcommand{\qauthor}[1]{%
23 \LWR@stoppars%
24 \begin{BlockClass}{qauthor}%
25 {#1}%
26 \end{BlockClass}%
27 \LWR@startpars%
28 }

```

Fonts are ignored. Use css.

```

29 \newcommand{\qsetcnfont}[1]{}%
30 \providecommand*{\quotefont}{}%
31 \providecommand*{\qauthorfont}{}%

```

### File 395 lwarp-quoting.sty

#### § 503 Package **quoting**

(Emulates or patches code by THOMAS TITZ.)

Pkg quoting **quoting** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{quoting}[2014/01/28]

```

2 \xpatchcmd{\quoting}{\quo@begintext}
3 {\begin{\LWR@blocktextcurrentfont}\quo@begintext}
4 {}
5 {\LWR@patcherror{quoting}{quoting}}
6
7 \xpatchcmd{\endquoting}{\quo@endtext}
8 {\quo@endtext\end{\LWR@blocktextcurrentfont}\LWR@stoppars}
9 {}
10 {\LWR@patcherror{quoting}{endquoting}}

```

---

**File 396 l warp-ragged2e.sty****§ 504 Package ragged2e**

(Emulates or patches code by MARTIN SCHRÖDER.)

Pkg **ragged2e** **ragged2e** is emulated.

Discard all options for **l warp-ragged2e**:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ragged2e}[2009/05/21]

```
2 \LetLtxMacro\Centering\centering
3 \LetLtxMacro\RaggedLeft\raggedleft
4 \LetLtxMacro\RaggedRight\raggedright
5 \newcommand*{\justifying}={}
6 \newlength{\CenteringLeftskip}
7 \newlength{\RaggedLeftLeftskip}
8 \newlength{\RaggedRightLeftskip}
9 \newlength{\CenteringRightskip}
10 \newlength{\RaggedLeftRightskip}
11 \newlength{\RaggedRightRightskip}
12 \newlength{\CenteringParfillskip}
13 \newlength{\RaggedLeftParfillskip}
14 \newlength{\RaggedRightParfillskip}
15 \newlength{\JustifyingParfillskip}
16 \newlength{\CenteringParindent}
17 \newlength{\RaggedLeftParindent}
18 \newlength{\RaggedRightParindent}
19 \newlength{\JustifyingParindent}
20 \newenvironment*{Center}{\center}{\endcenter}
21 \newenvironment*{FlushLeft}{\flushleft}{\endflushleft}
22 \newenvironment*{FlushRight}{\flushright}{\endflushright}
23 \newenvironment*{justify}{\justifying}{\endjustifying}
```

---

**File 397 l warp-realscripts.sty****§ 505 Package realscripts**

(Emulates or patches code by WILL ROBERTSON.)

Pkg **realscripts** **realscripts** is emulated. See **l warp.css** for the <span> of class supsubscript.

**for HTML output:** 1 \LWR@ProvidesPackagePass{realscripts}[2016/02/13]

The following are copied verbatim from the original, but given new names, since **xparse** definitions should not be **\let**.

2 \ExplSyntaxOn

```
3
4 \DeclareDocumentCommand \LWR@print@realsubscript {m} {
5 \fontspec_if_fontspec_font:TF {
6 \fontspec_if_opentype:TF
7 { \fontspec_if_feature:nTF {+subs}
8 { {\addfontfeature{VerticalPosition=Inferior}\#1} }
9 { \fontspec_if_feature:nTF {+sinf}
10 { {\addfontfeature{VerticalPosition=ScientificInferior}\#1} }
11 { \fakesubscript{\#1} }
12 }
13 }
14 { \fontspec_if_aat_feature:nnTF {10} {2}
15 { {\addfontfeature{VerticalPosition=Inferior}\#1} }
16 { \fakesubscript{\#1} }
17 }
18 }
19 { \fakesubscript{\#1} }
20 }
21
22 \DeclareDocumentCommand \LWR@HTML@realsubscript {m} {
23 \LWR@HTML@textsubscript{\#1}
24 }
25
26 \LWR@formatted{realsubscript}
27
28
29 \DeclareDocumentCommand \LWR@print@realsuperscript {m} {
30 \fontspec_if_fontspec_font:TF
31 {
32 \fontspec_if_opentype:TF
33 { \fontspec_if_feature:nTF {+sups}
34 { {\addfontfeature{VerticalPosition=Superior}\#1} }
35 { \fakesuperscript{\#1} }
36 }
37 { \fontspec_if_aat_feature:nnTF {10} {1}
38 { {\addfontfeature{VerticalPosition=Superior}\#1} }
39 { \fakesuperscript{\#1} }
40 }
41 }
42 { \fakesuperscript{\#1} }
43 }
44
45 \DeclareDocumentCommand \LWR@HTML@realsuperscript {m} {
46 \LWR@HTML@textsuperscript{\#1}
47 }
48
49 \LWR@formatted{realsuperscript}
50
51
52 \DeclareDocumentCommand \LWR@print@textsubsuperscript {s O{l} mm} {
53 \leavevmode
54 \group_begin:
55 \IfBooleanTF #1
56 {
57 \hbox_set:Nn \l_tmpa_box {\textsubscript*{\#3}}
```

```
58 \hbox_set:Nn \l_tmpb_box {\#4}
59 }
60 {
61 \hbox_set:Nn \l_tmpa_box {\textsubscript{\#3}}
62 \hbox_set:Nn \l_tmpb_box {\#4}
63 }
64 \hbox_set:Nn \l_tmpa_box
65 { \box_move_down:n \subsupersep {\box_use:N \l_tmpa_box} }
66 \hbox_set:Nn \l_tmpb_box
67 { \box_move_up:n \subsupersep {\box_use:N \l_tmpb_box} }
68 \str_case:nnF {#2}
69 {
70 {l}{\use_i:nnn}
71 {c}{\use_ii:nnn}
72 {r}{\use_iii:nnn}
73 }
74 {
75 \PackageWarning{realscripts}{
76 Unknown~alignment~option~'#2'. \MessageBreak
77 One~ of~ 'l',~ 'c',~ 'r',~ only
78 }
79 \use_i:nnn
80 }
81 {
82 \hbox_overlap_right:n { \box_use:N \l_tmpa_box }
83 \hbox_overlap_right:n { \box_use:N \l_tmpb_box }
84 \skip_horizontal:n {
85 \dim_max:nn {\box_wd:N \l_tmpa_box} {\box_wd:N \l_tmpb_box}
86 }
87 }
88 {
89 \dim_compare:nTF { \box_wd:N \l_tmpa_box > \box_wd:N \l_tmpb_box }
90 {
91 \skip_horizontal:n {
92 0.5\box_wd:N \l_tmpa_box-0.5\box_wd:N \l_tmpb_box
93 }
94 \box_use:N \l_tmpb_box
95 \skip_horizontal:n {
96 -0.5\box_wd:N \l_tmpa_box-0.5\box_wd:N \l_tmpb_box
97 }
98 \box_use:N \l_tmpa_box
99 }
100 {
101 \skip_horizontal:n {
102 0.5\box_wd:N \l_tmpb_box-0.5\box_wd:N \l_tmpa_box
103 }
104 \box_use:N \l_tmpa_box
105 \skip_horizontal:n {
106 -0.5\box_wd:N \l_tmpb_box-0.5\box_wd:N \l_tmpa_box
107 }
108 \box_use:N \l_tmpb_box
109 }
110 }
111 {
112 \skip_horizontal:n {
```

```

113 \dim_max:nn {\box_wd:N \l_tmpa_box} {\box_wd:N \l_tmpb_box}
114 }
115 \hbox_overlap_left:n { \box_use:N \l_tmpa_box }
116 \hbox_overlap_left:n { \box_use:N \l_tmpb_box }
117 }
118 \group_end:
119 }
120
121 \ExplSyntaxOff
122
123
124 \newcommand*{\LWR@realscriptsalign}{}
125
126 \newcommand*{\LWR@setrealscriptsalign}[1]{%
127 \renewcommand*{\LWR@realscriptsalign}{%
128 \ifthenelse{\equal{#1}{c}}{%
129 \renewcommand{\LWR@realscriptsalign}{%
130 \LWR@print@mbox{text-align:center} ; %
131 }%
132 }{%
133 \ifthenelse{\equal{#1}{r}}{%
134 \renewcommand{\LWR@realscriptsalign}{%
135 \LWR@print@mbox{text-align:right} ; %
136 }%
137 }%
138 }%
139
140 \DeclareDocumentCommand \LWR@HTML@textsubsuperscript {s O{l} mm} {%
141 \LWR@setrealscriptsalign{#2}%
142 \InlineClass[\LWR@realscriptsalign]{supsubscript}{%
143 #4\textsubscript{#3}%
144 }%
145 }
146 \LWR@formatted{textsubsuperscript}
147
148 \FilenameNullify{%
149 \RenewDocumentCommand{\textsuperscript}{s m}{%
150 \RenewDocumentCommand{\textsubscript}{s m}{%
151 \renewcommand{\fakesubscript}[1]{%
152 \renewcommand{\fakesuperscript}[1]{%
153 \renewcommand{\realsubscript}[1]{%
154 \renewcommand{\realsuperscript}[1]{%
155 \renewcommand{\textsubsuperscript}[2]{%
156 \renewcommand{\textsupersubscript}[2]{%
157 }

```

File 398 **l warp-refcheck.sty**

§ 506 Package **refcheck**

Pkg refcheck refcheck is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{refcheck}[2013/02/14]

```
2 \def\showrefnames{}
3 \def\norefnames{}
4 \def\showcitenames{}
5 \def\nocitenames{}
6 \def\setonmsgs{}
7 \def\setoffmsgs{}
8 \def\checkunlbl{}d
9 \def\ignoreunlbl{}d
10 \newcommand*\refcheckxrdoc}[2][]{}
```

---

**File 399 l warp-register.sty****§ 507 Package register**

(Emulates or patches code by MATTHEW LOVELL.)

Pkg register register is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{register}[2019/01/01]

```
2 \xpatchcmd{\register}
3 {\centering}
4 {%
5 \begin{center}%
6 \begin{ lateximage }[-register-\~\PackageDiagramAltText]%
7 }
8 {}
9 {\LWR@patcherror{register}{register}}
10
11 \xpatchcmd{\endregister}
12 {\leftskip}
13 {%
14 \end{ lateximage }\end{center}%
15 \leftskip%
16 }
17 {}
18 {\LWR@patcherror{register}{endregister}}
19
20 \expandafter\xapptocmd\csname register*\endcsname
21 {%
22 \begin{center}%
23 \begin{ lateximage }[-register-\~\PackageDiagramAltText]%
24 }
25 {}
26 {\LWR@patcherror{register}{register*}}
27
28 \expandafter\xpatchcmd\csname endregister*\endcsname
29 {\leftskip}
30 {%
31 \end{ lateximage }\end{center}%
32 \leftskip%
33 }
34 {}
```

---

```

35 {\LWR@patcherror{register}{endregister*}}
36
37 \setlength{\regWidth}{5in}
```

---

File 400 **l warp-relsize.sty**

§ 508 Package **relsize**

(Emulates or patches code by DONALD ARSENEAU, BERNIE COSELL, MATT SWIFT.)

Pkg **relsize** **relsize** is patched for use by **l warp**, and emulated for **MATHJAX**.

For **HTML**, only the inline macros are supported: **\textlarger**, **\textsmaller**, and **\textscale**. Each becomes an inline span of a modified font-size.

**\relsize**, **\larger**, **\smaller**, and **\relscale** are ignored.

While creating **SVG** math for **HTML**, the original definitions are temporarily restored, and so should work as expected.

⚠ **not small** The **HTML** browser's setting for minimum font size may limit how small the output will be displayed.

**for HTML output:** 1 \LWR@ProvidesPackagePass{relsize}[2013/03/29]

```

2 \let\LWR@origrelsize\relsize
3 \LetLtxMacro{\LWR@origlarger}{\larger}
4 \LetLtxMacro{\LWR@origsmaller}{\smaller}
5 \let\LWR@relscale\relscale
6 \LetLtxMacro{\LWR@origtextlarger}{\textlarger}
7 \LetLtxMacro{\LWR@origtextsmaller}{\textsmaller}
8 \let\LWR@textscale{textscale}
9
10 \appto{\LWR@restoreorigformatting}{%
11 \let\relsize{\LWR@origrelsize}%
12 \LetLtxMacro{\larger}{\LWR@origlarger}%
13 \LetLtxMacro{\smaller}{\LWR@origsmaller}%
14 \let\relscale{\LWR@relscale}%
15 \LetLtxMacro{\textlarger}{\LWR@origtextlarger}%
16 \LetLtxMacro{\textsmaller}{\LWR@origtextsmaller}%
17 \let{textscale}{\LWR@textscale}%
18 }
19
20 \newcounter{\LWR@relsizetemp}
21
22 \renewcommand*{\relsize}[1] {}
23 \renewcommand*{\larger}[1] []
24 \renewcommand*{\smaller}[1] []
25 \renewcommand*{\relscale}[1] {}
26
27 \renewcommand*{\textlarger}[2][1]{%
28 \setcounter{\LWR@relsizetemp}{100+ (#1*20)}%
29 \InlineClass{font-size:\arabic{\LWR@relsizetemp}\%}{textlarger}{#2}%
}
```

```

30 }
31
32 \renewcommand*\textsmaller}[2][1]{%
33 \setcounter{LWR@relsizetemp}{100-(#1*20)}%
34 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textsmaller}{#2}%
35 }
36
37 \renewcommand*\textscale}[2]{%
38 \setcounter{LWR@relsizetemp}{100*\real{#1}}%
39 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textscale}{#2}%
40 }

```

For MATHJAX:

```

41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\mathlarger}[1]{#1}}
43 \CustomizeMathJax{\newcommand{\mathsmaller}[1]{#1}}
44 \end{warpMathJax}

```

#### File 401 **lwarf-repeatindex.sty**

### § 509 Package **repeatindex**

Pkg repeatindex repeatindex is emulated for lwarf.

 style file lwarf must be used with a special style file:

```
\usepackage[makeindex,makeindexStyle={lwarf_repeatindex}]{lwarf}
```

where lwarf\_repeatindex.ist may be copied from the following modified version of lwarf.ist:

```

preamble
"\\begin{theindex}
 \\providecommand*\\lettergroupDefault[1]{}
 \\providecommand*\\lettergroup[1]{%
 \\par\\textbf{#1}\\par
 \\nopagebreak
 }
"
headings_flag 1
heading_prefix "
 \\lettergroup{
heading_suffix "}"
delim_0 "], \\hyperindexref{
delim_1 ", \\hyperindexref{
delim_2 ", \\hyperindexref{
delim_n "}, \\hyperindexref{
delim_r "} -- \\hyperindexref{
delim_t "}"

```

```
| item_0 "\n \\item ["
```

(The modifications are the `delim_0` and `item_0` entries.)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{repeatindex}[2001/10/13]

In the `l warp` core, `\LWR@indexitem` is modified to accept the optional `\item` argument.

```
2 \RequirePackage{makeidx}
3 \def\entryprefix{\itshape}
4 \def\entrypostfix{\dots}
```

---

#### File 402 **l warp-repltext.sty**

##### § 510 Package **repltext**

Pkg `repltext` `repltext` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{repltext}[2020/09/25]

```
2 \newcommand{\repltext}[2]{#2}
3 \newcommand*{\prevrepl}{}

For MATHJAX:
```

```
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\repltext}[2]{#2}}
6 \end{warpMathJax}
```

---

#### File 403 **l warp-resizegather.sty**

##### § 511 Package **resizegather**

Pkg `resizegather` `resizegather` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{resizegather}[2016/05/16]

```
2 \newcommand*{\resizegathersetup}[1]{}

File 404 l warp-returntogrid.sty
```

##### § 512 Package **returntogrid**

Pkg `returntogrid` `returntogrid` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{returntogrid}[2018/08/21]

```
2 \NewDocumentCommand\returntogrid{ 0 {} }{}
3 \NewDocumentCommand\returntogridsetup { m } {}
4 \NewDocumentCommand\showdebugpagegrid {} {}
```

---

**File 405 l warp-rlepsf.sty****§ 513 Package rlepsf**

(Emulates or patches code by MICHAEL GREENE, COLIN ROURKE.)

Pkg rlepsf rlepsf is patched for use by l warp.

⚠ Rename the style file! The file rlepsf.tex must be copied to rlepsf.sty for l warp to detect and patch it.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rlepsf}% No date given.

```
2 \xpretocmd{\relabelbox}
3 {\begin{lateximage}}
4 {}
5 {\LWR@patcherror{rlepsf}{relabelbox}}
6
7 \xapptocmd{\endrelabelbox}
8 {\end{lateximage}}
9 {}
10 {\LWR@patcherror{rlepsf}{endrelabelbox}}
```

---

**File 406 l warp-rmathbr.sty****§ 514 Package rmathbr**

(Emulates or patches code by DENIS RYABOV.)

Pkg rmathbr rmathbr is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rmathbr}[2020/12/11]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\def*{\~}}
4 \CustomizeMathJax{\newcommand{\cdott}{\cdot}}
5 \CustomizeMathJax{\newcommand{\nobr}{}}
6 \end{warpMathJax}
```

---

**File 407 l warp-rmpage.sty****§ 515 Package rmpage**

Pkg rmpage rmpage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{rmpage}[1997/09/29]

---

File 408 **l warp-romanbar.sty**

§ 516 Package **romanbar**

(Emulates or patches code by H.-MARTIN MÜNCH.)

Pkg romanbar romanbar is patched for use by l warp.

An inline class with an overline and underline is used.

for HTML output: 1 \LWR@ProvidesPackagePass{romanbar}[2012/01/01]

```
2 \DeclareRobustCommand{\Roman@bar}{\% #1 is in Roman, i.e. MMXII
3 \InlineClass[%
4 text-decoration: overline underline ;
5]{\romanbar}{#1}%
6 }
```

---

File 409 **l warp-romanbarpagenumber.sty**

§ 517 Package **romanbarpagenumber**

Pkg romanbarpagenumber romanbarpagenumber is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{romanbarpagenumber}[2015/02/06]

---

File 410 **l warp-rotating.sty**

§ 518 Package **rotating**

(Emulates or patches code by ROBIN FAIRBAIRNS, SEBASTIAN RAHTZ, LEONOR BARROCA.)

Pkg rotating rotating is emulated.

All rotations are ignored in HTML output.

for HTML output: 1 \LWR@ProvidesPackagePass{rotating}[2016/08/11]  
2 \RequirePackage{graphicx}

```
3 \LetLtxMacro{\LWR@HTML@sidewaystable}{\table
4 \let\endLWR@HTML@sidewaystable\endtable
5 \LWR@formattedenv{sidewaystable}
6
7 \LetLtxMacro{\LWR@HTML@sidewaysfigure}{\figure
8 \let\endLWR@HTML@sidewaysfigure\endfigure
9 \LWR@formattedenv{sidewaysfigure}}
```

```

10
11 \newenvironment*{\LWR@HTML@sideways}{}{}
12 \LWR@formattedenv{sideways}
13
14 \newenvironment*{\LWR@HTML@turn}[1]{}{}
15 \LWR@formattedenv{turn}
16
17 \newenvironment*{\LWR@HTML@rotate}[1]{}{}
18 \LWR@formattedenv{rotate}
19
20 \NewDocumentCommand{\LWR@HTML@turnbox}{m +m}{#2}
21 \LWR@formatted{turnbox}
22
23 \let\LWR@HTML@rotcaption\caption
24 \LWR@formatted{rotcaption}
25
26 \let\LWR@HTML@makerotcaption@\makecaption
27 \LWR@formatted{@makerotcaption}

```

File 411 **lwarf-rotfloat.sty**

§ 519 Package **rotfloat**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg **rotfloat** **rotfloat** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{rotfloat}[2004/01/04]  
 2  
 3 \RequirePackage{float}  
 4 \RequirePackage{rotating}

\newfloat {\langle 1: type \rangle} {\langle 2: placement \rangle} {\langle 3: ext \rangle} [⟨ 4: within ⟩]

Emulates the \newfloat command from the **float** package. Sideways floats are \let to the same as regular floats.

“placement” is ignored.

```

5 \RenewDocumentCommand{\newfloat}{m m m o}{%
6 \IfValueTF{#4}{%
7 {%
8 \DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}%
9 }%
10 {%
11 \DeclareFloatingEnvironment[fileext=#3]{#1}%
12 }%
13 \csletcs{sideways#1}{#1}%
14 \csletcs{endsideways#1}{end#1}%

```

Remember the float style:

```
15 \csedef{\LWR@floatstyle@#1}{\LWR@floatstyle}%
16 \csedef{\LWR@floatstyle@sideways@#1}{\LWR@floatstyle}%
```

**newfloat** package automatically creates the `\listof` command for new floats, but **float** does not, so remove `\listof` here in case it is manually created later:

```
17 \cslet{\listof#1s}\relax%
18 \cslet{\listof#1es}\relax%
19 \cslet{\listofsideways#1s}\relax%
20 \cslet{\listofsideways#1es}\relax%
21 }
```

---

File 412 **l warp-rviewport.sty**

§ 520 Package **rviewport**

Pkg **rviewport** **rviewport** is honored inside a `\teximage`, and otherwise ignored for **HTML** output.

If **rviewport** is important for an image, enclose the image inside a `\teximage` environment.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rviewport}[2011/08/27]

```
2 \define@key{igraph}{rviewport}{}

```

File 413 **l warp-savetrees.sty**

§ 521 Package **savetrees**

Pkg **savetrees** **savetrees** is ignored.

**for HTML output:** Discard all options for **l warp-savetrees**:

```
1 \LWR@ProvidesPackageDrop{savetrees}[2016/04/13]

```

File 414 **l warp-scalefnt.sty**

§ 522 Package **scalefnt**

(Emulates or patches code by D. CARLISLE.)

Pkg **scalefnt** **scalefnt** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scalefnt}

```
2 \DeclareRobustCommand\scalefont[1]{}

```

---

**File 415 l warp-scalerel.sty**

§ 523    Package **scalerel**

(Emulates or patches code by STEVEN B. SEGLETES.)

Pkg **scalerel** **scalerel** is used as-is for SVG math, and is emulated and ignored for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{scalerel}[2016/12/29]

For MATHJAX:

```
2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{scalerel}
4
5 \CustomizeMathJax{\newcommand{\scalerel}{\ifstar{\scalerelplain}{\scalerelplus}}}
6 \CustomizeMathJax{\newcommand{\scalerelplain}[3][]{\#2}}
7 \CustomizeMathJax{\newcommand{\scalerelplus}[3][]{\#2#3}}
8 \CustomizeMathJax{\newcommand{\stretchrel}{\ifstar{\stretchrelplain}{\stretchrelplus}}}
9 \CustomizeMathJax{\newcommand{\stretchrelplain}[3][]{\#2}}
10 \CustomizeMathJax{\newcommand{\stretchrelplus}[3][]{\#2#3}}
11 \CustomizeMathJax{\newcommand{\scaleto}[3][]{\#2}}
12 \CustomizeMathJax{\newcommand{\stretchto}[3][]{\#2}}
13 \CustomizeMathJax{\newcommand{\scaleleftright}[4][]{\#2#3#4}}
14 \CustomizeMathJax{\newcommand{\stretchleftright}[4][]{\#2#3#4}}
15 \CustomizeMathJax{\newcommand{\hstretch}[2]{\#2}}
16 \CustomizeMathJax{\newcommand{\vstretch}[2]{\#2}}
17 \CustomizeMathJax{\newcommand{\scaleobj}[2]{\#2}}
18 \CustomizeMathJax{\newcommand{\ThisStyle}[1]{\#1}}
19 \CustomizeMathJax{\newcommand{\SavedStyle}{}}
20 \CustomizeMathJax{\def\scriptstyleScaleFactor{.7}}
21 \CustomizeMathJax{\def\scriptscriptstyleScaleFactor{.5}}
22 \CustomizeMathJax{\newcommand{\discernmathstyle}{}}
23 \CustomizeMathJax{\newcommand{\ignoremathstyle}[1][T]{}}
24 \CustomizeMathJax{\newcommand{\Isnextbyte}[3][v]{}}
25 \end{warpMathJax}
```

---

**File 416 l warp-schemata.sty**

§ 524    Package **schemata**

(Emulates or patches code by CHARLES P. SCHAUM.)

Pkg **schemata** **schemata** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{schemata}[2020/11/23]

```
2 \LetLtxMacro{\LWR@schemata}{\origschemata\schema}
3 \LetLtxMacro{\LWR@schemata}{\origSchema\Schema}
```

---

```

4
5 \renewcommand{\schema}[3][open]{%
6 \begin{ lateximage }[-schemata-\~\PackageDiagramAltText]%
7 \LWR@print@normalsize%
8 \LWR@schemata@origschema[#1]{#2}{#3}%
9 \end{ lateximage }%
10 }
11
12 \renewcommand{\Schema}[5][open]{%
13 \begin{ lateximage }[-schemata-\~\PackageDiagramAltText]%
14 \LWR@print@normalsize%
15 \LWR@schemata@origSchema[#1]{#2}{#3}{#4}{#5}%
16 \end{ lateximage }%
17 }

```

---

File 417 **lwarp-scrextend.sty**

## § 525 Package **scrextend**

Pkg scrextend scrextend is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. \DeclareDocumentCommand is used to overwrite the koma-script definitions.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrextend}[2020/01/24]

```

2 \DeclareDocumentCommand{\setkomafont}{m m}{}
3 \DeclareDocumentCommand{\addkomafont}{m m}{}
4 \DeclareDocumentCommand{\usekomafont}{m}{}
5
6 \DeclareDocumentCommand{\usefontofkomafont}{m}{}
7 \DeclareDocumentCommand{\useencodingofkomafont}{m}{}
8 \DeclareDocumentCommand{\usesizeofkomafont}{m}{}
9 \DeclareDocumentCommand{\usefamilyofkomafont}{m}{}
10 \DeclareDocumentCommand{\useseriesofkomafont}{m}{}
11 \DeclareDocumentCommand{\useshapeofkomafont}{m}{}
12
13 \providecommand*\coverpagetopmargin(){}
14 \providecommand*\coverpagebottommargin(){}
15 \providecommand*\coverpageleftmargin(){}
16 \providecommand*\coverpagerightmargin(){}
17

```

Title page:

```

18 \AtBeginDocument{
19 \let\LWR@koma@orig@maketitle\maketitle
20 \DeclareDocumentCommand{\maketitle}{o}{\LWR@koma@orig@maketitle}
21 }
22
23 \DeclareDocumentCommand{@maketitle}{}{%

```

```
24 \ifdefvoid{\@titlehead}{\%
25 \begin{BlockClass}{titlehead}\%
26 \@titlehead%
27 \end{BlockClass}\%
28 }\%
29 \ifdefvoid{\@subject}{\%
30 \begin{BlockClass}{subject}\%
31 \@subject%
32 \end{BlockClass}\%
33 }\%
34 \LWR@stoppars%
35 \LWR@htmltag{\LWR@tagtitle}\%
36 \@title%
37 \LWR@htmltag{\LWR@tagtitleend}\%
38 \ifdefvoid{\@subtitle}{\%
39 \begin{BlockClass}{subtitle}\%
40 \@subtitle%
41 \end{BlockClass}\%
42 }\%
43 \LWR@startpars%
44 \begin{BlockClass}{author}\%

45 \renewcommand*{\cr}{\%}
46 \renewcommand*{\crcr}{\%}
47 \renewcommand*{\noalign}{\%}

48 \renewcommand{\and}{\%
49 \end{BlockClass}\%
50 \begin{BlockClass}{oneauthor}\%
51 }\%
52 \begin{BlockClass}{oneauthor}\%
53 \@author%
54 \end{BlockClass}\%
55 \end{BlockClass}\%
56 \begin{BlockClass}{titledate}\%
57 \@date%
58 \end{BlockClass}\%
59 \ifdefvoid{\@published}{\%
60 \begin{BlockClass}{published}\%
61 \@published%
62 \end{BlockClass}\%
63 }\%
64 }
65
66 \AddSubTitlePublished
67
68 \DeclareDocumentCommand{\extratitle}{m}{
69 \DeclareDocumentCommand{\frontispiece}{m}{
70
71 \def{\@titlehead}\%
72 \DeclareDocumentCommand{\titlehead}{m}{\gdef{\@titlehead{\#1}}\%
73
74 \def{\@subject}\%
75 \DeclareDocumentCommand{\subject}{m}{\gdef{\@subject{\#1}}\%
76
```

```
77 % \subtitle and \published are defined by \AddSubtitlePublished
78
79 \DeclareDocumentCommand{\publishers}{m}{\published{#1}}
80
81 \DeclareDocumentCommand{\uppertitleback}{m}{}
82 \DeclareDocumentCommand{\lowertitleback}{m}{}
83 \DeclareDocumentCommand{\dedication}{m}{}
84
85 \DeclareDocumentCommand{\ifthispageodd}{m m}{#1}
86
87 \DeclareDocumentCommand{\cleardoublepageusingstyle}{m}{}
88 \DeclareDocumentCommand{\cleardoubleemptypage}{}{}
89 \DeclareDocumentCommand{\cleardoubleplainpage}{}{}
90 \DeclareDocumentCommand{\cleardoublestandardpage}{}{}
91 \DeclareDocumentCommand{\cleardoubleoddpage}{}{}
92 \DeclareDocumentCommand{\cleardoubleoddpageusingstyle}{m}{}
93 \DeclareDocumentCommand{\cleardoubleoddemptypage}{}{}
94 \DeclareDocumentCommand{\cleardoubleoddplainpage}{}{}
95 \DeclareDocumentCommand{\cleardoubleoddstandardpage}{}{}
96 \DeclareDocumentCommand{\cleardoubleevenpage}{}{}
97 \DeclareDocumentCommand{\cleardoubleevenpageusingstyle}{m}{}
98 \DeclareDocumentCommand{\cleardoubleevenemptypage}{}{}
99 \DeclareDocumentCommand{\cleardoubleevenplainpage}{}{}
100 \DeclareDocumentCommand{\cleardoubleevenstandardpage}{}{}
101
102 \DeclareDocumentCommand{\multiplefootnoteseparator}{}{%
103 \begingroup\let\thefootnotemark\multfootsep\@makefnmark\endgroup
104 }
105
106 \DeclareDocumentCommand{\multfootsep}{}{,}
107
108 \DeclareDocumentCommand{\footref}{m}{%
109 \begingroup
110 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
111 \endgroup
112 \@footnotemark
113 }
114
115 \DeclareDocumentCommand{\deffootnote}{o m m m}{}
116 \DeclareDocumentCommand{\deffootnotemark}{m}{}
117 \DeclareDocumentCommand{\setfootnoterule}{o m}{}
118 \DeclareDocumentCommand{\raggedfootnote}{}{}
```

  

```
119 \DeclareDocumentCommand{\dictum}{o m}{%
120 \begin{LWR@BlockClassWP}{\LWR@print@mbox{text-align:right}}{}{dictum}
121 #
122 \IfValueT{#1}
123 {
124 \LWR@stopars%
125 \ifbool{FormatWP}
126 {\begin{BlockClass}[\LWR@print@mbox{border-top: 1px solid gray}{dictumauthor}]
127 \begin{BlockClass}{dictumauthor}
128 \dictumauthorformat{#1}
129 \end{BlockClass}
130 }
```

```
131 \end{LWR@BlockClassWP}
132 }
133
134 \DeclareDocumentCommand{\dictumwidth}{}
135 \DeclareDocumentCommand{\dictumauthorformat}{m}{(#1)}
136 \DeclareDocumentCommand{\dictumrule}{}
137 \DeclareDocumentCommand{\raggeddictum}{}
138 \DeclareDocumentCommand{\raggeddictumtext}{}
139 \DeclareDocumentCommand{\raggeddictumauthor}{}
140
141 \DeclareDocumentEnvironment{labeling}{o m}
142 {%
143 \def\sc@septext{#1}%
144 \list{}{%
145 \let\makelabel\labelinglabel%
146 }
147 {
148 \endlist
149 }
150
151 \DeclareDocumentCommand{\labelinglabel}{m}{%
152 #1 \qquad \sc@septext%
153 }
154
155 \let\addmargin\relax
156 \let\endaddmargin\relax
157 \cslet{addmargin*}{\relax}
158 \cslet{endaddmargin*}{\relax}

159 \NewDocumentEnvironment{addmargin}{s O{} m}
160 {
161 \LWR@stoppars%
162 \setlength{\LWR@templengthtwo}{#3}
163 \ifblank{#2}
164 {
165 \begin{BlockClass}[
166 \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthtwo}} ;
167 \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
168]{addmargin}
169 }
170 {
171 \setlength{\LWR@templengthone}{#2}
172 \begin{BlockClass}[
173 \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ;
174 \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
175]{addmargin}
176 }
177 }
178 {\end{BlockClass}\LWR@startpars}
```

Ref to create a starred environment:

[https://tex.stackexchange.com/questions/45401/  
use-the-s-star-argument-with-newdocumentenvironment](https://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment)

---

```
180 \ExplSyntaxOn
181 \cs_new:cpn {\addmargin*} {\addmargin*}
182 \cs_new_eq:cN {\endaddmargin*} \endaddmargin
183 \ExplSyntaxOff
184
185 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}
```

---

File 418 **lwarf-scrhack.sty**

§ 526 Package **scrhack**

Pkg **scrhack** **scrhack** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop[scrhack][2018/03/30]

---

File 419 **lwarf-scrlayer.sty**

§ 527 Package **scrlayer**

(Emulates or patches code by MARKUS KOHM.)

Pkg **scrlayer** **scrlayer** is emulated.

⚠ Not fully tested! Please send bug reports!

**for HTML output:** 1 \LWR@ProvidesPackageDrop[scrlayer][2018/03/30]

```
2 \newcommand*{\DeclareSectionNumberDepth}[2]{}
3 \newcommand*{\DeclareLayer}[2][]{}
4 \newcommand*{\DeclareNewLayer}[2][]{}
5 \newcommand*{\ProvideLayer}[2][]{}
6 \newcommand*{\RedeclareLayer}[2][]{}
7 \newcommand*{\ModifyLayer}[2][]{}
8 \newcommand*{\layerhalign}{}%
9 \newcommand*{\layervalign}{}%
10 \newcommand*{\layerxoffset}{}%
11 \newcommand*{\layeryoffset}{}%
12 \newcommand*{\layerwidth}{}%
13 \newcommand*{\layerheight}{}%
14 \providecommand*{\LenToUnit}[1]{\strip@pt\dimexpr#1*\p@/\unitlength}
15 \newcommand*{\putUL}[1]{}%
16 \newcommand*{\putUR}[1]{}%
17 \newcommand*{\putLL}[1]{}%
18 \newcommand*{\putLR}[1]{}%
19 \newcommand*{\putC}[1]{}%
20 \newcommand*{\GetLayerContents}[1]{}%
21 \newcommand*{\IfLayerExists}[3]{#3}%
22 \newcommand*{\DestroyLayer}[1]{}%
23 \newcommand*{\layercontentsmeasure}{}%
24 \newcommand*{\currentpagestyle}{}%
```

```
25 \newcommand*{\BeforeSelectAnyPageStyle}[1]{}
26 \newcommand*{\AfterSelectAnyPageStyle}[1]{}
27 \newcommand*{\DeclarePageStyleAlias}[2]{}
28 \newcommand*{\DeclareNewPageStyleAlias}[2]{}
29 \newcommand*{\ProvidePageStyleAlias}[2]{}
30 \newcommand*{\RedeclarePageStyleAlias}[2]{}
31 \newcommand*{\DestroyPageStyleAlias}[1]{}
32 \newcommand*{\GetRealPageStyle}[1]{}
33 \newcommand*{\DeclarePageStyleByLayers}[3][]{}
34 \newcommand*{\DeclareNewPageStyleByLayers}[3][]{}
35 \newcommand*{\ProvidePageStyleByLayers}[3][]{}
36 \newcommand*{\RedeclarePageStyleByLayers}[3][]{}
37 \NewDocumentCommand{\ForEachLayerOfPageStyle}{s m m} {}
38 \newcommand*{\AddLayersToPageStyle}[2]{}
39 \newcommand*{\AddLayersAtBeginOfPageStyle}[2]{}
40 \newcommand*{\AddLayersAtEndOfPageStyle}[2]{}
41 \newcommand*{\RemoveLayersFromPageStyle}[2]{}
42 \newcommand*{\AddLayersToPageStyleBeforeLayer}[3]{}
43 \newcommand*{\AddLayersToPageStyleAfterLayer}[3]{}
44 \newcommand*{\UnifyLayersAtPageStyle}[1]{}
45 \newcommand*{\ModifyLayerPageStyleOptions}[2]{}
46 \newcommand*{\AddToLayerPageStyleOptions}[2]{}
47 \newcommand{\IfLayerPageStyleExists}[3]{#3}
48 \newcommand{\IfRealLayerPageStyleExists}[3]{#3}
49 \newcommand{\IfLayerAtPageStyle}[4]{#4}
50 \newcommand{\IfSomeLayerAtPageStyle}[4]{#4}
51 \newcommand{\IfLayersAtPageStyle}[4]{#4}
52 \newcommand*{\DestroyRealLayerPageStyle}[1]{}
53 @ifundefined{footheight}{\newlength\footheight}{}
54 \DeclareDocumentCommand{\automark}{s o m} {}
55 \DeclareDocumentCommand{\manualmark}{}{m}
56 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

57 \newcommand{\partmarkformat}{}{m}
58 \if@chapter
59 \newcommand{\chaptermarkformat}{}{m}
60 \fi
61 \newcommand{\sectionmarkformat}{}{m}
62 \DeclareDocumentCommand{\GenericMarkFormat}{m}{m}

63 \newcommand*{\@mkleft}[1]{}
64 \newcommand*{\@mkright}[1]{}
65 \newcommand*{\@mkdouble}[1]{}
66 \newcommand*{\@mkboth}[2]{}
67 \newcommand*{\scrlayerInitInterface}[1][]{}
68 \newcommand{\scrlayerAddToInterface}[3][]{}
69 \newcommand{\scrlayerAddCsToInterface}[3][]{}
70 \newcommand{\scrlayerOnAutoRemoveInterface}[2][]{}
```

## § 528 Package **scrlayer-notecolumn**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrlayer-notecolumn scrlayer-notecolumn is emulated.

⚠ Not fully tested! Please send bug reports!

for HTML output:

```
1 \LWR@ProvidesPackageDrop{scrlayer-notecolumn}[2018/02/02]

2 \newcommand*{\DeclareNoteColumn}[2][]{}
3 \newcommand*{\DeclareNewNoteColumn}[2][]{}
4 \newcommand*{\ProvideNoteColumn}[2][]{}
5 \newcommand*{\RedeclareNoteColumn}[2][]{}
6 \NewDocumentCommand{\makernote}{s o m}{\marginpar{\#3}}
7 \newcommand*{\syncwithnotecolumn}[1][]{}
8 \newcommand*{\syncwithnotecolumns}[1][]{}
9 \newcommand*{\clearnotecolumn}[1][]{}
10 \newcommand*{\clearnotecolumns}[1]{}{}
```

---

File 421 **l warp-scrlayer-scrpage.sty**

## § 529 Package **scrlayer-scrpage**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrlayer-scrpage scrlayer-scrpage is ignored.

⚠ Not fully tested! Please send bug reports!

for HTML output:

```
1 \LWR@ProvidesPackageDrop{scrlayer-scrpage}[2018/03/30]

2 \@ifundefined{fooheight}{\newlength\fooheight}{}{}
3 \NewDocumentCommand{\lehead}{s o m}{}{}
4 \NewDocumentCommand{\cehead}{s o m}{}{}
5 \NewDocumentCommand{\rehead}{s o m}{}{}
6 \NewDocumentCommand{\lohead}{s o m}{}{}
7 \NewDocumentCommand{\cohead}{s o m}{}{}
8 \NewDocumentCommand{\rohead}{s o m}{}{}
9 \NewDocumentCommand{\lefoot}{s o m}{}{}
10 \NewDocumentCommand{\ceffoot}{s o m}{}{}
11 \NewDocumentCommand{\refoot}{s o m}{}{}
12 \NewDocumentCommand{\lofoot}{s o m}{}{}
13 \NewDocumentCommand{\cofoot}{s o m}{}{}
14 \NewDocumentCommand{\rofoot}{s o m}{}{}
15 \NewDocumentCommand{\ohead}{s o m}{}{}
16 \NewDocumentCommand{\chead}{s o m}{}{}
17 \NewDocumentCommand{\ihead}{s o m}{}{}
18 \NewDocumentCommand{\ofoot}{s o m}{}{}
19 \NewDocumentCommand{\cfoot}{s o m}{}{}
20 \NewDocumentCommand{\ifoot}{s o m}{}{}
```

---

```

21 \NewDocumentCommand{\automark}{som}{}
22 \newcommand*\manualmark{}

23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

24 \let\headmark\leftmark
25 \providecommand{\pnumfont}{\normalfont}%
26 \ DeclareRobustCommand\pagemark{{\pnumfont{\thepage}}}%

27 \newcommand*\defpairofpagestyles[3][]{}
28 \newcommand*\newpairofpagestyles[3][]{}
29 \newcommand*\renewpairofpagestyles[3][]{}
30 \newcommand*\providepairofpagestyles[3][]{}

31 \newcommand*\clearmainofpairofpagestyles(){}
32 \newcommand*\clearplainofpairofpagestyles(){}
33 \newcommand*\clearpairofpagestyles(){}
34 \newcommand*\clearscrheadings(){}
35 \newcommand*\clearscrheadfoot(){}
36 \newcommand*\clearscrplain(){}

37 \NewDocumentCommand{\deftriplepagestyle}{m o o m m m m m}{}
38 \NewDocumentCommand{\newtriplepagestyle}{m o o m m m m m}{}
39 \NewDocumentCommand{\renewtriplepagestyle}{m o o m m m m m}{}
40 \NewDocumentCommand{\providetriplepagestyle}{m o o m m m m m}{}
41 \newcommand*\defpagestyle[3]{}
42 \newcommand*\newpagestyle[3]{}
43 \newcommand*\providepagestyle[3]{}
44 \newcommand*\renewpagestyle[3]{}

```

---

#### File 422 **lwarf-scrpage2.sty**

§ 530      Package **scrpage2**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg scrpage2 **scrpage2** is ignored.

⚠ Not fully tested! [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrpage2}[2018/03/30]

```

2 @ifundefined{fooheight}{\newlength\fooheight}{}
3 \NewDocumentCommand{\lehead}{o m}{}
4 \NewDocumentCommand{\cehead}{o m}{}
5 \NewDocumentCommand{\rehead}{o m}{}
6 \NewDocumentCommand{\lohead}{o m}{}
7 \NewDocumentCommand{\cohead}{o m}{}
8 \NewDocumentCommand{\rohead}{o m}{}
9 \NewDocumentCommand{\lefoot}{o m}{}
10 \NewDocumentCommand{\cefoot}{o m}{}

```

---

```

11 \NewDocumentCommand{\refoot}{o m}{}
12 \NewDocumentCommand{\lofoot}{o m}{}
13 \NewDocumentCommand{\cofoot}{o m}{}
14 \NewDocumentCommand{\rofoot}{o m}{}
15 \NewDocumentCommand{\ohead}{o m}{}
16 \NewDocumentCommand{\chead}{o m}{}
17 \NewDocumentCommand{\ihead}{o m}{}
18 \NewDocumentCommand{\ofoot}{o m}{}
19 \NewDocumentCommand{\cfoot}{o m}{}
20 \NewDocumentCommand{\ifoot}{o m}{}
21 \DeclareDocumentCommand{\automark}{o m}{}
22 \DeclareDocumentCommand{\manualmark}{}{#1}
23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
24 \NewDocumentCommand{\deftripstyle}{m o o m m m m m}{}
25 \NewDocumentCommand{\defpagestyle}{s m m m}{}
26 \NewDocumentCommand{\newpagestyle}{s m m m}{}
27 \NewDocumentCommand{\renewpagestyle}{s m m m}{}
28 \NewDocumentCommand{\providepagestyle}{s m m m}{}
29 \newcommand{\partmarkformat}{}{#1}
30 \if@chapter
31 \newcommand{\chaptermarkformat}{}{#1}
32 \fi
33 \newcommand{\sectionmarkformat}{}{#1}
34 \newcommand{\subsectionmarkformat}{}{#1}
35 \newcommand{\subsubsectionmarkformat}{}{#1}
36 \newcommand{\paragraphmarkformat}{}{#1}
37 \newcommand{\ subparagraphmarkformat}{}{#1}
38
39 \newcommand*{\clearscrheadings}{}{#1}
40 \newcommand*{\clearscrheadfoot}{}{#1}
41 \newcommand*{\clearscrplain}{}{#1}

```

---

File 423 **lwarf-section.sty**

§ 531 Package **section**

Pkg **section** **section** is ignored.

(Emulates or patches code by OLIVER PRETZEL.)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{section}

```

2 \ifx\chapter\undefined
3 \def\chsize{\Large}\def\hdsizes{\huge}\else
4 \def\chsize{\huge}\def\hdsizes{\Huge}
5 \fi
6 \let\ttsize\LARGE
7 \let\ausize\large
8 \let\dasize\large
9 \let\secsize\Large
10 \let\subsize\large
11 \let\hdpos\raggedright
12 \newcounter{hddepth}

```

```
13 \let\fpind\relax
14 \def\ttfnt{}
15 \def\hdfnt{}
16 \def\fefnt{}
17 \def\thfnt{}
18 \def\pgfnt{}
19 \def\hmkfnt{}
20 \let\mkcse\uppercase
21 \def\hddot{}
22 \def\cpdot{:}
23 \def\nmdot{}
24 \ifx\secindent\undefined
25 \newdimen\secindent
26 \newskip\secpreskp
27 \newskip\secpstskp
28 \newdimen\subindent
29 \newskip\subpreskp
30 \newskip\subpstskp
31 \newskip\parpstskp
32 \newcount\c@hddepth
33 \fi
```

---

File 424 **l warp-sectionbreak.sty**

§ 532      Package **sectionbreak**

(Emulates or patches code by MICHAL HOFTICH.)

Pkg **sectionbreak** **sectionbreak** is patched for use by **l warp**.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{sectionbreak}[2018-01-03]

2 \renewcommand\asterism{\HTMLunicode{2042}}
3
4 \renewcommand\pre@sectionbreak{}
5 \renewcommand\post@sectionbreak{}
6
7 \renewcommand\print@sectionbreak[1]{%
8 \begin{center}
9 #1
10 \end{center}
11 }
12
```

---

File 425 **l warp-sectsty.sty**

§ 533      Package **sectsty**

(Emulates or patches code by ROWLAND McDONNELL.)

Pkg **sectsty** **sectsty** is ignored.

---

**for HTML output:** 1 \LWR@ProvidesPackageDrop{sectsty}[2002/02/25]

```

2 \newcommand*\{\partfont} [1] {}
3 \newcommand*\{\partnumberfont} [1] {}
4 \newcommand*\{\parttitlefont} [1] {}
5 \newcommand*\{\chapterfont} [1] {}
6 \newcommand*\{\chaptnumberfont} [1] {}
7 \newcommand*\{\chapttitlefont} [1] {}
8 \newcommand*\{\sectionfont} [1] {}
9 \newcommand*\{\subsectionfont} [1] {}
10 \newcommand*\{\subsubsectionfont} [1] {}
11 \newcommand*\{\paragraphfont} [1] {}
12 \newcommand*\{\subparagraphfont} [1] {}
13 \newcommand*\{\minisectionfont} [1] {}
14 \newcommand*\{\allsectionsfont}[1] {}
15 \newcommand{\nohang}{}

```

\sectionrule is only to be used in \*font commands, thus it is ignored.

```

16 \newcommand*\{\sectionrule}[5]{}
17
18 \def\ulemheading#1#2{}

```

---

#### File 426 lwarf-selectp.sty

### § 534 Package **selectp**

Pkg selectp selectp is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{selectp}% no date given  
2 \newcommand\*\{\outputonly}[1]{}

---

#### File 427 lwarf-semantic-markup.sty

### § 535 Package **semantic-markup**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg semantic-markup semantic-markup is patched for use by lwarf.

 If using the endnotes option, add \theendnotes where desired.

**for HTML output:** 1 \LWR@ProvidesPackagePass{semantic-markup}[2018/05/21]

The endnotes must be printed by the user before the end of the document, since the end is after the HTML footer, etc.

2 \ifendnotes

---

```

3 \RenewDocumentCommand{\SetupEndnotes}{}{%
4 \let\footnote=\endnote
5 % \AtEndDocument{\DoBeforeEndnotes{\EndnoteFont\theendnotes}}%
6 }
7 \fi

```

HTML unicode characters from `musicography` are used.

```

8 \RequirePackage{musicography}
9
10 \let\f\musFlat
11 \let\sh\musSharp
12 \let\na\musNatural

```

The `\musfig` is placed inside a hashed image, with a simple `alt` tag.

```

13 \RequirePackage{amsmath}
14
15 \RenewDocumentCommand{\musfig}{ m m }{%
16 \LWR@subsingle$*%
17 {#1/#2}% alt tag
18 {\musfig}% addl' hashing
19 {%
20 \LWR@origensuredmath{%
21 \genfrac{}{}{0pt}{1}{\text{#1}}{\text{#2}}%
22 }%
23 }%
24 }

```

The `\meter` is taken from `musicography`, and becomes a hashed image with a simple `alt` tag.

```

25 \RenewDocumentCommand{\meter}{ m m }{%
26 \musMeter{#1}{#2}%
27 }

```

---

#### File 428 **lwarf-seqsplit.sty**

§ 536      Package **seqsplit**

*(Emulates or patches code by BORIS VEYTSMAN.)*

Pkg `seqsplit` `seqsplit` is patched for use by `lwarf`.

For HTML output, the results are similar to print mode, and respond to window size.

⚠ **svg math results** For SVG math, the output differs from print mode in that the contents are formatted in a `minipage`, which is then inline with the surrounding math.

For MATHJAX, the contents are used as-is.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{seqsplit}[2006/08/07]`

Special handling because `l warp` uses a box for SVG math, which does not normally allow line breaks, so a print-mode `minipage` must be used to allow line breaks. The `minipage` will not be wrapped inline with any surrounding math.

```

2 \begin{warpHTML}
3 \LetLtxMacro{\LWR@orig}{\seqsplit\seqsplit}
4
5 \renewcommand*\seqsplit[1]{%
6 \ifmmode%
7 \begin{LWR@print@minipage}{6in}%
8 \LWR@orig{\seqsplit[#1]}%
9 \end{LWR@print@minipage}%
10 \else%
11 \InlineClass[word-wrap:break-word]{\seqsplit}{\LWR@orig{\seqsplit[#1]}}%
12 \fi
13 }
```

Between characters, an empty `HTML` comment is placed to allow a line wrap in the `HTML` source, without adding spaces in the output.

```

14 \AtBeginDocument{
15 \newcommand*\LWR@HTML@seqinsert{%
16 \LWR@htmlcomment{ }%
17 }
18 \LWR@formatted{\seqinsert}
19 }
20 \end{warpHTML}
21
22 \begin{warpMathJax}
23 \CustomizeMathJax{\newcommand{\seqsplit}[1]{#1}}
24 \end{warpMathJax}
```

#### File 429 **l warp-setspace.sty**

### § 537 Package **setspace**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg `setspace` **setspace** is emulated.

Discard all options for **l warp-setspace**:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{setspace}[2011/12/19]
2
3 \newcommand*\setstretch[1]{}
4 \newcommand*\SetSinglespace[1]{}
5 \newcommand*\singlespacing(){}
6 \newcommand*\onehalfspacing){}
7 \newcommand*\doublespacing{})
```

8

```

9 \newenvironment*singlespace
10 {
11 \LWR@forcenewpage
```

```
12 \BlockClass{singlespace}
13 }
14 {\endBlockClass}
15
16 \newenvironment*{singlespace*}
17 {
18 \LWR@forcenewpage
19 \BlockClass{singlespace}
20 }
21 {\endBlockClass}
22
23 \newenvironment*{spacing}[1]{
24
25 }{
26
27 }
28
29 \newenvironment*{onehalfspace}
30 {
31 \LWR@forcenewpage
32 \BlockClass{onehalfspace}
33 }
34 {\endBlockClass}
35
36 \newenvironment*{doublespace}
37 {
38 \LWR@forcenewpage
39 \BlockClass{doublespace}
40 }
41 {\endBlockClass}
```

---

**File 430 l warp-shadethm.sty**

§ 538      Package **shadethm**

(Emulates or patches code by JIM HEFFERON.)

Pkg shadethm shadethm is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{shadethm}[1999/11/23]

```
2 \newenvironment{\LWR@HTML@shadebox}
3 {%
4 \convertcolorspec{named}{shadethmcolor}{HTML}\LWR@tempcolor%
5 \convertcolorspec{named}{shaderulecolor}{HTML}\LWR@tempcolortwo%
6 \begin{BlockClass}[%]
7 background: \LWR@origpound\LWR@tempcolor ;
8 border: 1px solid \LWR@origpound\LWR@tempcolortwo ;
9]{shadebox}
10 }%
11 {\end{BlockClass}}
12 \LWR@formattedenv{shadebox}
```

---

**File 431 l warp-shadow.sty****§ 539 Package shadow**

(Emulates or patches code by MAURO ORLANDINI.)

Pkg shadow **shadow** is emulated.

**for HTML output:** Discard all options for **l warp-shadow**:

```
1 \LWR@ProvidesPackageDrop{shadow}[2003/02/19]

2 \newdimen\sboxsep
3 \newdimen\sboxrule
4 \newdimen\sdim
5
6 \newcommand{\shabox}[1]{%
7 \InlineClass{shabox}{#1}%
8 }
```

---

**File 432 l warp-shapepar.sty****§ 540 Package shapepar**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg shapepar **shapepar** is patched for use by **l warp**. Shapes appear in print mode, as well as inside a **lateximage**, but are ignored for **HTML**.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{shapepar}[2013/03/26]

2 \newcommand*{\LWR@HTML@shapepar}[2][]{
3 \LWR@formatted{shapepar}
4
5 \NewDocumentCommand{\LWR@HTML@cutout}{m d()}{
6 \LWR@formatted{cutout}}
```

---

**File 433 l warp-showidx.sty****§ 541 Package showidx**

Pkg showidx **showidx** is ignored.

**for HTML output:** Discard all options for **l warp-showidx**:

```
1 \LWR@ProvidesPackageDrop{showidx}[2014/09/29]
```

\@wrindex is redefined \AtBeginDocument by the l warp core.

---

File 434 **l warp-showkeys.sty**

§ 542 Package **showkeys**

(Emulates or patches code by DAVID CARLISLE, MORTEN HØGHOLM.)

Pkg showkeys showkeys is ignored.

for HTML output: Discard all options for l warp-showkeys:

```
1 \LWR@ProvidesPackageDrop{showkeys}[2014/10/28]
```

```
2 \NewDocumentCommand{\showkeys}{s}{}{}
```

---

File 435 **l warp-showtags.sty**

§ 543 Package **showtags**

Pkg showtags showtags is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{showtags}% no version is given

```
2 \newcommand{\thecitetag}[1]{}{}
```

---

File 436 **l warp-shuffle.sty**

§ 544 Package **shuffle**

(Emulates or patches code by JULIAN GILBEY AND ANTOINE LEJAY.)

Pkg shuffle shuffle is emulated for SVG math, and also emulated for MATHJAX.

The font used for shuffle may not render correctly when converted to SVG math, so a picture environment drawing is used instead.

For MATHJAX, the Unicode character is used, and for \cshuffle a \bar is added.

for HTML output: 1 \LWR@ProvidesPackageDrop{shuffle}[2008/10/27]  
2 \LWR@origRequirePackage{l warp-common-mathjax-overlaysymbols}

```
3 \newcommand*{\LWR@shuffle@start}{%
4 \hspace*{.2em}
5 \begin{picture}(.75,0.65)
6 \setlength{\unitlength}{1em}
7 \put(0,0){\line(1,0){.75}}
8 \put(0,0){\line(0,1){.5}}
```

```

9 \put(.375,0){\line(0,1){.5}}
10 \put(.75,0){\line(0,1){.5}}
11 }
12
13 \newcommand*{\LWR@shuffle@finish}{%
14 \end{picture}
15 \hspace*{.75em}
16 \hspace*{.2em}
17 }
18
19 \newcommand*{\shuffle}{%
20 \LWR@shuffle@start%
21 \LWR@shuffle@finish%
22 }
23
24 \newcommand*{\cshuffle}{%
25 \LWR@shuffle@start%
26 \put(.05,.65){\line(1,0){.65}}%
27 \LWR@shuffle@finish%
28 }

29 \begin{warpMathJax}
30 \CustomizeMathJax{\newcommand{\shuffle}{\mathbin{\text{\scriptsize\texttt{\LWR@shuffle}}}}}
31 \CustomizeMathJax{\newcommand{\cshuffle}{%
32 \mathbin{\text{\LWRoverlaysymbols{\raise{.6ex}{-}}{\text{\scriptsize\texttt{\LWR@shuffle}}}}}}%
33 }%
34 \end{warpMathJax}

```

File 437 **l warp-sidecap.sty**

§ 545 Package **sidecap**

(Emulates or patches code by ROLF NIEPRASCHK, HUBERT GÄSSLEIN.)

Pkg sidecap sidecap is emulated.

**for HTML output:** Discard all options for l warp-sidecap.

```
1 \LWR@ProvidesPackageDrop{sidecap}[2003/06/06]
```

See:

[http://tex.stackexchange.com/questions/45401/  
use-the-s-star-argument-with-newdocumentenvironment](http://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment)  
regarding the creation of starred environments with `xparse`.

```

2 \NewDocumentEnvironment{SCTable}{soo}
3 {\IfValueTF{#3}{\table[#3]}{\table}}
4 {\endtable}
5
6 \ExplSyntaxOn
7 \cs_new:cpx {SCTable*} {\SCTable*}
8 \cs_new_eq:cN {endSCTable*} \endSCTable

```

---

```

9 \ExplSyntaxOff
10
11
12 \NewDocumentEnvironment{SCfigure}{soo}
13 {\IfValueTF{#3}{\figure[#3]}{\figure}}
14 {\endfigure}
15
16 \ExplSyntaxOn
17 \cs_new:cpn {SCfigure*} {\SCfigure*}
18 \cs_new_eq:cN {endSCfigure*} \endSCfigure
19 \ExplSyntaxOff
20
21
22 \newenvironment*{wide}{}{}

```

---

File 438 **l warp-sidenotes.sty**

§ 546 Package **sidenotes**

*(Emulates or patches code by ANDY THOMAS, OLIVER SCHEBAUM.)*

Pkg sidenotes Patched for l warp.

for HTML output: Load the original package:

```
1 \LWR@ProvidesPackagePass{sidenotes}
```

The following patch **sidenotes** for use with **l warp**.

An ARIA note role is not assigned since the caption is an important part of the figure.

```

\sidecaption * [<entry>] [<offset>] {<text>}
 2 \RenewDocumentCommand \sidecaption {s o o m}
 3 {
 4 \LWR@stopars
 5 \begingroup
 6 \captionsetup{style=sidecaption}%
 7 \IfBooleanTF{#1}
 8 { % starred
 9 \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
 10 \caption*{#4}%
 11 \end{BlockClass}
 12 }
 13 { % unstarred
 14 \IfNoValueOrEmptyTF{#2}
 15 {\def\@sidenotes@sidecaption@tof{#4}}
 16 {\def\@sidenotes@sidecaption@tof{#2}}
 17 \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
 18 \caption[{\@sidenotes@sidecaption@tof}]{#4}%
 19 \end{BlockClass}
 20 }
 21 \endgroup

```

```

22 \LWR@startpars
23 }

```

Borrowed from the `lwarp` version of `keyfloat`:

```

24 \NewDocumentEnvironment{KFLTsidenotes@marginfloat}{O{-1.2ex} m}
25 {%
26 \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{\marginblock}%
27 \renewcommand*{\@capttype}{#2}%
28 }
29 {%
30 \endLWR@BlockClassWP%
31 }
32
33 \RenewDocumentEnvironment{marginfigure}{o}
34 {\begin{KFLTsidenotes@marginfloat}{figure}}
35 {\end{KFLTsidenotes@marginfloat}}
36
37 \RenewDocumentEnvironment{margintable}{o}
38 {\begin{KFLTsidenotes@marginfloat}{table}}
39 {\end{KFLTsidenotes@marginfloat}}

```

The following were changed by `sidenotes`, and now are reset back to their `lwarp`-supported originals:

Restoring the definition from the `LATEX 2E` `article.cls` source:

```

40 \renewenvironment{figure*}
41 {\@dblfloat{figure}}
42 {\end@dblfloat}
43
44 \renewenvironment{table*}
45 {\@dblfloat{table}}
46 {\end@dblfloat}

```

For `MATHJAX`:

⚠ Note that `sidenotes` does not support `\sidenote` inside math in print mode. Use `\sidenotemark` and `\sidenotetext` instead.

```

47 \begin{warpMathJax}
48 \providecommand{\sidenotename}{\sidenote}
49 \appto{\LWR@syncnotenumbers}{\LWR@synconenotenumber{\LWR@sidenote}{\thesidenote}}
50 \appto{\LWR@syncnotenames}{\LWR@synconenotename{\LWR@sidenote}{\sidenotename}}
51 \CustomizeMathJax{\def{\LWR@sidenote}{1}}
52 \CustomizeMathJax{\newcommand{\sidenotemark}[1][\LWR@sidenote]{{}^{\mathsf{#1}}}}
53 \end{warpMathJax}

```

The following is not defined since is not allowed inside math in print mode, and also would have to be modified to parse the optional offset argument:

```
\CustomizeMathJax{\newcommand{\sidenote}[2][\LWR@sidenote]{{}^{\mathsf{#1}}}}
```

§ 547      Package **simplebnf**

(Emulates or patches code by JAY LEE.)

Pkg simplebnf **simplebnf** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{simplebnf}[2020/09/01]

The entire object is placed inside a `\teximage` whose alt text is the `LATEX` source BNF expression.

```
2 \ExplSyntaxOn
3
4 \RenewDocumentEnvironment { bnfgrammar } { +b }
5 {
6 %% \l__input_seq is a list of term definitions.
7 \regex_split:nnN { ; } { #1 } \l__input_seq
8 \begin{center}
9 \begin{teximage}[\#1]%
10 \tl_set:Nn \l__table_tl
11 {
12 \begin{tabular}{lcl}
13 }
14 \bool_set_true:N \l_tmp_first_term % Is this the first term in this grammar?
15 \seq_map_inline:Nn \l__input_seq
16 {
17 %% \l__term_seq - (term, rhxes)...
18 %% \l__term_tl - term
19 %% \l__keypairs_tl - rhxes
20 \regex_split:nnN { ::= } { ##1 } \l__term_seq
21 \seq_pop_left:NN \l__term_seq \l__term_tl
22 \seq_pop_left:NN \l__term_seq \l__keypairs_tl
23
24 \regex_replace_once:nnN { ^\s+ } {} \l__term_tl
25
26 \bool_if:NTF \l_tmp_first_term
27 {
28 \bool_set_false:N \l_tmp_first_term
29 }
30 {
31 \tl_put_right:Nn \l__table_tl { \backslash }
32 }
33 \tl_put_right:Nx \l__table_tl
34 {
35 \bnfexpr { \l__term_tl } & \g__simplebnf_defeq_tl &
36 }
37 %% \l__keypairs_seq - (rhs:annot | rhs)...
38 \seq_set_split:NnV \l__keypairs_seq { | } \l__keypairs_tl
39
40 \bool_set_true:N \l__first_rhs
41 \seq_map_function:NN \l__keypairs_seq \simplebnf_typeset_rhs:n
42 }
43
44 \tl_put_right:Nn \l__table_tl { \end{tabular} }
45 \tl_use:N \l__table_tl
```

```

46 \end{lateximage}%
47 \end{center}%
48 }
49 { }
50
51 \ExplSyntaxOff

```

File 440 **l warp-SIunits.sty**

§ 548 Package **Slunits**

*(Emulates or patches code by MARCEL HELDOORN.)*

Pkg SIunits Slunits is patched for use by l warp.

For SVG math, it is recommended to use \unit where possible, which combines the entire expression into a single lateximage, and adds the alt tag containing the L<sup>A</sup>T<sub>E</sub>X code, allowing for copy/paste. When units are used outside of the \unit macro, each unit macro will have its own lateximage, and each will have the alt tag set according to \MathImageAltText, which defaults to (math image).

For MATHJAX, individual units used in text will appear as SVG images, since \ensuremath is used in the original definitions, and \ensuremath often has expressions which do not work well in MATHJAX, so it is always forced to an SVG image. If, however, \unit is used, the result is expressed with MATHJAX instead of an SVG image.

for HTML output: 1 \LWR@ProvidesPackagePass{SIunits}[2007/12/02]

Patched for copy/paste with the HTML alt tag:

```

2 \ifbool{mathjax}{%
3 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
4 \LWR@subsingle$*% l warp
5 {%
6 \textbackslash{}unit\{\LWR@HTMLsanitize{\#1}\}%
7 \{ \LWR@HTMLsanitize{\#2}\}% extra space
8 }%
9 {SIunits}% add'l hashing
10 {%
11 \#1\,\#2%
12 }% contents
13 }%
14 }% not MathJax
15 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
16 @inunitcommandtrue% original
17 \LWR@subsingle$*% l warp
18 {%
19 \textbackslash{}unit\{\LWR@HTMLsanitize{\#1}\}%
20 \{ \LWR@HTMLsanitize{\#2}\}% extra space
21 }%
22 {SIunits}% add'l hashing
23 {%
24 \LWR@origensuredmath[% l warp modification

```

```

25 \SI@fstyle{%
26 {#1}\@qsk\period@active{#2}%
27 }% original
28 }%
29 }% contents
30 \inunitcommandfalse% original
31 }
32 }% not MathJax
33 \LWR@formatted{unit}

```

For MATHJAX:

```

34 \begin{warpMathJax}
35 \LWR@infoprocessingmathjax{SIunits}
36
37 \CustomizeMathJax{\newcommand{\one}{}}
38 \CustomizeMathJax{\newcommand{\meter}{\metre}}
39 \CustomizeMathJax{\newcommand{\deka}{\deca}}
40 \CustomizeMathJax{\newcommand{\dekad}{\decad}}
41 \CustomizeMathJax{\newcommand{\per}{/}}
42 \CustomizeMathJax{\newcommand{\usk}{\;}}
43 \CustomizeMathJax{\newcommand{\unit}[2]{#1\,{#2}}}
44 \CustomizeMathJax{\newcommand{\power}[2]{#1^{#2}}}
45
46 \AtBeginDocument{%
47 \if@redefsquare
48 \CustomizeMathJax{\renewcommand{\square}[1]{\power{#1}{2}}}
49 \else
50 \if@defsquaren
51 \CustomizeMathJax{\newcommand{\squaren}[1]{\power{#1}{2}}}
52 \else
53 \CustomizeMathJax{\renewcommand{\square}[1]{\power{#1}{2}}}
54 \fi %\if@defsquaren
55 \fi %\if@redefsquare
56 } %\AtBeginDocument
57
58 \CustomizeMathJax{\newcommand{\squared}{^2}}
59 \CustomizeMathJax{\newcommand{\cubic}[1]{\power{#1}{3}}}
60 \CustomizeMathJax{\newcommand{\cubed}{^3}}
61 \CustomizeMathJax{\newcommand{\fourth}[1]{\power{#1}{4}}}
62 \CustomizeMathJax{\newcommand{\reciprocal}[1]{\power{#1}{-1}}}
63 \CustomizeMathJax{\newcommand{\rp}{\reciprocal}}
64 \CustomizeMathJax{\newcommand{\rpsquare}[1]{\power{#1}{-2}}}
65 \CustomizeMathJax{\newcommand{\rpsquared}{^{-2}}}
66 \CustomizeMathJax{\newcommand{\rpcubic}[1]{\power{#1}{-3}}}
67 \CustomizeMathJax{\newcommand{\rcubed}{^{-3}}}
68 \CustomizeMathJax{\newcommand{\rpfourth}[1]{\power{#1}{-4}}}
69 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
70 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
71 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
72 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
73 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
74 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
75 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
76 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}

```

```
77 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
78 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
79 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
80 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
81 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
82 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
83 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
84 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
85 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
86 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
87 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
88 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
89 \CustomizeMathJax{\newcommand{\yoctod}{\mathrm{10}{-24}}}
90 \CustomizeMathJax{\newcommand{\zeptod}{\mathrm{10}{-21}}}
91 \CustomizeMathJax{\newcommand{\attod}{\mathrm{10}{-18}}}
92 \CustomizeMathJax{\newcommand{\femtod}{\mathrm{10}{-15}}}
93 \CustomizeMathJax{\newcommand{\picod}{\mathrm{10}{-12}}}
94 \CustomizeMathJax{\newcommand{\nanod}{\mathrm{10}{-9}}}
95 \CustomizeMathJax{\newcommand{\microd}{\mathrm{10}{-6}}}
96 \CustomizeMathJax{\newcommand{\millid}{\mathrm{10}{-3}}}
97 \CustomizeMathJax{\newcommand{\centid}{\mathrm{10}{-2}}}
98 \CustomizeMathJax{\newcommand{\decid}{\mathrm{10}{-1}}}
99 \CustomizeMathJax{\newcommand{\decad}{\mathrm{10}{1}}}
100 \CustomizeMathJax{\newcommand{\hectod}{\mathrm{10}{2}}}
101 \CustomizeMathJax{\newcommand{\kilod}{\mathrm{10}{3}}}
102 \CustomizeMathJax{\newcommand{\megad}{\mathrm{10}{6}}}
103 \CustomizeMathJax{\newcommand{\gigad}{\mathrm{10}{9}}}
104 \CustomizeMathJax{\newcommand{\terad}{\mathrm{10}{12}}}
105 \CustomizeMathJax{\newcommand{\petad}{\mathrm{10}{15}}}
106 \CustomizeMathJax{\newcommand{\exad}{\mathrm{10}{18}}}
107 \CustomizeMathJax{\newcommand{\zettad}{\mathrm{10}{21}}}
108 \CustomizeMathJax{\newcommand{\yottad}{\mathrm{10}{24}}}
109 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
110 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
111 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kilo\,g}}}
112 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
113 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
114 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
115 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
116 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
117 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
118 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
119 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
120 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
121 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
122 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
123 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
124 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
125 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
126 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
127 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
128 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
129 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
130 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
131 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
```

```
132 \CustomizeMathJax{\newcommand{\degreecelsius}{\mathrm{\unicode{x2103}}}}
133 \CustomizeMathJax{\newcommand{\celsius}{\degreecelsius}}
134 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
135 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
136 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
137 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
138 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
139
140 \ifdef{\radianbase} {
141 \CustomizeMathJax{\newcommand{\radianbase}{%
142 \metre\usk\reciprocal\metre}%
143 \CustomizeMathJax{\newcommand{\steradianbase}{%
144 \squaremetre\usk\rpsquare\metre}%
145 \CustomizeMathJax{\newcommand{\hertzbase}{%
146 \reciprocal\second}%
147 \CustomizeMathJax{\newcommand{\newtonbase}{%
148 \metre\usk\kilogram\usk\second\rpsquared}%
149 \CustomizeMathJax{\newcommand{\pascalbase}{%
150 \reciprocal\metre\usk\kilogram\usk\second\rpsquared}%
151 \CustomizeMathJax{\newcommand{\joulebase}{%
152 \squaremetre\usk\kilogram\usk\second\rpsquared}%
153 \CustomizeMathJax{\newcommand{\wattbase}{%
154 \squaremetre\usk\kilogram\usk\rpcubic\second}%
155 \CustomizeMathJax{\newcommand{\coulombbase}{%
156 \ampere\usk\second}%
157 \CustomizeMathJax{\newcommand{\voltbase}{%
158 \squaremetre\usk\kilogram\usk\rpcubic\second\usk\reciprocal\ampere}%
159 \CustomizeMathJax{\newcommand{\faradbase}{%
160 \rpsquare\metre\usk\reciprocal\kilogram\usk\fourth\second\usk\ampere\squared}%
161 \CustomizeMathJax{\newcommand{\ohmbase}{%
162 \squaremetre\usk\kilogram\usk\rpcubic\second\usk\rpsquare\ampere}%
163 \CustomizeMathJax{\newcommand{\siemensbase}{%
164 \rpsquare\metre\usk\reciprocal\kilogram\usk\cubic\second\usk\ampere\squared}%
165 \CustomizeMathJax{\newcommand{\weberbase}{%
166 \squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}%
167 \CustomizeMathJax{\newcommand{\teslabase}{%
168 \kilogram\usk\second\rpsquared\usk\reciprocal\ampere}%
169 \CustomizeMathJax{\newcommand{\henrybase}{%
170 \squaremetre\usk\kilogram\usk\second\rpsquared\usk\rpsquare\ampere}%
171 \CustomizeMathJax{\newcommand{\celsiusbase}{%
172 \kelvin}%
173 \CustomizeMathJax{\newcommand{\lumenbase}{%
174 \candela\usk\squaremetre\usk\rpsquare\metre}%
175 \CustomizeMathJax{\newcommand{\luxbase}{%
176 \candela\usk\squaremetre\usk\rpfourth\metre}%
177 \CustomizeMathJax{\newcommand{\becquerelbase}{%
178 \hertzbase}%
179 \CustomizeMathJax{\newcommand{\graybase}{%
180 \squaremetre\usk\second\rpsquared}%
181 \CustomizeMathJax{\newcommand{\sievertbase}{%
182 \graybase}%
183 \CustomizeMathJax{\newcommand{\katalbase}{%
184 \rp\second\usk\mole }%
185 }}%
186
```

```
187 \ifdef{\derradian}{%
188 \CustomizeMathJax{\newcommand{\derradian}{%
189 {\metre\usk\reciprocal\metre}}}
190 \CustomizeMathJax{\newcommand{\dersteradian}{%
191 {\squaremetre\usk\rpsquare\metre}}}
192 \CustomizeMathJax{\newcommand{\derhertz}{%
193 {\reciprocal\second}}}
194 \CustomizeMathJax{\newcommand{\dernewton}{%
195 {\metre\usk\kilogram\usk\second\rpsquared}}}
196 \CustomizeMathJax{\newcommand{\derpascal}{%
197 {\newton\usk\rpsquare\metre}}}
198 \CustomizeMathJax{\newcommand{\derjoule}{%
199 {\newton\usk\metre}}}
200 \CustomizeMathJax{\newcommand{\derwatt}{%
201 {\joule\usk\reciprocal\second}}}
202 \CustomizeMathJax{\newcommand{\dercoulomb}{%
203 {\ampere\usk\second}}}
204 \CustomizeMathJax{\newcommand{\dervolt}{%
205 {\watt\usk\reciprocal\ampere}}}
206 \CustomizeMathJax{\newcommand{\derfarad}{%
207 {\coulomb\usk\reciprocal\volt}}}
208 \CustomizeMathJax{\newcommand{\derohm}{%
209 {\volt\usk\reciprocal\ampere}}}
210 \CustomizeMathJax{\newcommand{\dersiemens}{%
211 {\ampere\usk\reciprocal\volt}}}
212 \CustomizeMathJax{\newcommand{\derweber}{%
213 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}}
214 \CustomizeMathJax{\newcommand{\dertesla}{%
215 {\weber\usk\rpsquare\metre}}}
216 \CustomizeMathJax{\newcommand{\derhenry}{%
217 {\weber\usk\reciprocal\ampere}}}
218 \CustomizeMathJax{\newcommand{\dercelsius}{%
219 {\kelvin}}}
220 \CustomizeMathJax{\newcommand{\derlumen}{%
221 {\candela\usk\steradian}}}
222 \CustomizeMathJax{\newcommand{\derlux}{%
223 {\lumen\usk\rpsquare\metre}}}
224 \CustomizeMathJax{\newcommand{\derbecquerel}{%
225 {\derhertz}}}
226 \CustomizeMathJax{\newcommand{\dergray}{%
227 {\joule\usk\reciprocal\kilogram}}}
228 \CustomizeMathJax{\newcommand{\dersievert}{%
229 {\dergray}}}
230 \CustomizeMathJax{\newcommand{\derkatal}{%
231 {\katalbase}}}
232 }{%
233
234 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
235 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
236 \CustomizeMathJax{\newcommand{\dday}{\mathrm{d}}}
237 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
238 \CustomizeMathJax{\newcommand{\paminute}{^\prime}}
239 \CustomizeMathJax{\newcommand{\arcminute}{^\prime\prime}}
240 \CustomizeMathJax{\newcommand{\pasecond}{^\prime\prime\prime}}
241 \CustomizeMathJax{\newcommand{\arcsecond}{^\prime\prime\prime}}
```

```
242 \CustomizeMathJax{\newcommand{\ton}{\mathrm{t}}}
243 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
244 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
245 \CustomizeMathJax{\newcommand{\litre}{\mathrm{l}}}
246 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
247 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
248 \CustomizeMathJax{\newcommand{\curie}{\mathrm{Ci}}}
249 \CustomizeMathJax{\newcommand{\rad}{\mathrm{rad}}}
250 \CustomizeMathJax{\newcommand{\arad}{\mathrm{rd}}}
251 \CustomizeMathJax{\newcommand{\rem}{\mathrm{rem}}}
252 \CustomizeMathJax{\newcommand{\roentgen}{\mathrm{R}}}
253 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
254 \CustomizeMathJax{\newcommand{\atomicmass}{\mathrm{u}}}
255 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
256 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{Da}}}
257 \CustomizeMathJax{\newcommand{\are}{\mathrm{a}}}
258 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{hecto\,are}}}
259 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
260 \CustomizeMathJax{\newcommand{\bbar}{\mathrm{bar}}}
261 \CustomizeMathJax{\newcommand{\gal}{\mathrm{Gal}}}
262 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\AA}}}
263 \CustomizeMathJax{\newcommand{\rperminute}{\mathrm{r}\,\mathrm{per\,minute}}}
264 \CustomizeMathJax{\newcommand{\rpersecond}{\mathrm{r}\,\mathrm{per\,second}}}
265 \CustomizeMathJax{\newcommand{\squaremetre}{\mathrm{metre}^2}}
266 \CustomizeMathJax{\newcommand{\cubicmetre}{\mathrm{cubic\,metre}}}
267 \CustomizeMathJax{\newcommand{\graypersecond}{\mathrm{gray}\,\mathrm{per\,second}}}
268 \CustomizeMathJax{\newcommand{\graypersecondnp}{\mathrm{gray}\,\mathrm{usk}\,\mathrm{reciprocal\,second}}}
269 \CustomizeMathJax{\newcommand{\metrepersquaresecond}{\mathrm{metre}\,\mathrm{per\,second}^2}}
270 \CustomizeMathJax{\newcommand{\metrepersquaresecondnp}{\mathrm{metre}\,\mathrm{usk}\,\mathrm{second}^2}}
271 \CustomizeMathJax{\newcommand{\joulepermole}{\mathrm{joule}\,\mathrm{per\,mole}}}
272 \CustomizeMathJax{\newcommand{\joulepermolenp}{\mathrm{joule}\,\mathrm{usk}\,\mathrm{reciprocal\,mole}}}
273 \CustomizeMathJax{\newcommand{\molepercubicmetre}{\mathrm{mole}\,\mathrm{per\,cubic\,metre}}}
274 \CustomizeMathJax{\newcommand{\molepercubicmetrenp}{\mathrm{mole}\,\mathrm{usk}\,\mathrm{rpcubic\,metre}}}
275 \CustomizeMathJax{\newcommand{\radianpersquaresecond}{\mathrm{radian}\,\mathrm{per\,second}^2}}
276 \CustomizeMathJax{\newcommand{\radianpersquaresecondnp}{\mathrm{radian}\,\mathrm{usk}\,\mathrm{second}^2}}
277 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecond}{\%}}
278 \kilogram\usk\squaremetre\per\second
279 }
280 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecondnp}{\%}}
281 \kilogram\usk\squaremetre\usk\reciprocal\second
282 }
283 \CustomizeMathJax{\newcommand{\radianpersecond}{\mathrm{radian}\,\mathrm{per\,second}}}
284 \CustomizeMathJax{\newcommand{\radianpersecondnp}{\mathrm{radian}\,\mathrm{usk}\,\mathrm{reciprocal\,second}}}
285 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetre}{\mathrm{squaremetre}\,\mathrm{per\,cubic\,metre}}}
286 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetrenp}{\%}}
287 \squaremetre\usk\mathrm{rpcubic\,metre}\%
288 }
289 \CustomizeMathJax{\newcommand{\katalpercubicmetre}{\mathrm{katal}\,\mathrm{per\,cubic\,metre}}}
290 \CustomizeMathJax{\newcommand{\katalpercubicmetrenp}{\mathrm{katal}\,\mathrm{usk}\,\mathrm{rpcubic\,metre}}}
291 \CustomizeMathJax{\newcommand{\coulombpermol}{\mathrm{coulomb}\,\mathrm{per\,mole}}}
292 \CustomizeMathJax{\newcommand{\coulombpermolnp}{\mathrm{coulomb}\,\mathrm{usk}\,\mathrm{reciprocal\,mole}}}
293 \CustomizeMathJax{\newcommand{\amperepersquaremetre}{\mathrm{ampere}\,\mathrm{per\,squaremetre}}}
294 \CustomizeMathJax{\newcommand{\amperepersquaremetrenp}{\mathrm{ampere}\,\mathrm{usk}\,\mathrm{rpsquare\,metre}}}
295 \CustomizeMathJax{\newcommand{\kilogrampercubicmetre}{\mathrm{kilogram}\,\mathrm{per\,cubic\,metre}}}
296 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrenp}{\mathrm{kilogram}\,\mathrm{usk}\,\mathrm{rpcubic\,metre}}}
```

```
297 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecond}{%
298 \squaremetre\per\newton\usk\second%
299 }%
300 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecondnp}{%
301 \squaremetre\usk\reciprocal\newton\usk\reciprocal\second%
302 }%
303 \CustomizeMathJax{\newcommand{\pascalsecond}{\pascal\usk\second}}
304 \CustomizeMathJax{\newcommand{\coulombpercubicmetre}{\coulomb\per\cubic\metre}}
305 \CustomizeMathJax{\newcommand{\coulombpercubicmetrenp}{\coulomb\usk\rpcubic\metre}}
306 \CustomizeMathJax{\newcommand{\amperepersecond}{\ampere\usk\metre\usk\second}}
307 \CustomizeMathJax{\newcommand{\voltpermetre}{\volt\per\metre}}
308 \CustomizeMathJax{\newcommand{\voltpermetrenp}{\volt\usk\reciprocal\metre}}
309 \CustomizeMathJax{\newcommand{\coulombpersquaremetre}{\coulomb\per\squaremetre}}
310 \CustomizeMathJax{\newcommand{\coulombpersquaremetrenp}{\coulomb\usk\rpsquare\metre}}
311 \CustomizeMathJax{\newcommand{\faradpermetre}{\farad\per\metre}}
312 \CustomizeMathJax{\newcommand{\faradpermetrenp}{\farad\usk\reciprocal\metre}}
313 \CustomizeMathJax{\newcommand{\ohmmetre}{\ohm\usk\metre}}
314 \CustomizeMathJax{\newcommand{\kilowatthour}{\kilo\watt\hour}}
315 \CustomizeMathJax{\newcommand{\wattpersquaremetre}{\watt\per\squaremetre}}
316 \CustomizeMathJax{\newcommand{\wattpersquaremetrenp}{\watt\usk\rpsquare\metre}}
317 \CustomizeMathJax{\newcommand{\joulepersquaremetre}{\joule\per\squaremetre}}
318 \CustomizeMathJax{\newcommand{\joulepersquaremetrenp}{\joule\usk\rpsquare\metre}}
319 \CustomizeMathJax{\newcommand{\newtonpercubicmetre}{\newton\per\cubic\metre}}
320 \CustomizeMathJax{\newcommand{\newtonpercubicmetrenp}{\newton\usk\rpcubic\metre}}
321 \CustomizeMathJax{\newcommand{\newtonperkilogram}{\newton\per\kilogram}}
322 \CustomizeMathJax{\newcommand{\newtonperkilogramnp}{\newton\usk\reciprocal\kilogram}}
323 \CustomizeMathJax{\newcommand{\jouleperkelvin}{\joule\per\kelvin}}
324 \CustomizeMathJax{\newcommand{\jouleperkelvinnp}{\joule\usk\reciprocal\kelvin}}
325 \CustomizeMathJax{\newcommand{\jouleperkilogram}{\joule\per\kilogram}}
326 \CustomizeMathJax{\newcommand{\jouleperkilogramnp}{\joule\usk\reciprocal\kilogram}}
327 \CustomizeMathJax{\newcommand{\coulombperkilogram}{\coulomb\per\kilogram}}
328 \CustomizeMathJax{\newcommand{\coulombperkilogramnp}{\coulomb\usk\reciprocal\kilogram}}
329 \CustomizeMathJax{\newcommand{\squaremetrepersecond}{\squaremetre\per\second}}
330 \CustomizeMathJax{\newcommand{\squaremetrepersecondnp}{%
331 \squaremetre\usk\reciprocal\second%
332 }%
333 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecond}{%
334 \squaremetre\per\second\squared%
335 }%
336 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecondnp}{%
337 \squaremetre\usk\second\rpsquared%
338 }%
339 \CustomizeMathJax{\newcommand{\kilogrammetrepersecond}{%
340 \kilogram\usk\metre\per\second%
341 }%
342 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondnp}{%
343 \kilogram\usk\metre\usk\reciprocal\second%
344 }%
345 \CustomizeMathJax{\newcommand{\candelapersquaremetre}{\candela\per\squaremetre}}
346 \CustomizeMathJax{\newcommand{\candelapersquaremetrenp}{\candela\usk\rpsquare\metre}}
347 \CustomizeMathJax{\newcommand{\amperepermetre}{\ampere\per\metre}}
348 \CustomizeMathJax{\newcommand{\amperepermetrenp}{\ampere\usk\reciprocal\metre}}
349 \CustomizeMathJax{\newcommand{\joulepertesla}{\joule\per\tesla}}
350 \CustomizeMathJax{\newcommand{\jouleperteslanp}{\joule\usk\reciprocal\tesla}}
351 \CustomizeMathJax{\newcommand{\henrypermetre}{\henry\per\metre}}
```

```
352 \CustomizeMathJax{\newcommand{\henrypermetrenp}{\henry\usk\reciprocal\metre}}
353 \CustomizeMathJax{\newcommand{\kilogrampersecond}{\kilogram\per\second}}
354 \CustomizeMathJax{\newcommand{\kilogrampersecondnp}{\kilogram\usk\reciprocal\second}}
355 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecond}{%
356 \kilogram\per\squaremetre\usk\second%
357 }}
358 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecondnp}{%
359 \kilogram\usk\rpsquare\metre\usk\reciprocal\second%
360 }}
361 \CustomizeMathJax{\newcommand{\kilogrampersquaremetre}{\kilogram\per\squaremetre}}
362 \CustomizeMathJax{\newcommand{\kilogrampersquaremetrenp}{\kilogram\usk\rpsquare\metre}}
363 \CustomizeMathJax{\newcommand{\kilogrampermetre}{\kilogram\per\metre}}
364 \CustomizeMathJax{\newcommand{\kilogrampermetrenp}{\kilogram\usk\reciprocal\metre}}
365 \CustomizeMathJax{\newcommand{\joulepermolekelvin}{\joule\per\mole\usk\kelvin}}
366 \CustomizeMathJax{\newcommand{\joulepermolekelvinnp}{%
367 \joule\usk\reciprocal\mole\usk\reciprocal\kelvin%
368 }}
369 \CustomizeMathJax{\newcommand{\kilogramperkilomole}{\kilogram\per\kilo\mole}}
370 \CustomizeMathJax{\newcommand{\kilogramperkilomolenp}{%
371 \kilogram\usk\kilo\reciprocal\mole%
372 }}
373 \CustomizeMathJax{\newcommand{\kilogramsquaremetre}{\kilogram\usk\squaremetre}}
374 \CustomizeMathJax{\newcommand{\kilogramsquaremetrenp}{\kilogramsquaremetre}}
375 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondsquared}{%
376 \kilogram\usk\metre\per\second\squared%
377 }}
378 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondsquarednp}{%
379 \kilogram\usk\metre\usk\second\rpsquared%
380 }}
381 \CustomizeMathJax{\newcommand{\newtonpersquaremetre}{\newton\per\squaremetre}}
382 \CustomizeMathJax{\newcommand{\newtonpersquaremetrenp}{\newton\usk\rpsquare\metre}}
383 \CustomizeMathJax{\newcommand{\persquaremetresecond}{\per\squaremetre\usk\second}}
384 \CustomizeMathJax{\newcommand{\persquaremetresecondnp}{%
385 \rpsquare\metre\usk\reciprocal\second%
386 }}
387 \CustomizeMathJax{\newcommand{\wattperkilogram}{\watt\per\kilogram}}
388 \CustomizeMathJax{\newcommand{\wattperkilogramnp}{\watt\usk\reciprocal\kilogram}}
389 \CustomizeMathJax{\newcommand{\wattpercubicmetre}{\watt\per\cubic\metre}}
390 \CustomizeMathJax{\newcommand{\wattpercubicmetrenp}{\watt\usk\rpcubic\metre}}
391 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradian}{%
392 \watt\per\squaremetre\usk\steradian%
393 }}
394 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradiannp}{%
395 \watt\usk\rpsquare\metre\usk\rp\steradian%
396 }}
397 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvin}{\joule\per\kilogram\usk\kelvin}}
398 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvinnp}{%
399 \joule\usk\reciprocal\kilogram\usk\reciprocal\kelvin%
400 }}
401 \CustomizeMathJax{\newcommand{\squaremetreperkilogram}{\squaremetre\per\kilogram}}
402 \CustomizeMathJax{\newcommand{\rpsquaremetreperkilogram}{%
403 \squaremetre\usk\reciprocal\kilogram%
404 }}
405 \CustomizeMathJax{\newcommand{\cubicmetreperkilogram}{\cubic\metre\per\kilogram}}
406 \CustomizeMathJax{\newcommand{\rpcubicmetreperkilogram}{%
```

```

407 \cubic\metre\usk\reciprocal\kilogram%
408 }}
409 \CustomizeMathJax{\newcommand{\newtonpermetre}{\newton\per\metre}}
410 \CustomizeMathJax{\newcommand{\newtonpermetrenp}{\newton\usk\reciprocal\metre}}
411 \CustomizeMathJax{\newcommand{\Celsius}{\unicode{x2103}}}
412 \CustomizeMathJax{\newcommand{\wattpermetrekelvin}{\watt\per\metre\usk\kelvin}}
413 \CustomizeMathJax{\newcommand{\wattpermetrekelvinnp}{%
414 \watt\usk\reciprocal\metre\usk\reciprocal\kelvin%
415 }}
416 \CustomizeMathJax{\newcommand{\newtonmetre}{\newton\usk\metre}}
417 \CustomizeMathJax{\newcommand{\newtonmetrenp}{\newtonmetre}}
418 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecond}{%
419 \squaremetre\per\cubic\second%
420 }}
421 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecondnp}{%
422 \squaremetre\usk\rpcubic\second%
423 }}
424 \CustomizeMathJax{\newcommand{\metrepersecond}{\metre\per\second}}
425 \CustomizeMathJax{\newcommand{\metrepersecondnp}{\metre\usk\reciprocal\second}}
426 \CustomizeMathJax{\newcommand{\joulepercubicmetre}{\joule\per\cubicmetre}}
427 \CustomizeMathJax{\newcommand{\joulepercubicmetrenp}{\joule\usk\rpcubic\metre}}
428 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulomb}{%
429 \kilogram\per\cubic\metre\usk\coulomb%
430 }}
431 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulombnp}{%
432 \kilogram\usk\rpcubic\metre\usk\reciprocal\coulomb%
433 }}
434 \CustomizeMathJax{\newcommand{\cubicmetrepersecond}{\cubicmetre\per\second}}
435 \CustomizeMathJax{\newcommand{\rpcubicmetrepersecond}{\cubicmetre\usk\reciprocal\second}}
436 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetre}{%
437 \kilogram\per\second\usk\cubicmetre%
438 }}
439 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetrenp}{%
440 \kilogram\usk\reciprocal\second\usk\rpcubic\metre%
441 }}
442 \end{warpMathJax}

```

#### File 441 **lwarf-siunitx.sty**

§ 549 Package **siunitx**

(Emulates or patches code by JOSEPH WRIGHT.)

Pkg **siunitx** **siunitx** is patched for use by **lwarf**, and is emulated for MATHJAX.

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

⚠ **math mode required** Some units will require that the expression be placed inside math mode.

⚠ **tabular** Tabular S columns are rendered as simple c columns, and tabular s columns are not supported. These may be replaced by c columns with each cell contained in \num or \si.

For math mode with SVG display, the original `siunitx` code is used while generating the SVG image. For text mode, `l warp` uses an emulation which provides a very effective HTML interpretation of `siunitx`.

⚠ **MathJax**

For math expressions while using MATHJAX, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. Complicated parsing such as for `\ang` is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

Document modifications required for MATHJAX:

**custom units**

- Custom units may be added with `\CustomizeMathJax`. See the `l warp-siunitx` code for examples.

⚠ **unit spacing**

- Units work better using `~` between units instead of using periods.

⚠ **\square, \cubic**

- To square or cube compound units, enclose the following compound units in braces:

`\cubic{\centi\meter}`

Single units do not require braces.

Also see [MATHJAX option](#), section [8.7.4](#).

**for HTML output:**

```

1 \RequirePackage{xcolor}%
2 for \convertcolorspec
3 \LWR@ProvidesPackagePass{siunitx}[2018/05/17]

4 \AtBeginDocument{%
5 in case textcomp was not loaded
6 \DeclareSIUnit\bohr{\textit{a}\textsubscript{0}}
7 \DeclareSIUnit\clight{\textit{c}\textsubscript{0}}
8 \DeclareSIUnit\elementarycharge{\textit{e}}
9 \DeclareSIUnit\electronmass{\textit{m}\textsubscript{e}}
10 \DeclareSIUnit\hartree{\textit{E}\textsubscript{h}}
11 \DeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
12 }% AtBeginDocument

```

`\@ensuredmath` is not supported inside an `\hbox`, so it must temporarily be restored to its original. Similar for `\mbox`. SVG math is created explicitly when necessary, using `\LWR@singledollar`.

```

12
13 \ExplSyntaxOn
14 %

```

Modified to set `\textcolor` if not black:

```

15 \cs_undefine:N __siunitx_print_aux:
16 \cs_new_protected:Npn __siunitx_print_aux:
17 {
18 \text
19 {
20 __siunitx_ensure_ltr:
21 {
22 \color@begingroup
23 __siunitx_print_color:

```

```
24 __siunitx_font_shape:
25 __siunitx_font_weight:
26 \use:c
27 {
28 @_ \l__siunitx_print_type_tl _
29 text \l__siunitx_font_family_tl :
30 }
31 \bool_if:NTF \l__siunitx_font_math_mode_bool
32 { __siunitx_print_math: }
33 {
34 \LWR@findcurrenttextcolor% lwarp
35 \ifdefstring{\LWR@tempcolor}{000000}% lwarp
36 {__siunitx_print_text:}% lwarp
37 {% lwarp
38 \LWR@textcurrentcolor{%
39 __siunitx_print_text:
40 }%
41 }%
42 }
43 \color@endgroup
44 }
45 }
46 }
47
48
49 \cs_undefine:N __siunitx_set_math_fam:n
50 \cs_new_protected:Npn __siunitx_set_math_fam:n #1 {
51 \int_new:c { c__siunitx_math #1 _int }
52 \group_begin:% lwarp
53 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
54 \LetLtxMacro\mbox\lWR@print@mbox% lwarp
55 \hbox_set:Nn \l__siunitx_tmp_box
56 {
57 \ensuremath
58 {
59 \use:c { math #1 }
60 {
61 \int_gset:cn { c__siunitx_math #1 _int } { \fam }
62 }
63 }
64 }
65 \group_end:% lwarp
66 }
67
68 \cs_undefine:N __siunitx_combined_output:n
69 \cs_new_protected:Npn __siunitx_combined_output:n #1 {
70 \group_begin:% lwarp
71 \LetLtxMacro\@ensuredmath\lWR@origensuredmath% lwarp
72 \LetLtxMacro\mbox\lWR@print@mbox% lwarp
73 \bool_if:NTF \l__siunitx_number_parse_bool
74 {
75 \tl_clear:N \l__siunitx_number_out_tl
76 \bool_set_false:N \l__siunitx_number_compound_bool
77 __siunitx_number_output_parse:n {#1}
78 }
```

```
79 {
```

For parse-numbers=false:

```
80 __siunitx_unit_output_pre_print:
81 \begingroup% l warp
82 \boolfalse{mathjax}% l warp
83 % __siunitx_print:nn { number } { \ensuremath {\#1} } }
84 \LWR@subsingle dollar% l warp
85 \textbackslash(\LWR@HTMLsanitize{\#1} \textbackslash) \% l warp
86 \{ siunitx\}{%
87 __siunitx_print:nn { number } {%
88 \LWR@origensuredmath{\#1}%
89 }%
90 }% l warp
91 \endgroup% l warp
92 __siunitx_unit_output_print:
93 }
94 \group_end:\% l warp
95 }
```

For parse-numbers=false:

```
96 \cs_set_protected:Npn __siunitx_range_numbers_aux:n #1
97 {
98 \bool_if:NTF \l __siunitx_number_parse_bool
99 {
100 \tl_clear:N \l __siunitx_number_out_tl
101 \tl_clear:N \l __siunitx_number_out_saved_tl
102 \bool_set_false:N \l __siunitx_number_compound_bool
103 __siunitx_number_output_parse:n {\#1}
104 \bool_if:NT \l __siunitx_number_compound_bool
105 \msg_error:nnx { siunitx } { multi-part-range } {\#1} }
106 }
107 {
108 __siunitx_unit_output_pre_print:
109 \begingroup% l warp
110 \boolfalse{mathjax}% l warp
111 % __siunitx_print:nn { number } {\#1}
112 \LWR@subsingle dollar% l warp
113 \textbackslash(\LWR@HTMLsanitize{\#1} \textbackslash) \% l warp
114 \{ siunitx\}{%
115 __siunitx_print:nn { number } {%
116 \LWR@origensuredmath{\#1}%
117 }% l warp
118 }% l warp
119 \endgroup% l warp
120 __siunitx_unit_output_print:
121 }
122 }
```

For parse-numbers=false:

```
123 \cs_set_protected:Npn __siunitx_angle_print_direct_aux:nn #1#2 {
124 \tl_if_empty:nF {\#1}
```

```

125 {
126 \tl_set:Nn \l__siunitx_unit_tl {#2}
127 \begingroup% lwarp
128 \boolfalse{mathjax}% lwarp
129 % __siunitx_print:nn { number } {#1}
130 \LWR@subsingleollar{\% lwarp
131 \textbackslash(\LWR@HTMLsanitize{#1} \textbackslash) \% lwarp
132 }{\siunitx}{%
133 __siunitx_print:nn { number } {
134 \LWR@origensuredmath{#1}%
135 } \% lwarp
136 }% lwarp
137 \endgroup% lwarp
138 __siunitx_unit_output_print:
139 }
140 }
141 %

```

For quotients, the fraction code is replaced by the symbol code:

```

142 \cs_undefine:N __siunitx_number_output_quotient_fraction:
143 \cs_new_protected:Npn __siunitx_number_output_quotient_fraction: {
144 \bool_set_true:N \l__siunitx_number_compound_bool
145 __siunitx_number_output_quotient_aux_i:
146 \tl_set_eq:NN \l__siunitx_number_out_tl
147 \l__siunitx_number_numerator_tl
148 \tl_put_right:NV \l__siunitx_number_out_tl \l__siunitx_output_quotient_tl
149 \tl_put_right:NV \l__siunitx_number_out_tl
150 \l__siunitx_number_denominator_tl
151 __siunitx_number_output_single_aux:
152 }

```

For units, the fraction code is replaced by the symbol code:

```

153 \cs_undefine:N __siunitx_unit_format_fraction_fraction:
154 \cs_new_protected:Npn __siunitx_unit_format_fraction_fraction: {
155 __siunitx_unit_format_fraction_symbol_aux:
156 \int_compare:nNnT { \l__siunitx_unit_denominator_int } > { 1 }
157 {
158 \bool_if:NT \l__siunitx_unit_denominator_bracket_bool
159 {
160 \tl_put_left:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_open_tl
161 \tl_put_right:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_close_tl
162 }
163 }
164 \tl_set_eq:NN \l__siunitx_unit_tl \l__siunitx_unit_numerator_tl
165 \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_per_symbol_tl
166 \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_unit_denominator_tl
167 }

168 \cs_undefine:N __siunitx_angle_print_astronomy_aux:
169 \cs_new_protected:Npn __siunitx_angle_print_astronomy_aux: {
170 \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-integer }
171 \l__siunitx_tmpa_tl
172 { __siunitx_print:nV { number } \l__siunitx_tmpa_tl }

```

```

173 \ifnumcomp{\value{LWR@lateximagedepth}}{0}{% lwarp
174 {%
175 \hbox_set:Nn \l_siunitx_angle_marker_box
176 {
177 __siunitx_print:nn { number } { \l_siunitx_output_decimal_tl }
178 }
179 \hbox_set:Nn \l_siunitx_angle_unit_box
180 {
181 __siunitx_print:nV { unit } \l_siunitx_unit_tl
182 \skip_horizontal:n { -\scriptspace }
183 }
184 __siunitx_angle_print_astronomy_aux:n { marker }
185 __siunitx_angle_print_astronomy_aux:n { unit }
186 \hbox_set:Nn \l_siunitx_angle_marker_box
187 {
188 \box_use:N \l_siunitx_angle_marker_box
189 \box_use:N \l_siunitx_angle_unit_box
190 }
191 \dim_compare:nNnTF
192 { \l_siunitx_angle_marker_dim } > { \l_siunitx_angle_unit_dim }
193 { __siunitx_angle_print_astronomy_marker: }
194 { __siunitx_angle_print_astronomy_unit: }
195 }%
196 {%
197 __siunitx_print:nV { unit } \l_siunitx_unit_tl
198 __siunitx_print:nn { number } { \l_siunitx_output_decimal_tl }
199 }%
200 \prop_get:NnNT \l_siunitx_number_out_prop { mantissa-decimal }
201 \l_siunitx_tmpa_tl
202 { __siunitx_print:nV { number } \l_siunitx_tmpa_tl }
203 }

204 \cs_undefine:N __siunitx_textsuperscript:n
205 \cs_new_protected:Npn __siunitx_textsuperscript:n #1 {#1}

\num [⟨options⟩] {⟨value⟩}
206 \RenewDocumentCommand \num { o m } {
207 \leavevmode
208 \group_begin:% lwarp
209 \LetLtxMacro\@ensuredmath\@origensuredmath% lwarp
210 \LetLtxMacro\mbox\@print@mbx% lwarp
211 \bool_set_false:N \l_siunitx_font_set_bool
212 \IfNoValueF {#1}
213 { \keys_set:nn { siunitx } {#1} }
214 __siunitx_number_output:n {#2}
215 \group_end:% lwarp
216 }

\numrange [⟨options⟩] {⟨value1⟩} {⟨value2⟩}
217 \RenewDocumentCommand \numrange { o m m } {
218 \leavevmode
219 \group_begin:% lwarp

```

```

220 \LetLtxMacro{\@ensuredmath}{\LWR@origensuredmath} \lwarp
221 \LetLtxMacro{\mbox}{\LWR@print@mbox} \lwarp
222 \bool_set_false:N \l_siunitx_font_set_bool
223 \IfNoValueF {#1}
224 { \keys_set:nn { siunitx } {#1} }
225 __siunitx_range_numbers:nn {#2} {#3}
226 \group_end: \% lwarp
227 }

\ang {⟨options⟩} {⟨angle⟩}
228 \RenewDocumentCommand{\ang}{o>}{\SplitArgument{2}{;}{m}}{%
229 \group_begin: \% lwarp
230 \LetLtxMacro{\@ensuredmath}{\LWR@origensuredmath} \lwarp
231 \LetLtxMacro{\mbox}{\LWR@print@mbox} \lwarp
232 \IfNoValueF {#1}
233 { \keys_set:nn { siunitx } {#1} }
234 __siunitx_angle_output:nnn #2
235 \group_end: \% lwarp
236 }

\si {⟨options⟩} {⟨unit⟩}
237 \RenewDocumentCommand{\si}{o m}{%
238 \leavevmode
239 \group_begin: \% lwarp
240 \LetLtxMacro{\@ensuredmath}{\LWR@origensuredmath} \lwarp
241 \LetLtxMacro{\mbox}{\LWR@print@mbox} \lwarp
242 \bool_set_false:N \l_siunitx_font_set_bool
243 \IfNoValueTF {#1}
244 { __siunitx_unit_output:nn {#2} {} }
245 {%
246 \keys_set:nn { siunitx } {#1}
247 __siunitx_unit_output:nn {#2} {#1}
248 }
249 \group_end: \% lwarp
250 }

\SIRange [⟨options⟩] {⟨value1⟩} {⟨value2⟩} {⟨unit⟩}
251 \RenewDocumentCommand{\SIRange}{o m m m}{%
252 {%
253 \leavevmode
254 \group_begin: \% lwarp
255 \LetLtxMacro{\@ensuredmath}{\LWR@origensuredmath} \lwarp
256 \LetLtxMacro{\mbox}{\LWR@print@mbox} \lwarp
257 \bool_set_false:N \l_siunitx_font_set_bool
258 \IfNoValueTF {#1}
259 { __siunitx_range_unit:nnnn {#4} {} {#2} {#3} }
260 {%
261 \keys_set:nn { siunitx } {#1}
262 __siunitx_range_unit:nnnn {#4} {#1} {#2} {#3}
263 }
264 \group_end: \% lwarp
265 }

```

---

266 \ExplSyntaxOff

For MATHJAX. (The following runs much faster as separate \CustomizeMathJax calls instead of one single call.)

```
267 \begin{warpMathJax}
268 \LWR@infoprocessingmathjax{siunitx}

269 \CustomizeMathJax{\newcommand{\tothe}[1]{^{#1}}}
270 \CustomizeMathJax{\newcommand{\raiseto}[2]{{#2}^{#1}}}
```

Used as an end marker when parsing values:

```
271 \CustomizeMathJax{\newcommand{\LWRsiunitxEND}{}}
```

\ang [⟨options⟩] {⟨value⟩}

```
272 \CustomizeMathJax{\def\LWRsiunitxang##1##3;##4\LWRsiunitxEND{%
273 \ifblank{##1}{}{\num{##1}\degree}%
274 \ifblank{##2}{}{\num{##2}^{\unicode{x2032}}}\prime
275 \ifblank{##3}{}{\num{##3}^{\unicode{x2033}}}\dblprime
276 }%
277 \CustomizeMathJax{\newcommand{\ang}[2][]{\LWRsiunitxang##2;;\LWRsiunitxEND}}
```

Processes scientific notation. Special handling for a mantissa which is either empty or only a minus sign.

```
278 \CustomizeMathJax{\newcommand{\LWRsiunitxnumscientific}[2]{%
279 \ifblank{##1}%
280 {}%
281 {%
282 \ifstreq{\##1}{-}%
283 {-}%
284 {\LWRsiunitxprintdecimal{##1}\times}%
285 }%
286 10^{\LWRsiunitxprintdecimal{##2}}%
287 }}
```

\num handles optional powers (e, E, d, D), multiples (x), plus and minus, and period or comma decimal output.

To split the string, \def is used with parameter delimiters. When each of the following macro is used, extra delimiters are padded to the end of the arguments of each macro when used, and the final argument of each collects any extra unused delimiters.

```
288 \ExplSyntaxOn
289 \AtBeginDocument{
290 \ifdefstring{\l_siunitx_output_decimal_tl}{{},{}}
291 % Use decimal comma
292 \CustomizeMathJax{\def\LWRsiunitxprintdecimal{\sub{#1}{#2}{#3}\LWRsiunitxEND{%
293 \mathrm{#1}%
294 \ifblank{#2}%
295 {}%
```

```

296 { ,\mathrm{#2} }
297 }}
298
299 \CustomizeMathJax{\newcommand{\LWRsiunitxprintdecimal}[1]{%
300 \LWRsiunitxprintdecimalsub#1... \LWRsiunitxEND%
301 }}
302 }
303 { % Use decimal point
304 \CustomizeMathJax{\def\LWRsiunitxprintdecimal#1,#2,#3 \LWRsiunitxEND{%
305 \mathrm{#1}%
306 \ifblank{#2}{%
307 {}%
308 {\mathrm{#2}}%
309 }%
310 }%
311 \CustomizeMathJax{\newcommand{\LWRsiunitxprintdecimal}[1]{%
312 \LWRsiunitxprintdecimalsub#1,,, \LWRsiunitxEND%
313 }}%
314 }%
315 }%
316 \ExplSyntaxOff

```

```

\num [⟨options⟩] {⟨value⟩}

317 \CustomizeMathJax{\def\LWRsiunitxnumplus#1+#2+#3 \LWRsiunitxEND{%
318 \ifblank{#2}{%
319 {\LWRsiunitxprintdecimal{#1}}% no plus
320 {%
321 \ifblank{#1}{%
322 {\LWRsiunitxprintdecimal{#2}}% leading plus, ignore
323 {%
324 \LWRsiunitxprintdecimal{#1}%
325 \unicode{x02B}% plus sign
326 \LWRsiunitxprintdecimal{#2}}%
327 }%
328 }%
329 }%
330 }%
331 \CustomizeMathJax{\def\LWRsiunitxnumminus#1-#2-#3 \LWRsiunitxEND{%
332 \ifblank{#2}{%
333 {\LWRsiunitxnumplus#1+++\LWRsiunitxEND}%
334 {%
335 \LWRsiunitxprintdecimal{#1}%
336 \unicode{x02212}% mathematical minus sign
337 \LWRsiunitxprintdecimal{#2}}%
338 }%
339 }%
340 \CustomizeMathJax{\def\LWRsiunitxnumpm#1+-#2+-#3 \LWRsiunitxEND{%
341 \ifblank{#2}{%
342 {\LWRsiunitxnumminus#1---\LWRsiunitxEND}%
343 {%
344 \LWRsiunitxprintdecimal{#1}%
345 \unicode{x0B1}% \pm
346 \LWRsiunitxprintdecimal{#2}}%
347 }%

```

```
348 }%
349 }}
350
351 \CustomizeMathJax{\def\LWRsiunitxnumx#1x#2x#3x#4\LWRsiunitxEND{%
352 \ifblank{#2}{%
353 {\LWRsiunitxnumpm#1+-+\LWRsiunitxEND}%
354 }%
355 \ifblank{#3}{%
356 {%
357 \LWRsiunitxprintdecimal{#1}%
358 \times%
359 \LWRsiunitxprintdecimal{#2}%
360 }%
361 }%
362 \LWRsiunitxprintdecimal{#1}%
363 \times%
364 \LWRsiunitxprintdecimal{#2}%
365 \times%
366 \LWRsiunitxprintdecimal{#3}%
367 }%
368 }
369 }}
370
371 \CustomizeMathJax{\def\LWRsiunitxnumD#1D#2D#3\LWRsiunitxEND{%
372 \ifblank{#2}{%
373 {\LWRsiunitxnumx#1xxxx\LWRsiunitxEND}%
374 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
375 }%
376
377 \CustomizeMathJax{\def\LWRsiunitxnumd#1d#2d#3\LWRsiunitxEND{%
378 \ifblank{#2}{%
379 {\LWRsiunitxnumD#1DD\LWRsiunitxEND}%
380 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
381 }%
382
383 \CustomizeMathJax{\def\LWRsiunitxnumE#1E#2E#3\LWRsiunitxEND{%
384 \ifblank{#2}{%
385 {\LWRsiunitxnumd#1dd\LWRsiunitxEND}%
386 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
387 }%
388
389 \CustomizeMathJax{\def\LWRsiunitxnume#1e#2e#3\LWRsiunitxEND{%
390 \ifblank{#2}{%
391 {\LWRsiunitxnumE#1EEE\LWRsiunitxEND}%
392 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
393 }%
394
395 \CustomizeMathJax{\def\LWRsiunitxnumcomma#1,#2,#3\LWRsiunitxEND{%
396 \ifblank{#2}{%
397 {\LWRsiunitxnume#1eee\LWRsiunitxEND}%
398 {\LWRsiunitxnume#1.#2eee\LWRsiunitxEND}%
399 }%
400
401 \CustomizeMathJax{\newcommand{\num}[2][]{{\LWRsiunitxnumcomma#2,,,\LWRsiunitxEND}}}
```

```

\si [options] {unit}
402 \CustomizeMathJax{\newcommand{\si}[2][]{\mathrm{#2}}}

\SI [options] {value} [prefix] {unit}
\SI has a second optional arg, which is parsed using \ifnextchar.
403 \CustomizeMathJax{\def\LWRsiunitxSIopt[#2]#3{%
404 {#2}\num{#1}{#3}%
405 }%
406
407 \CustomizeMathJax{\newcommand{\LWRsiunitxSI}[2]{%
408 \num{#1}\,{#2}%
409 }%
410 \CustomizeMathJax{\newcommand{\SI}[2][]{%
411 \ifnextchar[%
412 {\LWRsiunitxSIopt{#2}}%
413 {\LWRsiunitxSI{#2}}%
414 }%
415 \CustomizeMathJax{\newcommand{\numlist}[2][]{\mathrm{#2}}}

\numlist [options] {list}
\numlist should only be used in text mode. If used in MATHJAX, it is merely printed as
input.
416 \CustomizeMathJax{\newcommand{\numlist}[2][]{\mathrm{#2}}}

\numrange [options] {value1} {value2}
\numrange should only be used in text mode. If used in MATHJAX math, an en-dash is used
instead of the range-phase.
417 \CustomizeMathJax{\newcommand{\numrange}[3][]{\num{#2}\,\text{\scriptsize{x2013}}\,\num{#3}}}

\SIList [options] {list}
\SIList and \SIRange should only be used in text mode. If used in MATHJAX, a simple
emulation is provided.
418 \CustomizeMathJax{\newcommand{\SIList}[3][]{\mathrm{#2}\,,\mathrm{#3}}}

\SIRange [options] {value1} {value2} {unit}
419 \CustomizeMathJax{\newcommand{\SIRange}[4][]{\num{#2}\,,\#4\,,\text{\scriptsize{x2013}}\,,\num{#3}\,,\#4}}}

\tablenum [options] {value}
420 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
421 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
422 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
423 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kg}}}
424 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
425 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}

```

```
426 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
427 %
428 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
429 \CustomizeMathJax{\newcommand{\degreeCelsius}{\text{\scriptsize{\text{\textnormal{}}}\tiny{\text{\textnormal{x2103}}}}}}
430 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
431 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
432 \CustomizeMathJax{\newcommand{\gray}{\mathrm{Gy}}}
433 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
434 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
435 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
436 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
437 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
438 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
439 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
440 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
441 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
442 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
443 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
444 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
445 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
446 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
447 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
448 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
449 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
450 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
451 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
452 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{ha}}}
453 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
454 \CustomizeMathJax{\newcommand{\litre}{\mathrm{l}}}
455 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
456 \CustomizeMathJax{\newcommand{\arcminute}{\mathrm{^\prime}}}
457 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
458 \CustomizeMathJax{\newcommand{\arcsecond}{\mathrm{^{\prime\prime}}}}
459 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
460 \CustomizeMathJax{\newcommand{\astronomicalunit}{\mathrm{au}}}
461 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
462 \CustomizeMathJax{\newcommand{\bohr}{\mathrm{a_0}}}
463 \CustomizeMathJax{\newcommand{\clight}{\mathrm{c_0}}}
464 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{D_a}}}
465 \CustomizeMathJax{\newcommand{\electronmass}{\mathrm{m_e}}}
466 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
467 \CustomizeMathJax{\newcommand{\elementarycharge}{\mathrm{e}}}
468 \CustomizeMathJax{\newcommand{\hartree}{\mathrm{E_h}}}
469 \CustomizeMathJax{\newcommand{\planckbar}{\mathrm{\hbar}}}
470 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\text{\textnormal{A}}}}}
471 \CustomizeMathJax{\let\LRorigbar\bar}
472 \CustomizeMathJax{\newcommand{\bar}{\mathrm{bar}}}
473 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
474 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
475 \CustomizeMathJax{\newcommand{\decibel}{\mathrm{dB}}}
476 \CustomizeMathJax{\newcommand{\knot}{\mathrm{kn}}}
477 \CustomizeMathJax{\newcommand{\mmHg}{\mathrm{mmHg}}}
478 \CustomizeMathJax{\newcommand{\nauticalmile}{\mathrm{M}}}
479 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
480 %
```

```
481 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
482 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
483 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
484 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
485 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
486 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
487 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\mu}}{\mathrm{unicode{x00B5}}}}
488 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
489 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
490 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
491 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
492 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
493 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
494 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
495 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
496 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
497 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
498 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
499 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
500 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
501 %
502 \CustomizeMathJax{\newcommand{\percent}{\mathrm{\%}}}
503 %
504 \CustomizeMathJax{\newcommand{\meter}{\mathrm{m}}}
505 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
506 %
507 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
508 \CustomizeMathJax{\newcommand{\kg}{\mathrm{k}\mathrm{o}\mathrm{g}}}
509 \CustomizeMathJax{\newcommand{\of}[1]{\mathrm{l}\mathrm{e}\mathrm{n}\mathrm{t}\{#1\}}}
510 \CustomizeMathJax{\newcommand{\squared}{\mathrm{^2}}}
511 \CustomizeMathJax{\newcommand{\square}[1]{\mathrm{#1}^2}}
512 \CustomizeMathJax{\newcommand{\cubed}{\mathrm{^3}}}
513 \CustomizeMathJax{\newcommand{\cubic}[1]{\mathrm{#1}^3}}
514 \CustomizeMathJax{\newcommand{\per}{/}}
515 \CustomizeMathJax{\newcommand{\celsius}{\mathrm{\u00b0}\mathrm{C}}}
516 %
517 \CustomizeMathJax{\newcommand{\fg}{\mathrm{f}\mathrm{e}\mathrm{m}\mathrm{t}\mathrm{o}\mathrm{g}\mathrm{r}\mathrm{a}\mathrm{m}}}
518 \CustomizeMathJax{\newcommand{\pg}{\mathrm{p}\mathrm{i}\mathrm{c}\mathrm{o}\mathrm{g}\mathrm{r}\mathrm{a}\mathrm{m}}}
519 \CustomizeMathJax{\newcommand{\ng}{\mathrm{n}\mathrm{a}\mathrm{n}\mathrm{o}\mathrm{g}\mathrm{r}\mathrm{a}\mathrm{m}}}
520 \CustomizeMathJax{\newcommand{\ug}{\mathrm{u}\mathrm{m}\mathrm{i}\mathrm{c}\mathrm{o}\mathrm{g}\mathrm{r}\mathrm{a}\mathrm{m}}}
521 \CustomizeMathJax{\newcommand{\mg}{\mathrm{m}\mathrm{i}\mathrm{l}\mathrm{l}\mathrm{o}\mathrm{g}\mathrm{r}\mathrm{a}\mathrm{m}}}
522 \CustomizeMathJax{\newcommand{\g}{\mathrm{g}\mathrm{r}\mathrm{a}\mathrm{m}}}
523 \CustomizeMathJax{\newcommand{\kg}{\mathrm{k}\mathrm{i}\mathrm{l}\mathrm{o}\mathrm{g}\mathrm{r}\mathrm{a}\mathrm{m}}}
524 %
525 \CustomizeMathJax{\newcommand{\amu}{\mathrm{u}}}
526 %
527 \CustomizeMathJax{\newcommand{\pm}{\mathrm{p}\mathrm{i}\mathrm{c}\mathrm{o}\mathrm{m}\mathrm{e}\mathrm{t}\mathrm{r}\mathrm{e}}}
528 \CustomizeMathJax{\newcommand{\nm}{\mathrm{n}\mathrm{a}\mathrm{n}\mathrm{o}\mathrm{m}\mathrm{e}\mathrm{t}\mathrm{r}\mathrm{e}}}
529 \CustomizeMathJax{\newcommand{\um}{\mathrm{u}\mathrm{m}\mathrm{i}\mathrm{c}\mathrm{o}\mathrm{m}\mathrm{e}\mathrm{t}\mathrm{r}\mathrm{e}}}
530 \CustomizeMathJax{\newcommand{\mm}{\mathrm{m}\mathrm{i}\mathrm{l}\mathrm{l}\mathrm{o}\mathrm{m}\mathrm{e}\mathrm{t}\mathrm{r}\mathrm{e}}}
531 \CustomizeMathJax{\newcommand{\cm}{\mathrm{c}\mathrm{e}\mathrm{n}\mathrm{t}\mathrm{i}\mathrm{o}\mathrm{m}\mathrm{e}\mathrm{t}\mathrm{r}\mathrm{e}}}
532 \CustomizeMathJax{\newcommand{\dm}{\mathrm{d}\mathrm{e}\mathrm{c}\mathrm{i}\mathrm{o}\mathrm{m}\mathrm{e}\mathrm{t}\mathrm{r}\mathrm{e}}}
533 \CustomizeMathJax{\newcommand{\m}{\mathrm{m}\mathrm{e}\mathrm{t}\mathrm{r}\mathrm{e}}}
534 \CustomizeMathJax{\newcommand{\km}{\mathrm{k}\mathrm{i}\mathrm{l}\mathrm{o}\mathrm{m}\mathrm{e}\mathrm{t}\mathrm{r}\mathrm{e}}}
535 %
```

```
536 \CustomizeMathJax{\newcommand{\as}{\atto\second}}
537 \CustomizeMathJax{\newcommand{\fs}{\femto\second}}
538 \CustomizeMathJax{\newcommand{\ps}{\pico\second}}
539 \CustomizeMathJax{\newcommand{\ns}{\nano\second}}
540 \CustomizeMathJax{\newcommand{\us}{\micro\second}}
541 \CustomizeMathJax{\newcommand{\ms}{\milli\second}}
542 \CustomizeMathJax{\newcommand{\s}{\second}}
543 %
544 \CustomizeMathJax{\newcommand{\fmol}{\femto\mol}}
545 \CustomizeMathJax{\newcommand{\pmol}{\pico\mol}}
546 \CustomizeMathJax{\newcommand{\nmol}{\nano\mol}}
547 \CustomizeMathJax{\newcommand{\umol}{\micro\mol}}
548 \CustomizeMathJax{\newcommand{\mmol}{\milli\mol}}
549 \CustomizeMathJax{\newcommand{\mol}{\mol}}
550 \CustomizeMathJax{\newcommand{\kmol}{\kilo\mol}}
551 %
552 \CustomizeMathJax{\newcommand{\pA}{\pico\ampere}}
553 \CustomizeMathJax{\newcommand{\nA}{\nano\ampere}}
554 \CustomizeMathJax{\newcommand{\uA}{\micro\ampere}}
555 \CustomizeMathJax{\newcommand{\mA}{\milli\ampere}}
556 \CustomizeMathJax{\newcommand{\A}{\ampere}}
557 \CustomizeMathJax{\newcommand{\kA}{\kilo\ampere}}
558 %
559 \CustomizeMathJax{\newcommand{\ul}{\micro\litre}}
560 \CustomizeMathJax{\newcommand{\ml}{\milli\litre}}
561 \CustomizeMathJax{\newcommand{\l}{\litre}}
562 \CustomizeMathJax{\newcommand{\hl}{\hecto\litre}}
563 \CustomizeMathJax{\newcommand{\uL}{\micro\liter}}
564 \CustomizeMathJax{\newcommand{\mL}{\milli\liter}}
565 \CustomizeMathJax{\newcommand{\L}{\liter}}
566 \CustomizeMathJax{\newcommand{\hL}{\hecto\liter}}
567 %
568 \CustomizeMathJax{\newcommand{\mHz}{\milli\hertz}}
569 \CustomizeMathJax{\newcommand{\Hz}{\hertz}}
570 \CustomizeMathJax{\newcommand{\kHz}{\kilo\hertz}}
571 \CustomizeMathJax{\newcommand{\MHz}{\mega\hertz}}
572 \CustomizeMathJax{\newcommand{\GHz}{\giga\hertz}}
573 \CustomizeMathJax{\newcommand{\THz}{\tera\hertz}}
574 %
575 \CustomizeMathJax{\newcommand{\mN}{\milli\newton}}
576 \CustomizeMathJax{\newcommand{\N}{\newton}}
577 \CustomizeMathJax{\newcommand{\kN}{\kilo\newton}}
578 \CustomizeMathJax{\newcommand{\MN}{\mega\newton}}
579 %
580 \CustomizeMathJax{\newcommand{\Pa}{\pascal}}
581 \CustomizeMathJax{\newcommand{\kPa}{\kilo\pascal}}
582 \CustomizeMathJax{\newcommand{\MPa}{\mega\pascal}}
583 \CustomizeMathJax{\newcommand{\GPa}{\giga\pascal}}
584 %
585 \CustomizeMathJax{\newcommand{\mohm}{\milli\ohm}}
586 \CustomizeMathJax{\newcommand{\kohm}{\kilo\ohm}}
587 \CustomizeMathJax{\newcommand{\Mohm}{\mega\ohm}}
588 %
589 \CustomizeMathJax{\newcommand{\pV}{\pico\volt}}
590 \CustomizeMathJax{\newcommand{\nV}{\nano\volt}}
```

---

```

591 \CustomizeMathJax{\newcommand{\uV}{\micro\volt}}
592 \CustomizeMathJax{\newcommand{\mV}{\milli\volt}}
593 \CustomizeMathJax{\newcommand{\V}{\volt}}
594 \CustomizeMathJax{\newcommand{\kV}{\kilo\volt}}
595 %
596 \CustomizeMathJax{\newcommand{\W}{\watt}}
597 \CustomizeMathJax{\newcommand{\uW}{\micro\watt}}
598 \CustomizeMathJax{\newcommand{\mW}{\milli\watt}}
599 \CustomizeMathJax{\newcommand{\kW}{\kilo\watt}}
600 \CustomizeMathJax{\newcommand{\MW}{\mega\watt}}
601 \CustomizeMathJax{\newcommand{\GW}{\giga\watt}}
602 %
603 \CustomizeMathJax{\newcommand{\J}{\joule}}
604 \CustomizeMathJax{\newcommand{\uJ}{\micro\joule}}
605 \CustomizeMathJax{\newcommand{\mJ}{\milli\joule}}
606 \CustomizeMathJax{\newcommand{\kJ}{\kilo\joule}}
607 %
608 \CustomizeMathJax{\newcommand{\eV}{\electronvolt}}
609 \CustomizeMathJax{\newcommand{\meV}{\milli\electronvolt}}
610 \CustomizeMathJax{\newcommand{\keV}{\kilo\electronvolt}}
611 \CustomizeMathJax{\newcommand{\MeV}{\mega\electronvolt}}
612 \CustomizeMathJax{\newcommand{\GeV}{\giga\electronvolt}}
613 \CustomizeMathJax{\newcommand{\TeV}{\tera\electronvolt}}
614 %
615 \CustomizeMathJax{\newcommand{\kWh}{\kilo\watt\hour}}
616 %
617 \CustomizeMathJax{\newcommand{\F}{\farad}}
618 \CustomizeMathJax{\newcommand{\fF}{\femto\farad}}
619 \CustomizeMathJax{\newcommand{\pF}{\pico\farad}}
620 %
621 \CustomizeMathJax{\newcommand{\K}{\mathrm{K}}}
622 %
623 \CustomizeMathJax{\newcommand{\dB}{\mathrm{dB}}}
624 %
625 \CustomizeMathJax{\newcommand{\kibi}{\mathrm{Ki}}}
626 \CustomizeMathJax{\newcommand{\mebi}{\mathrm{Mi}}}
627 \CustomizeMathJax{\newcommand{\gibi}{\mathrm{Gi}}}
628 \CustomizeMathJax{\newcommand{\tebi}{\mathrm{Ti}}}
629 \CustomizeMathJax{\newcommand{\pebi}{\mathrm{Pi}}}
630 \CustomizeMathJax{\newcommand{\exbi}{\mathrm{Ei}}}
631 \CustomizeMathJax{\newcommand{\zebi}{\mathrm{Zi}}}
632 \CustomizeMathJax{\newcommand{\yobi}{\mathrm{Yi}}}
633 \end{warpMathJax}

```

---

File 442 **lwarf-skmath.sty**

§ 550 Package **skmath**

*(Emulates or patches code by SIMON SIGURDHSSON.)*

Pkg skmath **skmath** is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{skmath}[2019/10/15]

Only defined if package option requested:

```

2 \begin{warpMathJax}
3 \ExplSyntaxOn
4 \bool_if:N \g__skmath_define_common_sets_bool{
5 \CustomizeMathJax{\newcommand{\N}{\mathbb{N}}}
6 \CustomizeMathJax{\newcommand{\Z}{\mathbb{Z}}}
7 \CustomizeMathJax{\newcommand{\Q}{\mathbb{Q}}}
8 \CustomizeMathJax{\newcommand{\R}{\mathbb{R}}}
9 \CustomizeMathJax{\newcommand{\C}{\mathbb{C}}}
10 }
```

**skmath** is using **l3keys**, which does not seem to have an equivalent to `\@ifpackagewith`. To detect package options, comparisons with the following are made to see if various macros have been defined as follows:

```

11 \cs_gset_nopar:Npn\LWR__skmath_imaginary_unit:n#1{{#1}}
12 \cs_gset_nopar:Npn\LWR__skmath_natural_log_e:{e}
13 \cs_gset_nopar:Npn\LWR__skmath_integral_d:{d}
14 \cs_gset_nopar:Npn\LWR__skmath_total_derivative_d:{d}
```

If `notation=iso`, use upright, else italic:

```

15 \cs_if_eq:NNTF __skmath_imaginary_unit:n \LWR__skmath_imaginary_unit:n
16 {
17 \CustomizeMathJax{\newcommand{ii}{\mathit{i}}}
18 \CustomizeMathJax{\newcommand{jj}{\mathit{j}}}
19 }
20 {
21 \CustomizeMathJax{\newcommand{ii}{\mathrm{i}}}
22 \CustomizeMathJax{\newcommand{jj}{\mathrm{j}}}
23 }
```

If `notation=iso`, use upright, else italic:

```

24 \cs_if_eq:NNTF __skmath_natural_log_e: \LWR__skmath_natural_log_e:
25 {
26 \CustomizeMathJax{\newcommand{\ee}{\mathit{e}}}
27 \CustomizeMathJax{\newcommand{\ee}{\mathrm{e}}}
```

**skmath** uses `\DeclarePairedDelimiter` from **mathtools** for `\abs` and `\norm`, and **lwarp** uses this to automatically define **MATHJAX** definitions for each.

If `notation=english`, use slanted, else upright:

```

27 \cs_if_eq:NNTF __skmath_integral_d: \LWR__skmath_integral_d:
28 {
29 \CustomizeMathJax{\newcommand{d}{\mathit{d}}}
30 \CustomizeMathJax{\newcommand{d}{\mathrm{d}}}
```

Used to parse comma and caret arguments for `\pd` and `\td`:

```
30 \CustomizeMathJax{\def\LWRskmathEND{}}
```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

---

```

31 \CustomizeMathJax{\def\LWRskmathpdstarsub#1#2,#3,#4,#5,#6\LWRskmathEND{%
32 #1_{#2#3#4#5}%
33 }%
34
35 \CustomizeMathJax{\newcommand{\LWRskmathpdstar}[2]{%
36 \LWRskmathpdstarsub{#1}#2,,,\LWRskmathEND%
37 }%

```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets.  $\backslash LWRskmathpdplus$  is used to only place a plus sign starting after the first term.  $\backslash LWRskmathpddone$  is used to only place a 1 digit if a second or later term does not have a power.

```

38 \CustomizeMathJax{\def\LWRskmathpdnumerator#1^#2^#3\LWRskmathEND{%
39 \ifblank{#1}{}{%
40 \ifblank{#2}{\LWRskmathpdplus\LWRskmathpddone}{\LWRskmathpdplus#2}%
41 }%
42 }%

```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets.

```

43 \CustomizeMathJax{\def\LWRskmathpddenominator#1^#2^#3\LWRskmathEND{%
44 \ifblank{#1}{}{%
45 \ifblank{#2}{%
46 {\partial{#1}}%
47 {\partial{#1}^{#2}}%
48 }%
49 }%

```

Factored from  $\backslash LWRskmathpdnostarsub$ , following:

The phrase  $^{\{ \}}$  appears to be required while parsing the carets.  $\backslash LWRskmathpdplus$  is used to only place a plus sign starting after the first term.  $\backslash LWRskmathpddone$  is used to only place a 1 digit if a second or later term does not have a power.

This may not be recursion-safe. (Is there really such a thing as nested differentials?)

```

50 \CustomizeMathJax{\newcommand{\LWRskmathdonumerator}[5]{%
51 \partial^{\{%
52 \def\LWRskmathpdplus{\}%
53 \LWRskmathpdnumerator#2^{\{ \}^{\{ \}}}\LWRskmathEND%
54 \def\LWRskmathpdplus{+}\}%
55 \def\LWRskmathpddone{1}\}%
56 \LWRskmathpdnumerator#3^{\{ \}^{\{ \}}}\LWRskmathEND%
57 \LWRskmathpdnumerator#4^{\{ \}^{\{ \}}}\LWRskmathEND%
58 \LWRskmathpdnumerator#5^{\{ \}^{\{ \}}}\LWRskmathEND%
59 }\}%
60 {#1}\}%
61 }%
62
63 \CustomizeMathJax{\newcommand{\LWRskmathdodenominator}[4]{%
64 \LWRskmathpddenominator#1^{\{ \}^{\{ \}}^{\{ \}}}\LWRskmathEND%
65 \ifblank{#2}{\{ \},}\}%
66 \LWRskmathpddenominator#2^{\{ \}^{\{ \}}^{\{ \}}}\LWRskmathEND%
67 \ifblank{#3}{\{ \},}\}%

```

```

68 \LWRskmathpdddenominator#3^{}^{}^{}\LWRskmathEND%
69 \ifblank{#4}{}{\,}%
70 \LWRskmathpdddenominator#4^{}^{}^{}\LWRskmathEND%
71 }

```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```

72 \CustomizeMathJax{\def\LWRskmathpdnostarsub#1#2,#3,#4,#5,#6\LWRskmathEND{%
73 \ifblank{#3}{\def\LWRskmathpdone{}{\def\LWRskmathpdone{1}}}{%
74 \frac{%
75 {\LWRskmathdonumerator{#1}{#2}{#3}{#4}{#5}}{%
76 {\LWRskmathdodenominator{#2}{#3}{#4}{#5}}}}%
77 }{%
78 }%
79 \CustomizeMathJax{\newcommand{\LWRskmathpdnostar}[2]{%
80 \LWRskmathpdnostarsub{#1}{#2},,,,\LWRskmathEND%
81 }}%
82 \CustomizeMathJax{\newcommand{\pd}{\ifstar\LWRskmathpdstar\LWRskmathpdnostar}}}

```

If notation=english or legacy, use slanted, else upright:

```

83 \cs_if_eq:NNTF __skmath_total_derivative_d: \LWR__skmath_total_derivative_d: %
84 { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathit{d}}} } %
85 { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathrm{d}}} } %

86 \CustomizeMathJax{\def\LWRskmathtdsub#1#2#3\LWRskmathEND{%
87 \frac{%
88 {\LWRskmathtd^{#3}{#1}}{%
89 {\LWRskmathtd^{#2}{#3}}}}%
90 }{%
91 }%
92 \CustomizeMathJax{\newcommand{\td}[2]{%
93 \LWRskmathtdsub{#1}{#2}{}}\LWRskmathEND%
94 }}}

95 \CustomizeMathJax{\newcommand{\E}[1]{%
96 \operatorname{E}\left[\#1\right]}%
97 }}

98 \CustomizeMathJax{\let\given\mid}
99
100 \CustomizeMathJax{\newcommand{\P}[1]{%
101 \operatorname{P}\left[\#1\right]}%
102 \left(\#1\right)}%
103 }

104 \CustomizeMathJax{\newcommand{\var}[1]{%
105 \operatorname{Var}\left(\#1\right)}%
106 }}

107 \CustomizeMathJax{\newcommand{\cov}[2]{%
108 \operatorname{Cov}\left(\#1,\#2\right)}%
109 }}

110 \CustomizeMathJax{\newcommand{\operatorname}[2]{%
111 \operatorname{#1}\left(\#2\right)}%
112 }%

```

Common code for \sin etc:

```

111 \CustomizeMathJax{\newcommand{\LWRskmathtrigtwo}[2][]{%
112 \ifblank{#1}{}{^{#1}}%
113 \ifblank{#2}{}{\left(#2\right)}%
114 }%
115
116 \CustomizeMathJax{\newcommand{\LWRskmathtrig}[1]{%
117 \operatorname{#1}%
118 \LWRskmathtrigtwo%
119 }}

120 \CustomizeMathJax{\renewcommand{\sin}{\LWRskmathtrig{sin}}}
121 \CustomizeMathJax{\renewcommand{\arcsin}{\LWRskmathtrig{arcsin}}}
122
123 \CustomizeMathJax{\renewcommand{\cos}{\LWRskmathtrig{cos}}}
124 \CustomizeMathJax{\renewcommand{\arccos}{\LWRskmathtrig{arccos}}}
125
126 \CustomizeMathJax{\renewcommand{\tan}{\LWRskmathtrig{tan}}}
127 \CustomizeMathJax{\renewcommand{\arctan}{\LWRskmathtrig{arctan}}}
128
129 \CustomizeMathJax{\renewcommand{\cot}{\LWRskmathtrig{cot}}}
130
131 \CustomizeMathJax{\renewcommand{\sinh}{\LWRskmathtrig{sinh}}}
132 \CustomizeMathJax{\renewcommand{\cosh}{\LWRskmathtrig{cosh}}}
133 \CustomizeMathJax{\renewcommand{\tanh}{\LWRskmathtrig{tanh}}}

```

Common code for \ln and \log:

```

134 \CustomizeMathJax{\newcommand{\LWRskmathlogtwo}[2][]{%
135 \ifblank{#1}{}{_{}^{#1}}%
136 \ifblank{#2}{}{\left(#2\right)}%
137 }%
138
139 \CustomizeMathJax{\newcommand{\LWRskmathlog}[1]{%
140 \operatorname{#1}%
141 \LWRskmathlogtwo%
142 }}

143 \CustomizeMathJax{\renewcommand{\ln}{\LWRskmathlog{ln}}}
144 \CustomizeMathJax{\renewcommand{\log}{\LWRskmathlog{log}}}

145 \CustomizeMathJax{\newcommand{\LWRskmathexpparens}[1]{%
146 \operatorname{exp}%
147 \ifblank{#1}{}{\left(#1\right)}%
148 }%

```

See the **skmath** source for the original of the following:

```

149 \CustomizeMathJax{\newcommand{\LWRskmathexpnostar}[1]{%
150 \mathchoice
151 {\mathrm{e}}^{\mathrm{e}}^{#1}%
152 {\mathrm{e}}^{\mathrm{e}}^{#1}%
153 {\mathrm{e}}^{\mathrm{e}}^{#1}%
154 {\mathrm{e}}^{\mathrm{e}}^{#1}%
155 }%

```

```

154 {\LWRskmathxpparens{#1}}
155 }
156
157 \CustomizeMathJax{\renewcommand{\exp}{\ifstar\LWRskmathxpparens\LWRskmathxpnostar}}

```

Common code for \min etc:

```

158 \CustomizeMathJax{\newcommand{\LWRskmathminstar}[2][]{%
159 \operatorname{\LWRskmathminname}%
160 \ifblank{#1}{}{%
161 _{\mathchoice{\mathclap{#1}}{#1}{#1}{#1}}%
162 }%
163 \ifblank{#2}{}{#2}%
164 }}

165 \CustomizeMathJax{\newcommand{\LWRskmathminnostar}[2][]{%
166 \ifblank{#1}%
167 \operatorname{\LWRskmathminname}%
168 {%
169 \underset{%
170 \mathchoice{\mathclap{#1}}{#1}{#1}{#1}}{%
171 \operatorname{\LWRskmathminname}%
172 }%
173 \ifblank{#2}{}{\left.\right.^{#2}}%
174 }}}

```

\LWRskmathminname seems to be recursion-safe since it is used immediately.

```

175 \CustomizeMathJax{\newcommand{\LWRskmathmin}[1]{%
176 \def\LWRskmathminname{#1}%
177 \ifstar\LWRskmathminstar\LWRskmathminnostar%
178 }}

179 \CustomizeMathJax{\renewcommand{\min}{\LWRskmathmin{min}}}
180 \CustomizeMathJax{\renewcommand{\argmin}{\arg\LWRskmathmin{min}}}
181
182 \CustomizeMathJax{\renewcommand{\max}{\LWRskmathmin{max}}}
183 \CustomizeMathJax{\renewcommand{\argmax}{\arg\LWRskmathmin{max}}}
184 \CustomizeMathJax{\renewcommand{\sup}{\LWRskmathmin{sup}}}
185 \CustomizeMathJax{\renewcommand{\inf}{\LWRskmathmin{inf}}}

186 \CustomizeMathJax{\let\bar\overline}
187
188 \CustomizeMathJax{\let\vec\boldsymbol}

```

Remember the original definitions:

```

189 \CustomizeMathJax{\let\LWRskmathRe\Re}
190 \CustomizeMathJax{\let\LWRskmathIm\Im}

```

Redefine depending on notation=iso:

```

191 \bool_if:NTF\g__skmath_iso_complex_parts_bool{%
192 \CustomizeMathJax{\renewcommand{\Re}[1]{%

```

---

```

193 \LWRskmathRe%
194 \ifblank{#1}{}{\left(#1\right)}%
195 }
196 \CustomizeMathJax{\renewcommand{\Im}{%
197 \LWRskmathIm%
198 \ifblank{#1}{}{\left(#1\right)}%
199 }}
200 }{
201 \CustomizeMathJax{\renewcommand{\Re}{%
202 \operatorname{Re}%
203 \ifblank{#1}{#1}%
204 }}
205 \CustomizeMathJax{\renewcommand{\Im}{%
206 \operatorname{Im}%
207 \ifblank{#1}{#1}%
208 }}
209 }
210
211 \ExplSyntaxOff
212 \end{warpMathJax}

```

---

File 443 **l warp-slantsc.sty**

§ 551 Package **slantsc**

*(Emulates or patches code by HARALD HARDERS.)*

Pkg slantsc slantsc is emulated for HTML, and used as-is for print output.

for HTML output: 1 \LWR@ProvidesPackagePass{slantsc}[2012/01/01]

```

2 \newcommand*{\LWR@HTML@noscshape}{}%
3 \LWR@formatted{noscshape}%
4
5 \FilenameNullify{%
6 \LetLtxMacro\noscshape\empty%
7 }

```

---

File 444 **l warp-slashed.sty**

§ 552 Package **slashed**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg slashed slashed works as-s for HTML SVG math. For MATHJAX, emulation is provided.

for HTML output: 1 \LWR@ProvidesPackagePass{slashed}[1997/01/16]

```

2 \begin{warpMathJax}%
3 \CustomizeMathJax{\newcommand{\slashed}{[1]\cancel{#1}}}%
4 \end{warpMathJax}

```

---

**File 445 lwarp-soul.sty**

§ 553      Package **soul**

(Emulates or patches code by MELCHIOR FRANZ.)

Pkg soul soul is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{soul}[2003/11/17]
2 \RequirePackage{xcolor}%
 for \convertcolorspec
```

Storage for the colors to use:

```
3 \newcommand*\LWR@soululcolor{}%
4
5 \newcommand*\LWR@soulstcolor{}%
6
7 \% \definecolor{\LWR@soulhlcolordefault}{HTML}{F8E800}
8 \% \newcommand*\LWR@soulhlcolor{\LWR@soulhlcolordefault}
9 \newcommand*\LWR@soulhlcolor{}%
```

\so {⟨text⟩}

Basic markup with css:

```
10 \newcommand{\so}[1]{%
11 \InlineClass{letter-spacing:.2ex}{letterspacing}{#1}%
12 }
```

\caps {⟨text⟩}

```
13 \newcommand{\caps}[1]{%
14 \InlineClass{%
15 (font-variant:small-caps;letter-spacing:.1ex)%
16 {capsspacing}{#1}%
17 }}
```

\LWR@soulcolor {⟨text⟩} {⟨color⟩} {⟨class⟩} {⟨colorstyle⟩} {⟨FormatWPstyle⟩}

Add colors if not empty:

```
18 \newcommand{\LWR@soulcolor}[5]{%
19 \ifcsempty{#2}%
20 {%
21 \InlineClass{#5}{#3}{#1}%
22 }%
23 {%
24 \convertcolorspec[named]{\nameuse{#2}}{HTML}\LWR@tempcolor%
25 \LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}%
26 }%
27 }
```

```

28 \newcommand{\ul}[1]{%
29 \LWR@soulcolor{#1}{\LWR@soululcolor}{\uline}{\text-decoration-color}%
30 {text-decoration:underline; text-decoration-skip: auto;}%
31 }
32
33 \newcommand{\st}[1]{%
34 \LWR@soulcolor{#1}{\LWR@soulstcolor}{\sout}{\text-decoration-color}%
35 {text-decoration:line-through}%
36 }
37
38 \newcommand{\hl}[1]{%
39 \LWR@soulcolor{#1}{\LWR@soulhlcolor}{\highlight}{\background-color}%
40 {background:\LWR@origpound{}F8E800}%
41 }

```

Nullified:

```

42 \newcommand*{\soulaccent}[1]{}%
43 \newcommand*{\soulregister}[2]{}%
44 \newcommand{\sloppyword}[1]{#1}%
45 \newcommand*{\sodef}[5]{\DeclareRobustCommand*#1[1]{\so{##1}}}%
46 \newcommand*{\resetso}{}%
47 \newcommand*{\capsdef}[5]{}%
48 \newcommand*{\capsreset}{}%
49 \newcommand*{\capssave}[1]{}%
50 \newcommand*{\capsselect}[1]{}%
51 \newcommand*{\setul}[2]{}%
52 \newcommand*{\resetul}{}%
53 \newcommand*{\setuldepth}[1]{}%
54 \newcommand*{\setuloverlap}[1]{}%
55 \newcommand*{\lless}{}%

```

Set colors:

```

56 \newcommand*{\setulcolor}[1]{\renewcommand{\LWR@soululcolor}{#1}}%
57 \newcommand*{\setstcolor}[1]{\renewcommand{\LWR@soulstcolor}{#1}}%
58 \newcommand*{\sethlcolor}[1]{\renewcommand{\LWR@soulhlcolor}{#1}}%

```

Long versions of the user-level macros:

```

59 \let\textso\so
60 \let\textul\ul
61 \let\texthl\hl
62 \let\textcaps\caps

```

File 446 **lwarp-soulpos.sty**

§ 554      Package **soulpos**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg soulpos soulpos is emulated.

---

**for HTML output:**

```

1 \RequirePackage{soul}
2 \RequirePackage{soulutf8}
3 \LWR@ProvidesPackageDrop{soulpos}[2012/02/25]

4 \NewDocumentCommand{\ulposdef}{m o m}{}
5
6 \newdimen\ulwidth
7
8 \newcommand\ifulstarttype[1]{%
9 \expandafter\@secondoftwo%
10 }
11
12 \newcommand\ifulendtype[1]{%
13 \expandafter\@secondoftwo%
14 }
15
16 \newcommand{\ulstarttype}{0}
17 \newcommand{\ulendtype}{0}
18 \newcommand{\ulpostolerance}{0}%

```

---

File 447 **lwarf-soulutf8.sty**

§ 555 Package **soulutf8**

Pkg soulutf8 soulutf8 is emulated.

lwarf's HTML output naturally supports UTF-8 encoding.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{soulutf8}[2016/05/16]
2 \RequirePackage{soul}

```

---

File 448 **lwarf-splitbib.sty**

§ 556 Package **splitbib**

(Emulates or patches code by NICOLAS MARKEY.)

Pkg splitbib splitbib is patched for use by lwarf.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{splitbib}[2005/12/22]

```

```

2 \def\NMSB@stylebox#1#2{%
3 \begin{BlockClass}[text-align:center ; border: 1px solid black]{splitbibbox}
4 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
5 \end{BlockClass}
6 }
7
8 \def\NMSB@stylebar#1#2{%
9 \begin{BlockClass}[%
10 text-align:center ;

```

---

```

11 border-top: 1px solid black ;
12 border-bottom: 1px solid black ;
13]{splitbibbar}
14 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{\#1#2}}
15 \end{BlockClass}
16 }
17
18 \def\NMSB@styledash#1#2{%
19 \begin{BlockClass}[%
20 text-align:center ;
21]{splitbibdash}
22 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{---#1#2---}}
23 \end{BlockClass}
24 }
25
26 \def\NMSB@stylenone#1#2{%
27 \par
28 }
29
30 \def\NMSB@stylesimple#1#2{%
31 \par
32 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{\#1#2}}
33 \par
34 }

```

---

#### File 449 **l warp-splitidx.sty**

§ 557 Package **splitidx**

(Emulates or patches code by MARKUS KOHM.)

Pkg **splitidx** **splitidx** is patched for use by **l warp**.

If the **latexmk** option is selected for **l warp**, **latexmk** will compile the document but will *not* compile the indexes. **l warpmk printindex** and **l warpmk htmlindex** will still be required.

⚠ **\thepage** When using **\AtWriteToIndex** or **\AtNextWriteToIndex**, the user must not refer to **\thepage** during HTML output, as the concept of a page number is meaningless. Instead, do

```

\addtocounter{\LWR@autoindex}{1}
\LWR@new@label{\LWRindex-\arabic{\LWR@autoindex}}

```

where the **\index**-like action occurs, and then refer to **\arabic{\LWR@autoindex}** instead of **\thepage** where the reference should occur.

See section [676.17](#) in the **l warp-patch-memoir** package for the **\@wrspindexhyp** macro as an example.

**for HTML output:** 1 **\LWR@ProvidesPackagePass{splitidx}[2016/02/18]**

```

2 \catcode`_=12%
3 \xpatchcmd{\newindex}

```

```

4 {\jobname-#2.idx}
5 {\jobname-#2_html.idx}
6 {}
7 {\LWR@patcherror{splitidx}{@newindex}}
8 \catcode`_=8%

```

Patched to use `lwarp`'s automatic indexing counter instead of `\thepage`:

```

9 \renewcommand*{\@wrsindex}[2][]{%
10 \ifx\relax#1\relax
11 \if@splitidx
12 \@wrsindex[idx]{#2}%
13 \else
14 \def\@tempa{#2}%
15 \if@verbindex\onelevel@sanitize\@tempa\fi
16 \@wrindex{\@tempa}%
17 \fi
18 \else
19 \def\@tempa{#2}%
20 \csname index@\@hook\endcsname
21 % \expandafter\ifx\csname @wrsindex\endcsname\relax
22 \addtocounter{\LWR@autoindex}{1}% lwarp
23 \label{\LWRindex-\arabic{\LWR@autoindex}}% lwarp
24 % \@@@wrsindex[#1]{\@tempa}{\thepage}%
25 \@@@wrsindex[#1]{\@tempa}{\arabic{\LWR@autoindex}}%
26 % \else
27 % \def\@tempb{\@@@wrsindex[#1]}%
28 % \expandafter\@tempb\@tempa||\%
29 % \fi
30 \endgroup
31 \esphack
32 \fi
33 }

```

`lwarp` defines sectioning commands with `xparse`, so the below patches are done as temporary redefinitions instead of being `\let`.

```

34 \xpatchcmd{\printsubindex}
35 {\let\section\subsection}
36 {\renewcommand*{\section}{\subsection}}
37 {}
38 {\LWR@patcherror{splitidx}{printsubindex-section}}
39
40 \xpatchcmd{\printsubindex}
41 {\let\chapter\section}
42 {\renewcommand*{\chapter}{\section}}
43 {}
44 {\LWR@patcherror{splitidx}{printsubindex-chapter}}
45
46 \xpatchcmd{\printsubindex}
47 {\let@makechapterhead\section}
48 {\def@makechapterhead{\section}}
49 {}
50 {\LWR@patcherror{splitidx}{printsubindex-chapter}}

```

---

**File 450 l warp-srcltx.sty****§ 558 Package srcltx**

Pkg srcltx srcltx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{srcltx}[2006/11/12]

```
2 \newif\ifSRCOK \SRCOKfalse
3 \newcommand*\srcIncludeHook[1]{}%
4 \newcommand*\srcInputHook[1]{}%
5 \newcommand*\MainFile{}%
6 \def>MainFile{\jobname.tex}%
7 \newcommand*\CurrentInput{}%
8 \gdef\CurrentInput{\MainFile}%
9 \newcommand\Input{}%
10 \let\Input\input
```

---

**File 451 l warp-srctex.sty****§ 559 Package srctex**

Pkg srctex srctex is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]
2 \LWR@origRequirePackage{l warp-srcltx}

---

**File 452 l warp-stabular.sty****§ 560 Package stabular**

(Emulates or patches code by SIGITAS TOLUŠIS.)

Pkg stabular stabular is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{stabular}[2014/03/20]

Env stabular [ $\langle vpos \rangle$ ] [ $\langle colspec \rangle$ ]

```
2 \newenvironment{stabular}[2][c]
3 {
4 \begin{tabular}[#1]{#2}
5 \renewcommand{\noalign}{\vphantom{#1}}
6 }
7 {\end{tabular}}
```

```
Env stabular {<width>} [<vpos>] {<colspec>}

8 \NewDocumentEnvironment{stabular*}{m o m}
9 {
10 \begin{tabular}[#2]{#3}
11 \renewcommand{\noalign}[1]{}
12 }
13 \end{tabular}
```

---

File 453 **l warp-stackengine.sty**

§ 561 Package **stackengine**

*(Emulates or patches code by STEVEN B. SEGLETES.)*

Pkg stackengine stackengine is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{stackengine}[2017/02/13]

The original version is necessary for the patched \@stack and \stackanchor, where nesting lateximages does not work:

```
2 \LetLtxMacro\LWR@orig@stackengine\stackengine

3 \renewcommand*{\stackengine}[8]{%
4 \ifstreq{\#4}{0}{%
5 {\begin{lateximage}[\ImageAltText]}{%
6 {\begin{lateximage}[\ImageAltText][[]][vertical-align:top]}{%
7 \LWR@orig@stackengine{\#1}{\#2}{\#3}{\#4}{\#5}{\#6}{\#7}{\#8}}{%
8 \end{lateximage}}{%
9 }}}
```

\@stack uses a lateximage with a vertical alignment:

```
10 \LetLtxMacro\LWR@orig@@stack\@stack
11
12 \xpatchcmd{\LWR@orig@@stack}{\stackengine}{\LWR@orig@stackengine}
13 {}
14 {\LWR@patcherror{stackengine}{\LWR@orig@@stack}}
15
16 \renewcommand*{\@stack}[4]{%
17 \ifstreq{\#3}{0}{%
18 {\begin{lateximage}[\ImageAltText]}{%
19 {\begin{lateximage}[\ImageAltText][[]][vertical-align:top]}{%
20 \LWR@orig@@stack{\#1}{\#2}{\#3}{\#4}}{%
21 \end{lateximage}}{%
22 }}}}
```

The lapping macros are disabled for HTML:

```
23 \newcommand*\LWR@HTML@@stacklap[4]{#3}
24 \LWR@formatted{@stacklap}
```

\stackanchor is patched for two instances of \stackengine. A `lateximage` with vertical alignment is used.

```

25 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
26 {}
27 {\LWR@patcherror{stackengine}{stackanchor patch 1}}
28
29 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
30 {}
31 {\LWR@patcherror{stackengine}{stackanchor patch 2}}
32
33 \xpretocmd{\stackanchor}
34 {\begin{ lateximage }[\ImageAltText] [vertical-align:middle] }
35 {}
36 {\LWR@patcherror{stackengine}{stackanchor pre}}
37
38 \xapptocmd{\stackanchor}{\end{ lateximage }}
39 {}
40 {\LWR@patcherror{stackengine}{stackanchor app}}

```

\Centerstack is simply placed inside a `lateximage` with a vertical alignment:

```

41 \xpretocmd{\Centerstack}
42 {\begin{ lateximage }[\ImageAltText] [vertical-align:middle] }
43 {}
44 {\LWR@patcherror{stackengine}{Centerstack pre}}
45
46 \xapptocmd{\Centerstack}{\end{ lateximage }}
47 {}
48 {\LWR@patcherror{stackengine}{Centerstack app}}

```

\savestack reverts to print mode while saving the box, then places it inside a `lateximage` when used:

```

49 \renewcommand*\savestack[2]{%
50 \xdef\sv@name{\stack@macro@name{#1}}%
51 \@ifundefined{\sv@name content}{%
52 \expandafter\newsavebox\expandafter{\csname\sv@name content\endcsname}%
53 }{}%
54 \begingroup% lwarp
55 \LWR@restoreorigformatting% lwarp
56 \RenewDocumentEnvironment{ lateximage }{ soso ood(){}{} }{ l warp: inside group }
57 \expandafter\lWR@gsavebox\csname\sv@name content\endcsname{#2}%
58 \expandafter\gdef\expandafter#1\expandafter{%
59 \expandafter\begin\expandafter{ lateximage \expandafter}%
60 \expandafter\usebox\expandafter{%
61 \csname\sv@name content\endcsname}%
62 \expandafter\end\expandafter{ lateximage \expandafter}%
63 }% lwarp
64 \endgroup% lwarp
65 }

```

§ 562      Package **stackrel**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg **stackrel** **stackrel** is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{stackrel}[2016/05/16]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\renewcommand{\stackrel}[3][]{%
4 \mathrel{\mathop{\#3}\limits_{\#1}^{\#2}}%
5 }%
6
7 \CustomizeMathJax{\newcommand{\stackbin}[3][]{%
8 \mathbin{\mathop{\#3}\limits_{\#1}^{\#2}}%
9 }%
10 \end{warpMathJax}
```

File 455 **l warp-statex2.sty**

§ 563      Package **statex2**

*(Emulates or patches code by RODNEY A SPARAPANI.)*

Pkg **statex2** **statex2** is patched for use by **l warp**, and emulated for MATHJAX.

- ⚠ As of this version, option `autobold` does not appear to work for PDF output.
- ⚠ For MATHJAX, the tilde character `~` does not create `\sim`. Use `\sim` directly.
- ⚠ Because MATHJAX has limited conditional processing:

- `\wrap` only creates square braces, no matter what its optional arguments.
- `\P`, `\pCau`, `\pN`, and `\pU` do not handle special cases.

⚠ `\and` To have `\and` work if using `\maketitle`, place the following after the start of the document:

```

\newcommand*{\and}{%
\relax\ifmmode%
 \expandafter\;\mb{\mathrm{and}}\;%
\else%
 \expandafter\STATEand%
\fi%
}
```

for HTML output: 1 \LWR@ProvidesPackagePass{statex2}[2011/09/14]

2 \newcommand\*{\LWR@HTML@Alpha}[1][]{%

```

3 \fcolorbox{black}{ForestGreen}{\textcolor{white}{\textsf{ALPHA}}}}%
4 \textbf{\textcolor{ForestGreen}{\textsf{\#1}}}}%
5 }
6 \LWR@formatted{Alpha}
7
8 \newcommand*{\LWR@HTML@List}[1]{%
9 \textbf{\textcolor{Dandelion}{\textsf{L}}}\textsubscript{\textit{\#1}}}}%
10 }
11 \LWR@formatted{List}
12
13 \newcommand*{\LWR@HTML@Snd}[1][{}]{%
14 \fcolorbox{black}{Dandelion}{\textcolor{white}{\textsf{2nd}}}}%
15 \textbf{\textcolor{Dandelion}{\textsf{\#1}}}}%
16 }
17 \LWR@formatted{Snd}
18
19 \begin{warpMathJax}
20 \LWR@infoprocessingmathjax{statex2}
21
22 \CustomizeMathJax{\newcommand{\cpi}{\boldsymbol{\pi}}}
23 \CustomizeMathJax{\newcommand{\c}[1]{\boldsymbol{\mathsf{#1}}}}
24 \CustomizeMathJax{\newcommand{\sfsl}[1]{\mathsf{#1}}}% not slanted
25
26 \if@manualbold
27 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{#1}}}
28 \else
29 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{\mathsf{#1}}}}
30 \fi
31
32 \CustomizeMathJax{\newcommand{\diag}{\mathsf{diag}}}
33 \CustomizeMathJax{\newcommand{\blockdiag}{\mathsf{blockdiag}}}
34 \CustomizeMathJax{\newcommand{\erf}{\mathsf{erf}}}
35 \CustomizeMathJax{\newcommand{\logit}{\mathsf{logit}}}
36 \CustomizeMathJax{\newcommand{\trace}{\mathsf{trace}}}
37
38 \CustomizeMathJax{\newcommand{\chisq}{\mathsf{\chi^2}}}
39 \CustomizeMathJax{\newcommand{\deriv}[2]{\frac{\mathrm{d}#1}{\mathrm{d}#2}}\wrap{\mathsf{#2}}}}
40 \CustomizeMathJax{\newcommand{\derivf}[2]{\frac{\mathrm{d}#1}{\mathrm{d}#2}}\wrap{\mathsf{#1}}}}
41 \CustomizeMathJax{\newcommand{\e}[1]{\mathsf{e}^{#1}}}
42 \CustomizeMathJax{\newcommand{\E}[2]{\mathsf{E}_{#1}^{#2}}\wrap{\mathsf{#2}}}}
43 \CustomizeMathJax{\newcommand{\ha}{\frac{\alpha}{2}}}
44 \CustomizeMathJax{\newcommand{\I}[2][{}]{%
45 \mathsf{I}_{#1}\LWRwapparen{\mathsf{#2}}}}%
46 }
47 \CustomizeMathJax{\newcommand{\IBeta}[2]{%
48 \frac{\Gamma_{#1+2}}{\Gamma_{#1}\Gamma_{#2}}}}%
49 }
50 \CustomizeMathJax{\newcommand{\If}{\mathsf{if}}\; ;\; \mathsf{if}}
51 \CustomizeMathJax{\newcommand{\im}{\mathsf{i}}}
52 \CustomizeMathJax{\newcommand{\ol}{\overline{\mathsf{o}}}}
53 \CustomizeMathJax{\newcommand{\ow}{\mathsf{otherwise}}\; ;\; \mathsf{otherwise}}
54 \CustomizeMathJax{\newcommand{\pderiv}[2]{%
55 \frac{\partial #1}{\partial #2}}\wrap{\mathsf{#2}}}}%
56 }
57 \CustomizeMathJax{\newcommand{\pderivf}[2]{%

```

```

58 \mb{\frac{\partial}{\partial #2}}\wrap{\mb{#1}}%
59 }
60 \CustomizeMathJax{\newcommand{\sd}{\mb{\sigma}}}
61 \CustomizeMathJax{\newcommand{\ul}{\underline}}
62 \CustomizeMathJax{\newcommand{\V}[2][]{\mb{\mathrm{V}}}_{\mb{#1}} \wrap{\mb{#2}}}}
63 \CustomizeMathJax{\newcommand{\vs}{\;,\mb{\mathrm{vs.}}}\;}}
64 \CustomizeMathJax{\newcommand{\where}{\;,\mb{\mathrm{where}}}\;}}
65 \CustomizeMathJax{\newcommand{\wrap}[2][]{\left[#2 \right]}\; only []}
66 \CustomizeMathJax{\newcommand{\LWRwrapparen}[1]{\left(#1 \right)}\; lwarp}
67
68 % \CustomizeMathJax{\renewcommand{\sim}{\mb{\sim}}}\; doesn't work,
69 % replace <space>\sim<space> with <space>\sim<space>
70
71 \CustomizeMathJax{\newcommand{\iid}{\stackrel{\mathcal{I}}{\sim}}}
72 \CustomizeMathJax{\newcommand{\ind}{\stackrel{\mathcal{I}}{\sim}}}
73 \CustomizeMathJax{\newcommand{\indpr}{\stackrel{\mathcal{I}}{\stackrel{\mathcal{P}}{\sim}}}}
74 ;\stackrel{\mathcal{I}}{\stackrel{\mathcal{P}}{\sim}}\;%
75 }
76 \CustomizeMathJax{\newcommand{\post}{\stackrel{\mathcal{P}}{\sim}}}
77 \CustomizeMathJax{\newcommand{\prior}{\stackrel{\mathcal{P}}{\sim}}}
78
79 \CustomizeMathJax{\let\STATEXGamma=\Gamma}
80 \CustomizeMathJax{\renewcommand{\Gamma}[1][]{\mb{\STATEXGamma}\LWRwrapparen{\mb{#1}}}}
81 %
82 \CustomizeMathJax{\renewcommand{\and}{\mb{\mathsf{and}}}\;}
83 %
84 \CustomizeMathJax{\newcommand{\H}{\mb{\mathsf{H}}}\;}
85 %
86 \CustomizeMathJax{\newcommand{\P}[2][]{\mb{\mathsf{P}}}_{\mb{#1}} \wrap{\mb{#2}}}}
87 %
88 \CustomizeMathJax{\newcommand{\mid}{\mb{\mid}}\;}
89
90 \CustomizeMathJax{\newcommand{\B}[1]{\mb{\mathsf{B}}}\LWRwrapparen{\mb{#1}}}
91 \CustomizeMathJax{\newcommand{\BB}[1]{\mb{\mathsf{BetaBin}}}\LWRwrapparen{\mb{#1}}}
92 \CustomizeMathJax{\newcommand{\Bin}[2]{\mb{\mathsf{Bin}}}_{\mb{#1},\mb{#2}}\LWRwrapparen{\mb{#1},\mb{#2}}}
93 \CustomizeMathJax{\newcommand{\Dir}[1]{\mb{\mathsf{Dirichlet}}}\LWRwrapparen{\mb{#1}}}
94 \CustomizeMathJax{\newcommand{\HG}[3]{\mb{\mathsf{Hypergeometric}}}\LWRwrapparen{\mb{#1},\mb{#2},\mb{#3}}\;%
95 \;%
96 }
97 \CustomizeMathJax{\newcommand{\M}[2]{\mb{\mathsf{Multinomial}}}\LWRwrapparen{\mb{#1},\mb{#2}}\;%
98 \;%
99 }
100 \CustomizeMathJax{\newcommand{\NB}[2]{\mb{\mathsf{NegBin}}}\LWRwrapparen{\mb{#1},\mb{#2}}\;%
101 \CustomizeMathJax{\newcommand{\Poi}[1]{\mb{\mathsf{Poisson}}}\LWRwrapparen{\mb{#1}}\;%
102 \CustomizeMathJax{\let\Poisson=\Poi\;%
103
104 \CustomizeMathJax{\newcommand{\pBB}[4][x]{\frac{\Gamma[#2+1]\Gamma[#3+#1]\Gamma[#2+#4-\#1]\Gamma[#3+\#4]}{\Gamma[#1+1]\Gamma[#2-\#1+1]\Gamma[#2+\#3+\#4]\Gamma[#3]\Gamma[#4]}\;%
105 \;%
106 \;%
107 \;%
108 \;%
109 \CustomizeMathJax{\newcommand{\pBin}[3][x]{\binom{\#2}{\#1}^{#3}\binom{\#1}{\#2}\;%
110 \;%
111 \;%
112 }}}

```

```

113 \CustomizeMathJax{\newcommand{\pPoi}[2][x]{%
114 \mb{\frac{1}{#1!}#2^{#1}\e{-#2}\I[#1]{\{0, 1, .\}}, \where #2>0}%
115 }%
116
117 \CustomizeMathJax{\newcommand{\Cau}[2]{\mb{\mathrm{Cauchy}}}\LWRwapparen{\mb{#1,\#2}}}}
118 \CustomizeMathJax{\let\Cauchy=\Cau}
119 \CustomizeMathJax{\newcommand{\Chi}[2][]{%
120 \chisq_{\mb{#1}}}\LWRwapparen{\mb{#2}}%
121 }%
122 \CustomizeMathJax{\let\Chisq=\Chi}
123 \CustomizeMathJax{\newcommand{\Bet}[2]{\mb{\mathrm{Beta}}}\LWRwapparen{\mb{#1,\#2}}}}
124 \CustomizeMathJax{\let\Beta=\Bet}
125 \CustomizeMathJax{\newcommand{\Exp}[1]{\mb{\mathrm{Exp}}}\LWRwapparen{\mb{#1}}}
126 \CustomizeMathJax{\newcommand{\F}[2]{\mb{\mathrm{F}}}\LWRwapparen{\mb{#1,\#2}}}
127 \CustomizeMathJax{\newcommand{\Gam}[2]{\mb{\mathrm{Gamma}}}\LWRwapparen{\mb{#1,\#2}}}
128 \CustomizeMathJax{\newcommand{\IC}[1]{\mb{\mathrm{\chi}^{-2}}}\LWRwapparen{\mb{#1}}}
129 \CustomizeMathJax{\newcommand{\IG}[2]{%
130 \mb{\mathrm{Gamma}^{-1}}}\LWRwapparen{\mb{#1,\#2}}%
131 }%
132 \CustomizeMathJax{\newcommand{\IW}[2]{%
133 \mb{\mathrm{Wishart}^{-1}}}\LWRwapparen{\mb{#1,\#2}}%
134 }%
135 \CustomizeMathJax{\newcommand{\Log}[2]{%
136 \mb{\mathrm{Logistic}}}\LWRwapparen{\mb{#1,\#2}}%
137 }%
138 \CustomizeMathJax{\newcommand{\LogN}[2]{%
139 \mb{\mathrm{Log}!-\!N}}}\LWRwapparen{\mb{#1,\#2}}%
140 }%
141 \CustomizeMathJax{\newcommand{\N}[3][]{%
142 \mb{\mathrm{N}}_{\mb{#1}}}\LWRwapparen{\mb{#2,\#3}}%
143 }%
144 \CustomizeMathJax{\newcommand{\Par}[2]{\mb{\mathrm{Pareto}}}\LWRwapparen{\mb{#1,\#2}}}
145 \CustomizeMathJax{\let\Pareto=\Par}
146 \CustomizeMathJax{\newcommand{\Tsq}[2]{\mb{\mathrm{T}^2}}}\LWRwapparen{\mb{#1,\#2}}}
147 \CustomizeMathJax{\newcommand{\U}[1]{\mb{\mathrm{U}}}\LWRwapparen{\mb{#1}}}
148 \CustomizeMathJax{\newcommand{\W}[2]{\mb{\mathrm{Wishart}}}\LWRwapparen{\mb{#1,\#2}}}
149
150 \CustomizeMathJax{\renewcommand{\t}[1]{\mb{\mathrm{t}}}\LWRwapparen{\mb{#1}}}
151
152 \CustomizeMathJax{\newcommand{\pBet}[3][x]{%
153 \IBeta{#2}{#3}%
154 #1^{#2-1}\LWRwapparen{1-#1}^{#3-1}\I[#1]{0,1}, \where #2>0 \and #3>0%
155 }%
156 \CustomizeMathJax{\newcommand{\pCau}[3][x]{%
157 % \ifthenelse{\equal{#2, #3}{0, 1}}{\frac{1}{\cpi}\LWRwapparen{1+#1}^2}%
158 % {\frac{1}{#3\cpi}\left(1+\wrap{\LWRwapparen{x-#2}}^{#3}\right)^2}, \where #3>0}%
159 }% no special case for 0,1
160 \CustomizeMathJax{\newcommand{\pChi}[2][x]{%
161 \frac{2^{-#2/2}}{\Gamma(#2/2)}#1^{#2/2-1}\e{-#1/2}%
162 \I[#1]{0,\infty}, \where #2>0%
163 }%
164 \CustomizeMathJax{\newcommand{\pExp}[2][x]{%
165 \frac{1}{#2}\e{-#1/#2}\I[#1]{0,\infty}, %
166 \where #2>0%
167 }%

```

---

```

168 \CustomizeMathJax{\newcommand{\pGam}[3][x]{%
169 \frac{#3^{#2}}{\Gamma[#2]}#1^{#2-1}\e{-#3#1}%
170 \I[#1]{0,\infty}, \where #2>0 \and #3>0%
171 }%
172 \CustomizeMathJax{\newcommand{\pN}[3][x]{%
173 % \ifthenelse{\equal{#2, #3}{0, 1}}{%
174 % {\frac{1}{\sqrt{2\pi}}\e{-#1^2/2}}%
175 % {\frac{1}{\sqrt{2\pi}}\cdot #3}\e{-\LWRrapparen{#1-#2}^2/2}\cdot #3}}%
176 }% no test for 0,1, must add \cdot
177 \CustomizeMathJax{\newcommand{\pPar}[3][x]{%
178 \frac{#3}{#2\LWRrapparen{1+#1/#2}^{#3+1}}\I[#1]{0,\infty},%
179 \where #2>0 \and #3>0%
180 }%
181 \CustomizeMathJax{\newcommand{\pU}[3][x]{%
182 % \ifthenelse{\equal{#2, #3}{0, 1}}{\I[#1]{0, 1}}{%
183 % {\frac{1}{#3-#2}\I[#1]{#2, #3}, \where #2<#3}}%
184 }% no special case for 0,1
185
186 \CustomizeMathJax{\newcommand{=}[]{\bar{#1}}}
187 \CustomizeMathJax{\let\widehat\widehat}
188 \CustomizeMathJax{\let\widetilde\widetilde}
189 \CustomizeMathJax{\newcommand{'}[]{\LWRrapparen{\mb{#1}}}}
190 \CustomizeMathJax{\newcommand{\b}[]{\bar{#1}}}
191 \CustomizeMathJax{\newcommand{\c}[]{\mb{\mathrm{#1}}}}
192 \CustomizeMathJax{\newcommand{\d}[]{\mb{\mathrm{#1}}}}
193 \CustomizeMathJax{\newcommand{.}{\ldots}}
194 \end{warpMathJax}
```

---

#### File 456 **lwarp-statistics.sty**

## § 564 Package **statistics**

(Emulates or patches code by JULIEN RIVAUD.)

Pkg **statistics** **statistics** is patched for use by **lwarp**.

⚠ **\color** The **statistics** documentation examples include the use of the **\color** macro. Use **\textcolor** instead.

⚠ **math** The **statistics** package uses math arrays, but the HTML version uses text tabulars to allow text copy/paste. If math is required, use **\ensuremath** or **\(** and **\)** as needed.

Pre/postline is ignored, and **\hline** is used instead. Each table will have an **\hline** above and below as a frame.

**for HTML output:** 1 **\LWR@ProvidesPackagePass{statistics}**[2019/09/29]

2 **\ExplSyntaxOn**

To use **text tabular** instead of **math array**. This allows text copy/paste of the results.

In the following, all changes for the Lwarp package are labelled "lwarp".

Redefined using the lwarp version of &:

```
3 \StartDefiningTabulars% lwarp
4 \cs_set_protected_nopar:Nn __statistics_table_make:nn {
5 \int_compare:nT
6 { 0 < \l__statistics_table_maxcols_int
7 = \l__statistics_nbvals_int } {
8 __statistics_table_end:
9 \tl_use:N \l__statistics_table_sep_tl
10 __statistics_table_start:
11 }
12 \int_incr:N \l__statistics_nbvals_int
13 \int_incr:N \l__statistics_currange_int
14 \fp_add:Nn \l__statistics_curtotal_fp { #2 }
15 __statistics_set_if_shown:N \l_tmpa_bool
16 \tl_set:Nx \l_tmpa_tl {
17 \exp_not:n { & \tl_set:Nn \currentcolumn } {
18 \int_use:N \l__statistics_currange_int
19 }
20 }
21 \bool_if:NTF \l_tmpa_bool {
22 \tl_put_right:Nn \l_tmpa_tl
23 {__statistics_table_shown_format:n}
24 }{
25 \tl_put_right:Nn \l_tmpa_tl
26 {__statistics_table_hidden_format:n}
27 }
28 \seq_put_right:Nn \l__statistics_store_values_seq { #1 }
29 \bool_if:NT \l__statistics_table_values_bool {
30 \tl_put_right:Nx \l__statistics_table_values_tl {
31 \exp_not:V \l_tmpa_tl {
32 \exp_not:n {
33 __statistics_table_values_format:n { #1 }
34 }
35 }
36 }
37 }
38 \seq_put_right:Nx \l__statistics_store_counts_seq { \fp_eval:n {#2} }
39 \bool_if:NT \l__statistics_table_counts_bool {
40 \tl_put_right:Nx \l__statistics_table_counts_tl {
41 \exp_not:V \l_tmpa_tl {
42 \exp_not:n {
43 __statistics_table_counts_format:n {
44 { __statistics_table_allcounts_format:n { #2 } }
45 }
46 }
47 }
48 }
49 }
50 \bool_if:NT \l__statistics_table_icc_bool {
51 \tl_put_right:Nx \l__statistics_table_icc_tl {
52 \exp_not:V \l_tmpa_tl {
53 \exp_not:n { __statistics_table_icc_format:n }
54 {
55 \exp_not:n{ __statistics_table_allcounts_format:n }
```

```
56 { \fp_use:N \l__statistics_curtotal_fp }
57 }
58 }
59 }
60 }
61 \bool_if:NT \l__statistics_table_dcc_bool {
62 \tl_put_right:Nx \l__statistics_table_dcc_tl {
63 \exp_not:V \l_tmpa_tl {
64 \exp_not:n { __statistics_table_dcc_format:n }
65 {
66 \exp_not:n{ __statistics_table_allcounts_format:n }
67 {
68 \fp_eval:n {
69 \l__statistics_total_fp
70 - \l__statistics_curtotal_fp
71 + #2
72 }
73 }
74 }
75 }
76 }
77 }
78 \fp_set:Nn \l__statistics_table_curICF_fp {
79 round(\l__statistics_curtotal_fp
80 / \l__statistics_total_fp,
81 \l__statistics_table_round_int)
82 }
83 \bool_if:NT \l__statistics_table_frequencies_bool {
84 \tl_put_right:Nx \l__statistics_table_frequencies_tl {
85 \exp_not:V \l_tmpa_tl {
86 \exp_not:n { __statistics_table_frequencies_format:n }
87 {
88 \exp_not:n{ __statistics_table_allfreqs_format:n }
89 {
90 \fp_eval:n {
91 \l__statistics_table_curICF_fp
92 - \l__statistics_table_prevICF_fp
93 }
94 }
95 }
96 }
97 }
98 }
99 \bool_if:NT \l__statistics_table_icf_bool {
100 \tl_put_right:Nx \l__statistics_table_icf_tl {
101 \exp_not:V \l_tmpa_tl {
102 \exp_not:n { __statistics_table_icf_format:n }
103 {
104 \exp_not:n{ __statistics_table_allfreqs_format:n }
105 { \fp_to_decimal:N \l__statistics_table_curICF_fp }
106 }
107 }
108 }
109 }
110 \bool_if:NT \l__statistics_table_dcf_bool {
```

```

111 \tl_put_right:Nx \l__statistics_table_dcf_tl {
112 \exp_not:V \l_tmpa_tl {
113 \exp_not:n { __statistics_table_dcf_format:n }
114 {
115 \exp_not:n{ __statistics_table_allfreqs_format:n }
116 {
117 \fp_eval:n {
118 1 - \l__statistics_table_prevICF_fp
119 }
120 }
121 }
122 }
123 }
124 }
125 \fp_set_eq:NN
126 \l__statistics_table_prevICF_fp
127 \l__statistics_table_curICF_fp
128 }
129 \StopDefiningTabulars% l warp

```

Redefined using `tabular`. Also, `preline` and `postline` do not work correctly with `l warp`, which looks for certain tokens to detect `\hlines`, so `\hline` is used instead.

```

130 \cs_set_protected_nopar:Nn __statistics_table_end: {
131 \tl_set:Nx \l__statistics_table_preamble_tl {
132 % \exp_not:n { \begin{array}{}
133 \exp_not:n { \begin{tabular}{ } }% l warp
134 \exp_not:V \l__statistics_table_valign_tl
135 \exp_not:n { } }
136 { \exp_not:V \l__statistics_table_headcoltype_tl
137 \prg_replicate:nn { \l__statistics_nbvals_int }
138 { \exp_not:V \l__statistics_table_coltype_tl } }
139 }
140 \seq_clear:N \l__statistics_table_contents_seq
141 \clist_map_inline:nn { values, counts, icc, dcc, frequencies, icf, dcf } {
142 \bool_if:cT { \l__statistics_table_#1_bool } {
143 \seq_put_right:Nv
144 \l__statistics_table_contents_seq
145 { \l__statistics_table_#1_tl }
146 }
147 }
148 % $
149 \tl_use:N \l__statistics_table_preamble_tl
150 \hline% l warp
151 % \l__statistics_table_preline_tl
152 \seq_use:Nn
153 \l__statistics_table_contents_seq
154 { \l__statistics_table_newline_tl }
155 \\
156 % \l__statistics_table_postline_tl
157 \hline% l warp
158 % \end{array}$
159 \end{tabular}% l warp
160 }

```

With `\lwarp`, `\ensuremath` creates an SVG image, but its `alt` tag does not contain the text of the contents for copy/paste, since these expressions are usually not simple text. For the `statistics` package, copy/paste is restored by using text instead of math output.

For the leftmost column. Redefined to use text output:

```

161 \cs_set_protected_nopar:Nn __statistics_table_start: {
162 \int_zero:N \l__statistics_nbvals_int
163 \clist_pop:NNT \l__statistics_table_maxcols_clist \l_tmpa_tl {
164 \int_set:Nn \l__statistics_table_maxcols_int { \l_tmpa_tl }
165 }
166 \clist_map_inline:nn { values, counts, frequencies, icc, icf, dcc, dcf } {
167 \tl_set:cx { l__statistics_table_##1_tl } {
168 \exp_not:N \ensuremath {
169 \exp_not:N \hbox {
170 \exp_not:c { l__statistics_table_##1_name_tl }
171 }
172 }
173 }
174 }
175 }
```

For the first row. Redefined to use text output:

```

176 \RenewDocumentCommand __statistics_IN:w { m u{;} u{;} m } {
177 \ensuremath{ \left#1 \num{#2} \mathbin{;} \num{#3} \right#4 }
178 #1 #2 ; #3 #4% \lwarp
179 }
180
181 __statistics_setup:nn { table } {
182 values/format = \ensuremath{#1},
183 values/format = {#1},% \lwarp
184 }
```

Added `\ExplSyntaxOn/Off` to avoid errors. (In once instance, a double subscript error appeared.)

```

185 \RenewDocumentCommand \StatsGraph { +0{} +m +0{} } {
186 \group_begin:
187 \int_gincr:N \g__statistics_graph_last_int
188 \tl_set:Nx \l_tmpa_tl {
189 \exp_not:n { g__statistics_graph_xstep_ }
190 \int_use:N \g__statistics_graph_last_int
191 \exp_not:n { _tl }
192 }
193 \tl_if_exist:cTF { \l_tmpa_tl } {
194 \fp_gset:Nn \g__statistics_graph_xstep_fp
195 { \tl_use:c { \l_tmpa_tl } }
196 }{
197 \fp_gset:Nn \g__statistics_graph_xstep_fp { \c_one_int }
198 }
199 __statistics_setup:nn { graph } { #1, #3 }
200 \tl_if_single:nTF { #2 } {
201 \cs_if_exist:NF #2 { #2 }
202 \tl_set_eq:NN \l__statistics_data_tl #2
```

```
203 }{
204 \tl_set:Nn \l_statistics_data_tl { #2 }
205 }
206 \fp_zero:N \l_statistics_graph_maxheight_fp
207 \fp_set:Nn \l_statistics_graph_minvalue_fp {inf}
208 \fp_set:Nn \l_statistics_graph_maxvalue_fp {-inf}
209 \fp_zero:N \l_statistics_total_fp
210 \int_zero:N \l_statistics_nbvals_int
211 \bool_set_true:N \l_statistics_graph_allranges_bool
212 \keyval_parse:NNV
213 __statistics_graph_prepare:n
214 __statistics_graph_prepare:nn
215 \l_statistics_data_tl
216 \tl_clear:N \l_statistics_graph_tikzdata_tl
217 \tl_clear:N \l_statistics_graph_tikzinfo_tl
218 \int_zero:N \l_statistics_currange_int
219 \bool_if:NTF \l_statistics_graph_allranges_bool {
220 \bool_if:NTF \l_statistics_graph_cumulative_bool {
221 \ExplSyntaxOn% l warp
222 __statistics_graph_dopicture_cumulative:
223 \ExplSyntaxOff% l warp
224 }%
225 \ExplSyntaxOn% l warp
226 __statistics_graph_dopicture_hist:
227 \ExplSyntaxOff% l warp
228 }%
229 }%
230 \ExplSyntaxOn% l warp
231 __statistics_graph_dopicture_comb:
232 \ExplSyntaxOff% l warp
233 }
234 \iow_now:Nx \@auxout {
235 \exp_not:n {
236 \ExplSyntaxOn
237 \tl_gset:cn
238 }
239 {
240 \exp_not:n {g__statistics_graph_xstep_}
241 \int_use:N \g__statistics_graph_last_int
242 \exp_not:n {_tl}
243 }
244 {
245 \fp_to_decimal:N \g__statistics_graph_xstep_fp
246 }
247 \exp_not:n {
248 \ExplSyntaxOff
249 }
250 }
251 \group_end:
252 }
253
254 \ExplSyntaxOff
```

§ 565      Package **statmath**

(Emulates or patches code by SEBASTIAN ANKARGREN.)

Pkg statmath **statmath** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{statmath}[2018/03/08]

```
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{statmath}
6
7 \ifdefequal{\abcbf}{\mathbf}
8 {\CustomizeMathJax{\newcommand{\abcbf}[1]{\mathbf{#1}}}}
9 {\CustomizeMathJax{\newcommand{\abcbf}[1]{\boldsymbol{#1}}}}
10
11 \CustomizeMathJax{\newcommand{\greekbf}[1]{\boldsymbol{#1}}}
12
13 \CustomizeMathJax{\newcommand{\bfA}{\abcbf A}}
14 \CustomizeMathJax{\newcommand{\bfB}{\abcbf B}}
15 \CustomizeMathJax{\newcommand{\bfC}{\abcbf C}}
16 \CustomizeMathJax{\newcommand{\bfD}{\abcbf D}}
17 \CustomizeMathJax{\newcommand{\bfE}{\abcbf E}}
18 \CustomizeMathJax{\newcommand{\bfF}{\abcbf F}}
19 \CustomizeMathJax{\newcommand{\bfG}{\abcbf G}}
20 \CustomizeMathJax{\newcommand{\bfH}{\abcbf H}}
21 \CustomizeMathJax{\newcommand{\bfI}{\abcbf I}}
22 \CustomizeMathJax{\newcommand{\bfJ}{\abcbf J}}
23 \CustomizeMathJax{\newcommand{\bfK}{\abcbf K}}
24 \CustomizeMathJax{\newcommand{\bfL}{\abcbf L}}
25 \CustomizeMathJax{\newcommand{\bfM}{\abcbf M}}
26 \CustomizeMathJax{\newcommand{\bfN}{\abcbf N}}
27 \CustomizeMathJax{\newcommand{\bfO}{\abcbf O}}
28 \CustomizeMathJax{\newcommand{\bfP}{\abcbf P}}
29 \CustomizeMathJax{\newcommand{\bfQ}{\abcbf Q}}
30 \CustomizeMathJax{\newcommand{\bfR}{\abcbf R}}
31 \CustomizeMathJax{\newcommand{\bfS}{\abcbf S}}
32 \CustomizeMathJax{\newcommand{\bfT}{\abcbf T}}
33 \CustomizeMathJax{\newcommand{\bfU}{\abcbf U}}
34 \CustomizeMathJax{\newcommand{\bfV}{\abcbf V}}
35 \CustomizeMathJax{\newcommand{\bfW}{\abcbf W}}
36 \CustomizeMathJax{\newcommand{\bfX}{\abcbf X}}
37 \CustomizeMathJax{\newcommand{\bfY}{\abcbf Y}}
38 \CustomizeMathJax{\newcommand{\bfZ}{\abcbf Z}}
39 \CustomizeMathJax{\newcommand{\bfa}{\abcbf a}}
40 \CustomizeMathJax{\newcommand{\bfb}{\abcbf b}}
41 \CustomizeMathJax{\newcommand{\bfc}{\abcbf c}}
42 \CustomizeMathJax{\newcommand{\bfd}{\abcbf d}}
43 \CustomizeMathJax{\newcommand{\bfe}{\abcbf e}}
44 \CustomizeMathJax{\newcommand{\bff}{\abcbf f}}
45 \CustomizeMathJax{\newcommand{\bfg}{\abcbf g}}
46 \CustomizeMathJax{\newcommand{\bfh}{\abcbf h}}
47 \CustomizeMathJax{\newcommand{\bfi}{\abcbf i}}
48 \CustomizeMathJax{\newcommand{\bfj}{\abcbf j}}
```

---

```

49 \CustomizeMathJax{\newcommand{\bfk}{\abcbf k}}
50 \CustomizeMathJax{\newcommand{\bfl}{\abcbf l}}
51 \CustomizeMathJax{\newcommand{\bfm}{\abcbf m}}
52 \CustomizeMathJax{\newcommand{\bfn}{\abcbf n}}
53 \CustomizeMathJax{\newcommand{\bfo}{\abcbf o}}
54 \CustomizeMathJax{\newcommand{\bfp}{\abcbf p}}
55 \CustomizeMathJax{\newcommand{\bfq}{\abcbf q}}
56 \CustomizeMathJax{\newcommand{\bfr}{\abcbf r}}
57 \CustomizeMathJax{\newcommand{\bfs}{\abcbf s}}
58 \CustomizeMathJax{\newcommand{\bft}{\abcbf t}}
59 \CustomizeMathJax{\newcommand{\bfu}{\abcbf u}}
60 \CustomizeMathJax{\newcommand{\bfv}{\abcbf v}}
61 \CustomizeMathJax{\newcommand{\bfw}{\abcbf w}}
62 \CustomizeMathJax{\newcommand{\bfx}{\abcbf x}}
63 \CustomizeMathJax{\newcommand{\bfy}{\abcbf y}}
64 \CustomizeMathJax{\newcommand{\bfz}{\abcbf z}}
65
66 \LWR@mathjax@addgreek@l@bfit{bf}{\% Greek lowercase bold face italic}
67 \LWR@mathjax@addgreek@u@bfup*{bf}{\% Greek uppercase bold face upright, cap macros.
68
69 \CustomizeMathJax{\newcommand{\bfzero}{\greekbf 0}}
70
71 \CustomizeMathJax{\DeclareMathOperator{\cov}{Cov}}
72 \CustomizeMathJax{\DeclareMathOperator{\E}{E}}
73 \CustomizeMathJax{\DeclareMathOperator{\V}{V}}
74 \CustomizeMathJax{\newcommand{\inas}{\overset{a.s.}{\to}}}
75 \CustomizeMathJax{\newcommand{\indist}{\overset{d}{\to}}}
76 \CustomizeMathJax{\newcommand{\inprob}{\overset{p}{\to}}}
77 \CustomizeMathJax{\DeclareMathOperator{\plim}{plim}}
78 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
79 \CustomizeMathJax{\DeclareMathOperator{\vc}{vec}}
80 \CustomizeMathJax{\DeclareMathOperator{\vcs}{vecs}}
81 \CustomizeMathJax{\DeclareMathOperator{\vch}{vech}}
82 \CustomizeMathJax{\DeclareMathOperator{\diag}{diag}}
83 \CustomizeMathJax{\DeclareMathOperator{\argmin}{arg\!,min}}
84 \CustomizeMathJax{\DeclareMathOperator{\argmax}{arg\!,max}}
85 \end{warpMathJax}

```

---

File 458 **lwarf-steinmetz.sty**

§ 566 Package **steinmetz**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg **steinmetz** **steinmetz** is patched for use by **lwarf**. Emulation is provided for MATHJAX

**for HTML output:** 1 \LWR@ProvidesPackagePass{steinmetz}[2009/06/14]

```

2 \renewcommand{\phase}[2][]{
3 \begin{lateximage}*[steinmetz{\detokenize{#2}\!}]
4 \ensuremath{\underline{/#2}}
5 \end{lateximage}
6 }

```

```
7
8 \begin{warpMathJax}
9 \CustomizeMathJax{\newcommand{\phase}[2][]{\underline{/#2}}}
10 \end{warpMathJax}
```

---

**File 459 l warp-stffloats.sty****§ 567 Package stffloats**

Pkg stffloats stffloats is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{stffloats}[2017/03/27]

stffloats may have been preloaded by a `ltj*` class.

The following are provided in case they have not yet been defined:

```
2 \providecommand*\fnbelowfloat{}
3 \providecommand*\fnunderfloat{}
4 \providecommand*\setbaselinefloat{}
5 \providecommand*\setbaselinefixed{}
```

Nullified for HTML:

```
6 \renewcommand*\fnbelowfloat{}
7 \renewcommand*\fnunderfloat{}
8 \renewcommand*\setbaselinefloat{}
9 \renewcommand*\setbaselinefixed{}
```

---

**File 460 l warp-struktex.sty****§ 568 Package struktex**

(Emulates or patches code by JOBST HOFFMANN.)

Pkg struktex struktex is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{struktex}

```
2 \BeforeBeginEnvironment{struktogramm}{%
3 \begin{lateximage}[-struktex-\~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{struktogramm}{\end{lateximage}}
6
7 \newenvironment{\LWR@HTML@centerNss}{\begin{center}}{\end{center}}
8 \LWR@formattedenv{centerNss}
9
10 \newcommand{\LWR@HTML@CenterNssFile}[1]{%
11 \begin{center}
12 \input{#1.nss}
```

---

```

13 \end{center}
14 }
15 \LWR@formatted{CenterNssFile}
16
17 \newcommand{\LWR@HTML@centerNssfile}{\LWR@HTML@CenterNssFile}
18 \LWR@formatted{centerNssfile}

```

---

File 461 **lwarp-subcaption.sty**

§ 569 Package **subcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg **subcaption** **subcaption** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{subcaption}[2018/05/01]

Tells **lwarp** to ignore minipage widths inside a subfigure or subtable. In print mode the minipages are used to place the items next to each other. In **HTML** they are placed side-by-side automatically.

```

2 \xpretocmd{\subcaption@iiminipage}
3 {\minipagefullwidth}
4 {}
5 {\LWR@patcherror{subcaption}{subcaption@iiminipage}}

```

Likewise for a **\subcaptionbox**:

```

6 \xpretocmd{\subcaptionbox}
7 {\minipagefullwidth}
8 {}
9 {\LWR@patcherror{subcaption}{subcaptionbox}}

```

---

File 462 **lwarp-subfig.sty**

§ 570 Package **subfig**

*(Emulates or patches code by STEVEN DOUGLAS COCHRAN.)*

Pkg **subfig** **subfig** is supported and patched by **lwarp**.

⚠ **table numbering** To have correct sub table numbers:

```

\usepackage[caption]
\captionsetup[table]{position=top}

```

⚠ **lof/lotdepth** At present, the package options for **lofdepth** and **lotdepth** are not working. These counters must be set separately after the package has been loaded.

⚠ **horizontal spacing** In the document source, use **\hfill** and **\hspace\*** between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to

be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

**for HTML output:** Accept all options for `lwarp-subfig`:

```
1 \LWR@ProvidesPackagePass{subfig}[2005/06/28]
```

```
\sf@@@subfloat {⟨1 type⟩} [⟨2 LOF entry⟩] [⟨3 caption⟩] {⟨4 contents⟩}
```

The outer minipage allows side-by-side subfloats with `\hfill` between.

```
2 \long\def\sf@@@subfloat#1[#2][#3]{%
3 \begin{minipage}{\linewidth} lwarp
4 \IfValueTF{#2}{%
5 \LWR@setlatestname{#2}%
6 }{%
7 \IfValueTF{#3}{%
8 \LWR@setlatestname{#3}%
9 }{%
10 }%
11 \LWR@stopars% lwarp
12 \ifundefined{FBsc@max}{%
13 \FB@readaux{\let\FBsuboheight\relax}%
14 \tempcpta=\ne
15 \if@minipage
16 \tempcpta=z@
17 \else\ifdim \lastskip=z@ \else
18 \tempcpta=tw@
19 \fi\fi
20 \ifmaincaptiontop
21 \sf@top=\sf@nearskip
22 \sf@bottom=\sf@farskip
23 \else
24 \sf@top=\sf@farskip
25 \sf@bottom=\sf@nearskip
26 \fi
27 \leavevmode
28 % \setbox\tempboxa \hbox{#4}%
29 % \tempdima=\wd\tempboxa
30 % \ifundefined{FBsc@max}{%
31 % \global\advance\Xhsiz-\wd\tempboxa
32 % \dimen@\ht\tempboxa
33 % \advance\dimen@\dp\tempboxa
34 % \ifdim\dimen@>\FBso@max
35 % \global\FBso@max\dimen@
36 % \fi}%
37 % \vtop%
38 \bgroup
39 % \vbox%
40 \bgroup
41 \ifcase\tempcpta
42 \ominipagefalse
```

Do not use boxes, which interfere with `lateximages`:

```
37 % \vtop%
38 \bgroup
39 % \vbox%
40 \bgroup
41 \ifcase\tempcpta
42 \ominipagefalse
```

```
43 \or
44 % \vskip\sf@top
45 \or
46 \ifdim \lastskip=\z@ \else
47 % @tempskipb\sf@top\relax\xaddvskip
48 \fi
49 \fi
50 \sf@ifpositiontop{%
51 \ifx \empty\relax \else
52 \sf@subcaption{\#1}{\#2}{\#3}%
53 % \vskip\sf@capskip
54 % \vskip\sf@captionadj
55 \fi\egroup
56 % \hrule width0pt height0pt depth0pt
57 \LWR@startpars% lwarp
58 % \box\@tempboxa
59 #4
60 \LWR@stopars% lwarp
61 }{%
62 \LWR@startpars% lwarp
63 \@ifundefined{FBsc@max}%
64 {
65 % \box\@tempboxa
66 #4
67 }%
68 {\ifx\FBsubohight\relax
69 % \box\@tempboxa
70 #4
71 \else
72 % \vbox to \FBsubohight{\FBafil\box\@tempboxa\FBbfil}%
73 #4
74 \fi}%
75 \LWR@stopars% lwarp
76 \egroup
77 \ifx \empty\relax \else
78 % \vskip\sf@capskip
79 % \hrule width0pt height0pt depth0pt
80 \sf@subcaption{\#1}{\#2}{\#3}%
81 \fi
82 }%
83 % \vskip\sf@bottom
84 \egroup
85 \@ifundefined{FBsc@max}{}%
86 {\addtocounter{FRobj}{-1}%
87 \ifnum\c@FRobj=0\else
88 \subfloatrowsep
89 \fi}%
90 \ifmaincaptiontop\else
91 \global\advance\@nameuse{c@\@capttype}\m@ne
92 \fi
93 \end{minipage}% lwarp
94 \LWR@startpars% lwarp
95 \endgroup\ignorespaces%
96 }%
```

```
\sf@subcaption {<1 type>} {<2 LOF entry>} {<3 caption>}

97 \long\def\sf@subcaption#1#2#3{%
98 \LWR@stoppars% lwarp
99 \ifx \relax#2\relax \else
100 \bgroup
101 \let\label=\gobble
102 \let\protect=string
103 \def\@subcaplabel{%
104 \caption@lstfmt{\@nameuse{p#1}}{\@nameuse{the#1}}{%
105 \sf@updatecaptionlist{#1}{#2}{\the\value{@capttype}}{\the\value{#1}}{%
106 }%
107 }%
108 \bgroup
109 \ifx \relax#3\relax
110 \let\captionlabelsep=\relax
111 \fi
112 % \setbox0\vbox{%
113 % \hb@xt@\the\@tempdima{%
114 %
115 % \hss
116 % \parbox[t]{\the\@tempdima}{%
117 % \caption@make
118 % {\@nameuse{sub\@capttype name}}{%
119 % {\@nameuse{thesub\@capttype}}{%
120 % {#3}
121 % }%
122 % \hss
123 % }%
124 % }%
125 \@ifundefined{FBsc@max}{%
126 {\box0}%
127 {
128 \parbox[t]{\the\@tempdima}{%
129 \LWR@traceinfo{sfsubcap B1}% lwarp
130 \LWR@figcaption% lwarp
131 \caption@make
132 {\@nameuse{sub\@capttype name}}{%
133 {\@nameuse{thesub\@capttype}}{%
134 {\LWR@isolate{#3}}{%
135 \endLWR@figcaption% lwarp
136 \LWR@traceinfo{sfsubcap B2}% lwarp
137 }%
138 }%
139 {\dimen@\ht0%
140 \advance\dimen@\dp0%
141 \ifdim\dimen@>\FBsc@max
142 \global\FBsc@max\dimen@
143 \fi
144 \FB@readaux{\let\FBsubcheight\relax}%
145 \ifx\FBsubcheight\relax
146 \def\next{%
147 \parbox[t]{\the\@tempdima}%
148 }%
149 \else
```

```

150 \def\next{%
151 % \parbox[t][\FBsubcheight][t]{\the\@tempdima}%
152 }%
153 \fi
154 % \vbox{%
155 % \hb@xt@\the\@tempdima{%
156
157 % \hss
158 % \next{%
159 \LWR@traceinfo{sfsubcap C1}% l warp
160 \caption@make
161 {\@nameuse{sub@\capttype name}}%
162 {\@nameuse{thesub@\capttype}}%
163 {\#3}
164 \LWR@traceinfo{sfsubcap C1}% l warp
165 % }%
166 % \hss
167
168 % }
169 % }
170 }%
171 \egroup
172 \LWR@startpars% l warp
173 }

```

\subfloat@label Patches for \sf@sub@label:

```

174 \xpretocmd{\subfloat@label}{%
175 {\LWR@ensuredoingapar}%
176 {}%
177 {\LWR@patcherror{subfig}{subfloat@label}}}

```

Patches for \subref.

\sf@subref {<label>}

The unstarred version uses a \ref link whose printed text comes from the sub@<label>:

```

178 \renewcommand{\sf@subref}[1]{%
179 \LWR@subnewref{\#1}{sub@\#1}%
180 }

```

\sf@@subref {<label>}

The starred version uses the printed sub@<label> which is stored as if it were a page number:

```
181 \renewcommand{\sf@@subref}[1]{\LWR@orig@pageref{sub@\#1}}
```

Defining new subfloats. The l@sub<type> for each is redefined.

\@newsubfloat [<keys/values>] {<float name>}

```

182 \LetLtxMacro{\LWR@orig@newsubfloat}{\@newsubfloat}
183
184 \def\@newsubfloat[#1]{%

```

---

```

185 \LWR@orig@newsubfloat[#1]{#2}%
186 \renewcommand{\l@sub#2}[2]{\hypertocfloat{2}{sub#2}{\ext@sub#2}{##1}{##2}}%
187 }

```

Pre-defined for figures and tables:

```

\l@subfigure {\langle text\rangle} {\langle pagenum\rangle}
188 \renewcommand{\l@subfigure}[2]{\hypertocfloat{2}{subfigure}{lof}{#1}{#2}}
\l@subtable {\langle text\rangle} {\langle pagenum\rangle}
189 \renewcommand{\l@subtable}[2]{\hypertocfloat{2}{subtable}{lot}{#1}{#2}}

```

---

### File 463 **l warp-subfigure.sty**

## § 571 Package **subfigure**

Pkg **subfigure** **subfigure** is emulated by **subfig**.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{subfigure}[2002/03/15]
2 \RequirePackage{subfig}

3 \LetLtxMacro{\subfigure}{\subfloat}
4 \LetLtxMacro{\subtable}{\subfloat}
5 \LetLtxMacro{\Subref}{\subref}
6 @ifundefined{figuretopcaptrue}{\newif\iffiguretopcap{}}
7 \newif\ifsubfiguretopcap
8 \newif\ifsubcaphang
9 \newif\ifsubcapcenter
10 \newif\ifsubcapcenterlast
11 \newif\ifsubcapnooneline
12 \newif\ifsubcapraggedright
13 \newskip\subfigtopskip
14 \newskip\subfigcapskip
15 \newdimen\subfigcapadj
16 \newskip\subfigbottomskip
17 \newdimen\subfigcapmargin
18 \newskip\subfiglabelskip
19 \newcommand*\subcapsize{}
20 \newcommand*\subcaplabelfont{}
21 \newcommand*\subcapfont{}

```

---

### File 464 **l warp-subsupscripts.sty**

## § 572 Package **subsupscripts**

(Emulates or patches code by RICCARDO BRESCIANI.)

Pkg **subsupscripts** **subsupscripts** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{subsupscripts}[2009/10/27]

The larger skips are used here.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \newcommand{\fourscriptsC}[7]{%
5 {}^{\#2}_{\#3}\hspace{\#6}\#1\hspace{\#7}{}^{\#4}_{\#5}%
6 }
7 }
8 \CustomizeMathJax{%
9 \newcommand{\lsubscriptsC}[5]{%
10 \fourscriptsC{\#1}{\#2}{\#3}{\#4}{\#5}%
11 }
12 }
13 \CustomizeMathJax{%
14 \newcommand{\rsuperscriptsC}[5]{%
15 \fourscriptsC{\#1}{\#2}{\#3}{\#4}{\#5}%
16 }
17 }
18 \CustomizeMathJax{%
19 \newcommand{\fourscripts}[5]{%
20 \fourscriptsC{\#1}{\#2}{\#3}{\#4}{\#5}{0ex}{0ex}%
21 }
22 }
23 \CustomizeMathJax{%
24 \newcommand{\lsubscripts}[3]{\fourscripts{\#1}{\#2}{\#3}{}}
25 }
26 \CustomizeMathJax{%
27 \newcommand{\rsuperscripts}[3]{\fourscripts{\#1}{\#2}{\#3}{}}
28 }
29 \CustomizeMathJax{%
30 \newcommand{\twolscripts}[4][- .16ex]{{}^{\#3}_{\#4}\hspace{\#1}\#2}%
31 }
32 \CustomizeMathJax{%
33 \newcommand{\tworscripts}[4][- .07ex]{{\#2}\hspace{\#1}{}^{\#3}_{\#4}}%
34 }
35 \CustomizeMathJax{%
36 \newcommand{\lscript}[3][- .16ex]{\twolscripts{\#1}{\#2}{\#3}{}}
37 }
38 \CustomizeMathJax{%
39 \newcommand{\superscript}[3][- .16ex]{\twolscripts{\#1}{\#2}{\#3}{}}
40 }
41 \CustomizeMathJax{%
42 \newcommand{\rscript}[3][- .07ex]{\tworscripts{\#1}{\#2}{\#3}{}}
43 }
44 \CustomizeMathJax{%
45 \newcommand{\rsuperscript}[3][- .07ex]{\tworscripts{\#1}{\#2}{\#3}{}}
46 }
47 \end{warpMathJax}
```

§ 573      Package **supertabular**

(Emulates or patches code by JOHANNES BRAAMS, THEO JURRIENS.)

Pkg supertabular **supertabular** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{supertabular}[2004/02/20]

⚠ Misplaced alignment tab character &

\StartDefiningTabulars  
\tablefirsthead  
...  
\StopDefiningTabulars

See section 8.10.1.

⚠ lateximage **supertabular** and **xtab** are not supported inside a **lateximage**.

```
2 \newcommand{\LWRST@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5 \long\gdef\LWRST@firsthead{\#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9 \newcommand{\tabletail}[1]{}
10
11 \newcommand{\LWRST@lasttail}{}
12
13 \newcommand{\tablelasttail}[1]{%
14 \long\gdef\LWRST@lasttail{\#1}%
15 }

16 \newcommand{\tablecaption}[2][]{%
17 \long\gdef\LWRST@caption{
18 \ifblank{\#1}{%
19 {\caption{\#2}}%
20 {\caption[\#1]{\#2}}%
21 }%
22 }
23
24 \let\topcaption\tablecaption
25 \let\bottomcaption\tablecaption

26 \newcommand*\LWRST@caption{}
27
28 \newcommand*\shrinkheight[1]{}
29
30 \NewDocumentEnvironment{supertabular}{s o m}
31 {
32 \LWR@traceinfo{supertabular}%
33 \begin{table}%
34 \LWRST@caption%
35 \begin{tabular}{#3}%
```

---

```

36 \TabularMacro\ifdefvoid{\LWRST@firsthead}%
37 {\LWR@getmynexttoken}%
38 {\expandafter\LWR@getmynexttoken\LWRST@firsthead}%
39 }%
40 {%
41 \ifdefvoid{\LWRST@lasttail}%
42 {}%
43 {%
44 \TabularMacro\ResumeTabular%
45 \LWRST@lasttail%
46 }%
47 \end{tabular}%
48 \end{table}%

49 \gdef\LWRST@caption{}%

50 \LWR@traceinfo{supertabular done}%
51 }%
52
53 \NewDocumentEnvironment{mpsupertabular}{s o m}%
54 {\minipage{\linewidth}\supertabular{#3}}%
55 {\endsupertabular\endminipage}

```

---

File 466 **lwarp-svg.sty**

§ 574 Package **SVg**

*(Emulates or patches code by PHILIP ILTEN, FALK HANISCH.)*

Pkg **svg** **svg** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{svg}[2020/10/23]

```

2 \xpretocmd{\includesvg}%
3 {\begin{lateximage}}%
4 {}%
5 {\LWR@patcherror{svg}{includesvg}}%
6
7 \xapptocmd{\includesvg}%
8 {\end{lateximage}}%
9 {}%
10 {\LWR@patcherror{svg}{includesvg}}%
11
12 \xpretocmd{\includeinkscape}%
13 {\begin{lateximage}}%
14 {}%
15 {\LWR@patcherror{svg}{includeinkscape}}%
16
17 \xapptocmd{\includeinkscape}%
18 {\end{lateximage}}%
19 {}%
20 {\LWR@patcherror{svg}{includeinkscape}}

```

---

File 467 **l warp-swfigure.sty**

§ 575 Package **swfigure**

(Emulates or patches code by CLAUDIO BECCARI.)

Pkg **swfigure** **swfigure** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{swfigure}[2020-11-10]

```
2 \NewDocumentEnvironment{DFimage}%
3 {O{SW} m O{#4} m o D(){0.8} D<>{0} D||{0.25} D!!{}}
4 {%
5 \begin{figure}
6 \centering
7 \includegraphics{#2}
8 \caption{#3}{#4}
9 \IfValueT{#5}{\label{#5}}
10 \end{figure}
11 }%
12 {}%
```

---

File 468 **l warp-syntonly.sty**

§ 576 Package **syntonly**

(Emulates or patches code by FRANK MITTELBACH, RAINER SCHÖPF.)

Pkg **syntonly** **syntonly** is ignored.

**for HTML output:** Discard all options for **l warp-syntonly**:

```
1 \LWR@ProvidesPackageDrop{syntonly}[2017/06/30]

2 \newif\ifsyntax@
3 \syntax@false
4
5 \newcommand*\syntonly{}%
6
7 \@onlypreamble\syntonly

8 \def\nopages@{}
```

---

File 469 **l warp-tabfigures.sty**

## § 577 Package **tabfigures**

Pkg tabfigures **tabfigures** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tabfigures}[2012/01/24]

---

### File 470 **l warp-tablefootnote.sty**

## § 578 Package **tablefootnote**

Pkg tablefootnote **tablefootnote** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tablefootnote}[2014/01/26]

This works because in HTML tables are no longer floats.

2 \LetLtxMacro\tablefootnote\footnote

---

### File 471 **l warp-tables.sty**

## § 579 Package **tables**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg tables **tables** is emulated. \LWR@hline is used to handle the optional argument when **tables** is loaded.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tables}

2 \newdimen\tablinesep  
3 \newdimen\arraylinesep  
4 \newdimen\extrarulesep

---

### File 472 **l warp-tabularx.sty**

## § 580 Package **tabularx**

(Emulates or patches code by DAVID CARLISLE.)

Pkg tabularx **tabularx** is emulated by **l warp**.

**for HTML output:** Discard all options for **l warp-tabularx**:

1 \LWR@ProvidesPackageDrop{tabularx}[2016/02/03]  
2 \RequirePackage{array}

```
3 \DeclareDocumentEnvironment{tabularx}{m o m}
4 {\begin{array}{#3}}
5 {\end{array}}
6
7 \DeclareDocumentEnvironment{tabularx*}{m o m}
8 {\begin{array}{#3}}
9 {\end{array}}
```

---

**File 473 l warp-tabulary.sty****§ 581 Package tabulary**

(Emulates or patches code by DAVID CARLISLE.)

Pkg tabulary tabulary is emulated by l warp.

for HTML output: Discard all options for l warp-tabulary.

Column types L, C, R, and J are emulated by l warp core code.

```
1 \LWR@ProvidesPackageDrop{tabulary}[2014/06/11]
2 \RequirePackage{array}

3 \NewDocumentEnvironment{tabulary}{m o m}
4 {\begin{array}{#3}}
5 {\end{array}}
6
7 \NewDocumentEnvironment{tabulary*}{m o m}
8 {\begin{array}{#3}}
9 {\end{array}}
10
11 \newdimen\tymin
12 \newdimen\tymax
13 \def\tyformat{}

```

**File 474 l warp-tagpdf.sty****§ 582 Package tagpdf**

Pkg tagpdf tagpdf is mostly ignored, but emulates alt text, for images only. (HTML only has alternate text for images.)

(If left enabled for HTML output, tagpdf errors when producing HTML, somehow due to the HTML page numbers.)

for HTML output: 1 \LWR@ProvidesPackageDrop{tagpdf}[2019/07/02]

```
2 \ExplSyntaxOn
3
4 \tl_new:N \l_uftag_mc_key_label_tl
```

```
5
6 \keys_define:nn { uftag / mc }
7 {
8 tag .code:n = % the name (H,P,Span etc
9 {},
10 raw .code:n =
11 {}
12 ,
13 alttext .code:n = % Alt property
14 {
15 \gdef\LWR@ThisAltText{\detokenize\expandafter{\#1}}%
16 },
17 alttext-o .code:n = % Alt property
18 {
19 \gdef\LWR@ThisAltText{\detokenize\expandafter{\#1}}%
20 },
21 actualtext .code:n = % ActualText property
22 {},
23 actualtext-o .code:n = % ActualText property
24 {},
25 label .tl_set:N = \l__uftag_mc_key_label_tl,
26 artifact .code:n = {},
27 artifact .default:n = {notype}
28 }
29
30 \keys_define:nn { uftag / struct }
31 {
32 label .tl_set:N = \l__uftag_struct_key_label_tl,
33 stash .bool_set:N = \l__uftag_struct_elem_stash_bool,
34 tag .code:n = % S property
35 {},
36 title .code:n = % T property
37 {},
38 title-o .code:n = % T property
39 {},
40 alttext .code:n = % Alt property
41 {
42 \gdef\LWR@ThisAltText{\detokenize\expandafter{\#1}}%
43 },
44 alttext-o .code:n = % Alt property
45 {
46 \gdef\LWR@ThisAltText{\detokenize\expandafter{\#1}}%
47 },
48 actualtext .code:n = % ActualText property
49 {},
50 actualtext-o .code:n = % ActualText property
51 {},
52 }
53
54 \NewDocumentCommand \tagpdfsetup { m }{ }
55
56 \cs_set_eq:NN \tagpdfifluatexTF \sys_if_engine_luatex:TF
57 \cs_set_eq:NN \tagpdfifluatexT \sys_if_engine_luatex:T
58 \cs_set_eq:NN \tagpdfifpdftexT \sys_if_engine_pdftex:T
59 \cs_new:Npn \tagpdfget #1 {}
```

```
60 \cs_new:Npn \uftag_get:n #1 {}
61
62 \NewDocumentCommand \tagmcifinTF { m m }{}
63
64 \NewDocumentCommand \tagmcbegin { m }{\uftag_mc_begin:n {#1}\ignorespaces}
65 \cs_new_protected:Nn \uftag_mc_begin:n {
66 \group_begin:
67 \keys_set:nn { uftag / mc } {#1}
68 \group_end:
69 }
70
71 \NewDocumentCommand \tagmcend {}{\ThisAltText{}}
72
73 \cs_new_protected:Nn \uftag_mc_end: {\ThisAltText{}}
74
75 \NewDocumentCommand \tagmcuse { m }{}
76
77 \cs_new_protected:Nn \uftag_mc_use:n {}
78
79 \NewDocumentCommand \tagstructbegin { m }{
80 \uftag_struct_begin:n {#1}
81 }
82
83 \cs_new_protected:Nn \uftag_struct_begin:n
84 {
85 \group_begin:
86 \keys_set:nn {uftag / struct} { #1 }
87 \group_end:
88 }
89
90 \NewDocumentCommand \tagstructend { }{\ThisAltText{}}
91
92 \cs_new_protected:Nn \uftag_struct_end: {\ThisAltText{}}
93
94 \NewDocumentCommand \tagstructuse { m }{}
95
96 % \NewDocumentCommand\showtagpdfmcdata { 0 { __uftag_get_mc_abs_cnt: } }{}
97 % What is the second argument?
98
99 \NewDocumentCommand\showtagpdfattributes { }{}
100
101 \sys_if_engine_luatex:T
102 {
103 \NewDocumentCommand\pdffakespace { }
104 {
105 __uftag_fakespace:
106 }
107 }
108
109 \ExplSyntaxOff
```

§ 583      Package **tascmac**

Pkg tascmac tascmac is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{tascmac}[2018/03/09]

```
2 \newenvironment*{boxnote}
3 {
4 \BlockClass[
5 padding: .5ex ;
6 border: 1px solid black ;
7 border-top: 1px dashed black ;
8]{boxnote}
9 }
10 {\endBlockClass}
11
12 \newenvironment*{screen}[1][]
13 {
14 \BlockClass[
15 padding: .5ex ;
16 border: 1px solid gray ;
17 border-radius: 8pt
18]{boxnote}
19 }
20 {\endBlockClass}
21
22 \newenvironment*{itembox}[2][]
23 {
24 \BlockClass[
25 padding: .5ex ;
26 border: 1px solid gray ;
27 border-radius: 8pt
28]{boxnote}
29 \InlineClass{itemboxtitle}{#2}\par
30 }
31 {\endBlockClass}
32
33 \newenvironment*{shadebox}
34 {
35 \BlockClass[
36 padding: .5ex ;
37 border: 1px solid black ;
38 box-shadow: 3px 3px 3px \#808080 ;
39]{boxnote}
40 }
41 {\endBlockClass}
42
43 \newcommand*{\mask}[2]{%
44 \InlineClass[background: lightgray]{mask}{#1}%
45 }
46
47 \newcommand*{\maskbox}[5]{%
48 \InlineClass[background: lightgray]{mask}{#5}%
49 }
```

---

```

51 \newcommand*{\Maskbox}[6]{%
52 \InlineClass[%
53 background: lightgray ;
54 border: #5 solid black
55]{mask}{#6}%
56 }
57
58 \newcommand*{\keytop}[2][]{%
59 \InlineClass[%
60 padding: .2ex ;
61 border: 1px solid black ;
62 border-radius: .7ex ;
63]{keytop}{#2}%
64 }
65
66 \def\yen{\HTMLunicode{00A5}}
67
68 \def\return{\HTMLunicode{23CE}}
69
70 \def\Return{\HTMLunicode{23CE}}
71
72 \def\ascii{ASCII Corporation}
73
74 \def\Ascii{ASCII Corporation}
75
76 \def\ASCII{ASCII Corporation}

```

---

#### File 476 **lwarf-tcolorbox.sty**

### § 584 Package **tcolorbox**

*(Emulates or patches code by THOMAS F. STURM.)*

Pkg **tcolorbox** **tcolorbox** is patched for use by **lwarf**.

See section [8.3.8](#) for limitations.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tcolorbox}[2020/04/28]

```

2 \newbool{\LWR@havetcblower}
3 \boolfalse{\LWR@havetcblower}

```

Colors are supported via **HTML** styles:

```

4 \newcommand{\LWR@tcolorbox@findcolors}{%
5 \convertcolorspec{named}{tcbscback}{HTML}\LWR@tcbscback
6 \convertcolorspec{named}{tcbscframe}{HTML}\LWR@tcbscframe
7 \iftcb@titlefilled%
8 \convertcolorspec{named}{tcbscbacktitle}{HTML}\LWR@tcbscbacktitle
9 \else
10 \convertcolorspec{named}{tcbscframe}{HTML}\LWR@tcbscbacktitle
11 \fi
12 \convertcolorspec{named}{tcbsctitle}{HTML}\LWR@tcbsctitle

```

```

13 \convertcolorspec{named}{tcbcolupper}{HTML}\LWR@tcbcolupper
14 \convertcolorspec{named}{tcbcollower}{HTML}\LWR@tcbcollower
15 }
16
17 \newcommand*{\LWR@tcolorbox@titlecolorstyles}{%
18 border-top: 1px solid \LWR@origpound\LWR@tcbcolframe ;
19 border-bottom: 1px solid \LWR@origpound\LWR@tcbcolframe ;
20 background: \LWR@origpound\LWR@tcbcolbacktitle ;
21 color: \LWR@origpound\LWR@tcbcoltitle ;
22 }
```

The title is placed inside its own <div> of class `tcolorboxtitle`.

```

23 \newcommand*{\LWR@showtitle@[1]}{%
24 \begin{BlockClass}[
25 \LWR@tcolorbox@titlecolorstyles
26]{tcolorboxtitle}
27 % \cmdKV@LWRtcolorbox@title\par
28 \kvtcb@before@title#1\kvtcb@after@title
29 \end{BlockClass}
30 }
```

If no title, a non-breakable space is used to take some vertical space.

```

31 \newcommand*{\LWR@showtitle}[1]{%
32 \iftcb@titlevisible
33 \LWR@showtitle@{#1}
34 \else
35 \LWR@showtitle@{~}
36 \fi
37 }
38
39 \newcommand*{\LWR@tcolorbox@dophantom}{%
40 % \sbox\tcb@phantombox{\kvtcb@phantom}%
41 % \iftcb@hasPhantom%
42 % \box\tcb@phantombox%
43 % \tcb@hasPhantomfalse%
44 % \fi%
45 \kvtcb@phantom
46 \let\kvtcb@phantom\@empty%
47 }
```

The `tcolorbox` is placed inside an external <div> of class #1, which is `tcolorbox` or `tcolorbox_inlineminipage`. The upper and lower parts are placed into their own internal <div>s of class `tcolorboxupper` and `tcolorboxlower`.

```

48 \newcommand*{\LWR@tcolorboxstart}[1]{%
49 \LWR@tcolorbox@findcolors
50 \begin{BlockClass}[
51 border: 1px solid \LWR@origpound\LWR@tcbcolframe ;
52 background: \LWR@origpound\LWR@tcbcolback ;
53]{#1}
54 \LWR@tcolorbox@dophantom%
55 \ifdefvoid{\kvtcb@title}
56 {}
```

```

57 {
58 \LWR@showtitle{\kvtcb@title}
59 }
60 \begin{BlockClass}[
61 color: \LWR@origpound\LWR@tcboxupper ;
62]\tcolorboxupper}
63 }
```

Flosts enclose the `tcolorbox`.

```

64 \newcommand*\LWR@tcbox@dostartfloat}{%
65 \ifx\kvtcb@float\@empty%
66 % \tcb@set@normal@unbroken@beforeafter%
67 \else%
68 % \edef\tcb@before@unbroken{%
69 % \noexpand\tcb@float@env@begin{tcbfloat}[\kvtcb@float]%
70 % \noexpand\kvtcb@everyfloat%
71 % }%
72 % \let\tcb@after@unbroken=\tcb@float@env@end%
73 \tcb@float@env@begin{tcbfloat}[\kvtcb@float]
74 \noexpand\kvtcb@everyfloat
75 \fi%
76 }
77
78 \newcommand*\LWR@tcbox@doendfloat}{%
79 \ifx\kvtcb@float\@empty%
80 \else%
81 \tcb@float@env@end%
82 \fi%
83 }
```

Footnotes are handled via the main footnote mechanism, and pending notes are printed before and after each `tcolorbox`. Footnote numbering will not match the print output.

```

84 \renewenvironment{tcolorbox}[1][]
85 {
86 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
87 {
88 \PackageError{lwarp}{%
89 Lwarp cannot process a tcolorbox inside a lateximage\MessageBreak
90 or SVG math.\MessageBreak
91 Enter 'H' for possible solutions%
92 }%
93 }%
94 {%
95 Use \protect\tcbox, \protect\tcboxmath, or
96 \protect\tcbhighmath\space instead.\MessageBreak
97 (Inside math, you probably want to use these anyhow.)%
98 }%
99 }{\relax}
100 \LWR@printpendingfootnotes
101 \tcb@layer@inc
102 \tcb@apply@box@options{#1}
103 \LWR@tcbox@dostartfloat%
104 \tcbsset{title=#1}
```

```

105 \boolearnfalse{LWR@havetcblower}
106 \LWR@tcolorboxstart{tcolorbox}
107 \tcb@insert@before@upper%
108 }
109 {
110 \ifboolearn{LWR@havetcblower}{%
111 \tcb@insert@after@lower%
112 }{%
113 \tcb@insert@after@upper%
114 }%
115 \end{BlockClass}
116 \LWR@printpendingfootnotes
117 \tcb@layer@dec
118 \end{BlockClass}
119 \LWR@tcolorbox@doendfloat%
120 }

```

For the lower part, the upper part is finished then the lower is started. `\tcbblower` is only temporarily defined where appropriate, so the HTML version is defined globally via `\newcommand` instead of `\renewcommand`.

```

121 \newcommand{\tcbblower}{
122 \tcb@insert@after@upper%
123 \end{BlockClass}
124 \begin{BlockClass}[%
125 border-top: 1px dashed \LWR@origpound\LWR@tcblcolframe ;
126 color: \LWR@origpound\LWR@tcbllower ;
127]{tcolorboxlower}
128 \tcb@insert@before@lower%
129 }

```

Starred and unstarred `\tcbline` are simple `\hrule`s.

```

130 \AtBeginDocument{
131 \ifdef{\tcbline}{%
132 \newcommand*{\LWR@sub@tcbline}{%
133 \begin{BlockClass}{\hrule}
134 \end{BlockClass}
135 }
136 \newcommand{\LWR@HTML@tcbline}{\@ifstar{\LWR@sub@tcbline}{\LWR@sub@tcbline}}
137 \LWR@formatted{tcbline}
138 }{}%
139 }
140
141 \newcommand{\LWR@HTML@tcbox}[2][]{
142 \LWR@printpendingfootnotes
143 \LWR@tcolorbox@dostartfloat%
144 \begingroup
145 \tcb@layer@inc
146 \tcb@apply@box@options{#1}
147 % \tcbset{title=#1}
148 \boolearnfalse{LWR@havetcblower}
149 \LWR@tcolorboxstart{tcolorbox inlineminipage}
150 \tcb@insert@before@upper%
151 #2

```

```

152 \ifbool{LWR@havetcblower}{%
153 \tcb@insert@after@lower%
154 }{%
155 \tcb@insert@after@upper%
156 }%
157 \end{BlockClass}
158 \LWR@printpendingfootnotes
159 \end{BlockClass}
160 \tcb@layer@dec%
161 \endgroup%
162 \LWR@tcolorbox@dostartfloat%
163 \global\booltrue{LWR@minipagethispar}%
164 }
165 \LWR@formatted{tcbox}
166
167 \appto{\LWR@restoreMathJaxformatting}{%
168 \renewcommand{\tcolorbox}[2][]{\#2}%
169 }

```

Patches for the subtitle, which is placed inside a <div> of class tcolorboxsubtitle.

```

170 \xpatchcmd{\tcbsubtitle}{%
171 {\begingroup}%
172 {\begingroup\let\kvtcb@title\relax\begin{BlockClass}{tcolorboxsubtitle}}%
173 {}%
174 {\LWR@patcherror{tcolorbox}{tcbsubtitle}}%
175
176 \xpatchcmd{\tcbsubtitle}{%
177 {\endgroup}%
178 {\end{BlockClass}\endgroup}%
179 {}%
180 {\LWR@patcherror{tcolorbox}{tcbsubtitleB}}%

```

\tcboxfit is the same as \tcbox.

```

181 \AtBeginDocument{%
182 \ifdef{\tcboxfit}{%
183 \let\LWR@HTML@tcboxfit\tcbox%
184 \LWR@formatted{tcboxfit}%
185 }{}%
186 }

```

\tcbttitle is patched to support the text font.

```

187 \LetLtxMacro{\LWR@HTML@tcbttitle}{\tcbttitle}
188 \xpatchcmd{\LWR@HTML@tcbttitle}{%
189 {\kvtcb@before@title\tcbtitletext}%
190 {\kvtcb@before@title\LWR@textcurrentfont{\LWR@textcurrentcolor{\tcbtitletext}}}%
191 {}%
192 {\LWR@patcherror{tcolorbox}{LWR@HTML@tcbttitle}}%
193 \LWR@formatted{tcbttitle}

```

List-of:

```

194 \renewcommand*\l@tcolorbox[2]{\hypertocfloat{1}{tcolorbox}{lof}{\#1}{\#2}}

```

Theorem limitations. An error is printed if the document uses `math`, `ams equation`, etc. `\tcboxmath` and `\tcboxhighmath` are ignored for HTML.

```

195 \AtBeginDocument{
196 \pgfkeysifdefined{/tcb/libload/theorems}){
197
198 \def\LWR@HTML@tcb@hack@amsmath{%
199 \PackageError{lwarp}{%
200 tcolorbox ‘‘math’’, ‘‘ams equation’’, and related\MessageBreak
201 are not supported.\MessageBreak
202 \protect\tcboxmath\space and
203 \protect\tcboxhighmath\space are emulated.\MessageBreak
204 Enter ’H’ for possible solutions%
205 }%
206 }%
207 Remove tcolorbox math-related options, and instead\MessageBreak
208 use the usual math environments inside each tcolorbox.%%
209 }%
210 }%
211 \LWR@formatted{tcb@hack@amsmath}
212
213
214 % Cause an error if using math:
215 \tcbset{%
216 math upper/.style={before upper*=\tcb@hack@amsmath,after upper*=$},%
217 math lower/.style={before lower*=\tcb@hack@amsmath,after lower*=$},%
218 }%
219
220 \appto\LWR@restoreorigformatting{%
221 \tcbset{%
222 math upper/.style={before upper*=$\displaystyle,after upper*=$},%
223 math lower/.style={before lower*=$\displaystyle,after lower*=$},%
224 }%
225 }%
226
227 \newcommand{\LWR@HTML@tcboxmath}[2][]{\#2}
228 \LWR@formatted{tcboxmath}
229 \newcommand{\LWR@HTML@tcboxhighmath}[2][]{\#2}
230 \LWR@formatted{tcboxhighmath}
231 \appto\LWR@restoreMathJaxformatting{%
232 \renewcommand{\tcboxmath}[2][]{\#2}%
233 \renewcommand{\tcboxhighmath}[2][]{\#2}%
234 }
235 }% theorems loaded
236 }% AtBeginDocument

```

For MATHJAX:

```

237 \CustomizeMathJax{\newcommand{\tcbset}[1]{}}
238 \CustomizeMathJax{\newcommand{\tcbsetforeverylayer}[1]{}}
239 \CustomizeMathJax{\newcommand{\tcbbox}[2][]{\boxed{\text{\#2}}}}
240 \CustomizeMathJax{\newcommand{\tcbboxfit}[2][]{\boxed{\#2}}}
241 \CustomizeMathJax{\newcommand{\tcblower}{}}
242 \CustomizeMathJax{\newcommand{\tcbline}{}}
243 \CustomizeMathJax{\newcommand{\tcbtitle}{}}

```

---

```
244 \CustomizeMathJax{\newcommand{\tcbsubtitle[2][]{\mathrm{#2}}}}
245 \CustomizeMathJax{\newcommand{\tcboxmath}[2][]{\boxed{\mathrm{#2}}}}
246 \CustomizeMathJax{\newcommand{\tcbhighmath}[2][]{\boxed{\mathrm{#2}}}}
```

---

File 477 **l warp-tensor.sty**

§ 585 Package **tensor**

*(Emulates or patches code by PHILIP G. RATCLIFFE.)*

Pkg **tensor** **tensor** is used as-is for SVG math, and is emulated for MATHJAX.

 **spacing** Compressed spacing and left justification are not possible with MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tensor}[2004/12/20]

For MATHJAX. Special handling is required to parse the superscript and subscript arguments.

When a superscript or subscript is seen, it is processed and then the remainder is processed recursively.

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\LWRtensorindicesthreesub#1#2{{_{\mathrm{#2}}}}\LWRtensorindicesthree}
4 \CustomizeMathJax{\def\LWRtensorindicesthreesup#1#2{{^{\mathrm{#2}}}}\LWRtensorindicesthree}
```

If not a superscript nor a subscript, processing stops.

```
5 \CustomizeMathJax{\newcommand{\LWRtensorindicesthreenotsup}{}}
```

Check ahead for a superscript or a subscript.

```
6 \CustomizeMathJax{\newcommand{\LWRtensorindicesthreenotsub} {
7 \ifnextchar ^ \LWRtensorindicesthreesup \LWRtensorindicesthreenotsup
8 }
9
10 \CustomizeMathJax{\newcommand{\LWRtensorindicesthree} {
11 \ifnextchar _ \LWRtensorindicesthreesub \LWRtensorindicesthreenotsub
12 }}
```

Ignore star.

```
13 \CustomizeMathJax{\newcommand{\LWRtensorindicestwo} {
14 \ifstar \LWRtensorindicesthree \LWRtensorindicesthree
15 }}
```

Remove the outer brace of the argument.

```
16 \CustomizeMathJax{\newcommand{\indices}[1]{\LWRtensorindicestwo#1}}
```

Attempting to use `\vphantom` here does not work:

```
17 \CustomizeMathJax{\newcommand{\LWRtensortwo}[3][]{\vphantom{\{}{\}}\indices{\mathrm{#1}}{\mathrm{#2}}\indices{\mathrm{#3}}}}
```

Ignore star.

```
18 \CustomizeMathJax{\newcommand{\tensor}{\ifstar\LWRtensortwo\LWRtensortwo}}
```

In text mode, \nuclide is converted to an SVG image.

```
19 \CustomizeMathJax{%
20 \newcommand{\LWRnuclidetwo}[2][]{%
21 {%
22 \vphantom{\mathrm{#2}}%
23 {}^{\mathrm{#1}}_{\mathrm{#2}}%
24 \mathrm{#2}%
25 }%
26 }%
27 }

28 \CustomizeMathJax{%
29 \newcommand{\nuclide}[1][]{%
30 \def\LWRtensornucleonnumber{\mathrm{#1}}%
31 \LWRnuclidetwo%
32 }%
33 }
34 \end{warpMathJax}
```

---

#### File 478 **lwarf-termcal.sty**

#### § 586 Package **termcal**

*(Emulates or patches code by BILL MITCHELL.)*

Pkg **termcal** **termcal** is patched for use by **lwarf**.

for **HTML output**: 1 \LWR@ProvidesPackagePass{termcal}% questionable date in the .sty file

Nullify the @ because everything is being done in a token list.

```
2 \xpatchcmd{\endcalendar}
3 {@{}}
4 {}
5 {}
6 {\LWR@patcherror{termcal}{endcalendar}}
```

Remove the hbox:

```
7 \xpatchcmd{\ca@doaday}
8 {\hbox to \hsize{\calprintdate\hfill\ifclassday\calprintclass\fi}}
9 {%
10 \calprintdate\hfill\ifclassday\calprintclass\fi%
11 }
12 {}
13 {\LWR@patcherror{termcal}{ca@doaday}}
```

Change each of two ampersands to call the l warp tabular version:

```
14 \xpatchcmd{\calday}
15 {&}
16 {\LWR@tabularampersand}
17 {}
18 {\LWR@patcherror{termcal}{calday}}
19
20 \xpatchcmd{\calday}
21 {&}
22 {\LWR@tabularampersand}
23 {}
24 {\LWR@patcherror{termcal}{calday B}}
```

---

#### File 479 **l warp-textarea.sty**

##### § 587 Package **textarea**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg **textarea** **textarea** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{textarea}[2005/12/26]

```
2 \newcommand\StartFromTextArea{}
3 \newcommand\StartFromHeaderArea{}
4 \newcommand*\RestoreTextArea{}
5 \newcommand*\ExpandTextArea[1][*]{}
6 \let\NCC@restorettextarea\empty
```

---

#### File 480 **l warp-textcomp.sty**

##### § 588 Package **textcomp**

(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)

Pkg **textcomp** **textcomp** is patched for use by **l warp**.

##### § 588.1 **Limitations**

Some **textcomp** symbols do not have Unicode equivalents, and thus are not supported.

 **missing symbols** Many **textcomp** symbols are not supported by many system/browser fonts. In the css try referencing fonts which are more complete, but expect to see gaps in coverage.

## § 588.2 Package loading

**for HTML output:** 1 \LWR@ProvidesPackagePass{textcomp}[2017/04/05]

## § 588.3 HTML symbols

For HTML, use HTML entities or direct Unicode, depending on the engine.

\AtBeginDocument improves support for Lua<sup>L</sup>T<sub>E</sub>X and X<sub>E</sub>T<sub>E</sub>X.

### § 588.3.1 pdf<sup>L</sup>T<sub>E</sub>X symbols

```

2 \AtBeginDocument{
3 \ifPDFTeX% pdflatex or dvi latex
4 \newcommand*{\LWR@HTML@textdegree}{\HTMLentity{deg}}
5 \newcommand*{\LWR@HTML@textcelsius}{\HTMLunicode{2103}}
6 \newcommand*{\LWR@HTML@textohm}{\HTMLunicode{2126}}
7 \newcommand*{\LWR@HTML@textmu}{\HTMLunicode{00B5}}
8 \newcommand*{\LWR@HTML@textlquill}{\HTMLunicode{2045}}
9 \newcommand*{\LWR@HTML@textrquill}{\HTMLunicode{2046}}
10 \newcommand*{\LWR@HTML@textcircledP}{\HTMLunicode{2117}}
11 \newcommand*{\LWR@HTML@texttwelvedash}{\HTMLunicode{2014}}% emdash
12 \newcommand*{\LWR@HTML@textthreequartersemdash}{\HTMLunicode{2014}}% emdash
13 \newcommand*{\LWR@HTML@textmho}{\HTMLunicode{2127}}
14 \newcommand*{\LWR@HTML@textnaira}{\HTMLunicode{20A6}}
15 \newcommand*{\LWR@HTML@textpeso}{\HTMLunicode{20B1}}
16 \newcommand*{\LWR@HTML@textrecipe}{\HTMLunicode{211E}}
17 \newcommand*{\LWR@HTML@textinterrobang}{\HTMLunicode{203D}}
18 \newcommand*{\LWR@HTML@textinterrobangdown}{\HTMLunicode{2E18}}
19 \newcommand*{\LWR@HTML@textperthousand}{\HTMLunicode{2030}}
20 \newcommand*{\LWR@HTML@textpertenthousand}{\HTMLunicode{2031}}
21 \newcommand*{\LWR@HTML@textbaht}{\HTMLunicode{0E3F}}
22 \newcommand*{\LWR@HTML@textdiscount}{\%}
23 \newcommand*{\LWR@HTML@textservicemark}{\HTMLunicode{2120}}
24 \else

```

### § 588.3.2 X<sub>E</sub>T<sub>E</sub>X and Lua<sup>L</sup>T<sub>E</sub>X symbols

NOTE: Some of the following do not print well in the listing. Consult the .dtx or .sty file for the actual characters.

```

25 \newcommand*{\LWR@HTML@textdegree}{°}
26 \newcommand*{\LWR@HTML@textcelsius}{℃}
27 \newcommand*{\LWR@HTML@textohm}{Ω}
28 \newcommand*{\LWR@HTML@textmu}{μ}
29 \newcommand*{\LWR@HTML@textlquill}{ℓ}
30 \newcommand*{\LWR@HTML@textrquill}{₪}
31 \newcommand*{\LWR@HTML@textcircledP}{Ø}
32 \newcommand*{\LWR@HTML@texttwelvedash}{–}% emdash
33 \newcommand*{\LWR@HTML@textthreequartersemdash}{–}% emdash
34 \newcommand*{\LWR@HTML@textmho}{ℳ}
35 \newcommand*{\LWR@HTML@textnaira}{ℳ}
36 \newcommand*{\LWR@HTML@textpeso}{₱}

```

---

```

37 \newcommand*{\LWR@HTML@textrecipe}{\R}
38 \newcommand*{\LWR@HTML@textinterrobang}{\P}
39 \newcommand*{\LWR@HTML@textinterrobangdown}{\textinterrobangdown}
40 \newcommand*{\LWR@HTML@textperthousand}{\textperthousand}
41 \newcommand*{\LWR@HTML@textpertenthousand}{\textpertenthousand}
42 \newcommand*{\LWR@HTML@textbaht}{\textbaht}
43 \newcommand*{\LWR@HTML@textdiscount}{\textdiscount}
44 \newcommand*{\LWR@HTML@textservicemark}{\textservicemark}
45 \fi
46
47 \LWR@formatted{textdegree}
48 \LWR@formatted{textcelsius}
49 \LWR@formatted{textohm}
50 \LWR@formatted{textmu}
51 \LWR@formatted{textlquill}
52 \LWR@formatted{textrquill}
53 \LWR@formatted{textcircledP}
54 \LWR@formatted{texttwelveudash}
55 \LWR@formatted{textthreequartersemdash}
56 \LWR@formatted{textmho}
57 \LWR@formatted{textnaira}
58 \LWR@formatted{textpeso}
59 \LWR@formatted{textrecipe}
60 \LWR@formatted{textinterrobang}
61 \LWR@formatted{textinterrobangdown}
62 \LWR@formatted{textperthousand}
63 \LWR@formatted{textpertenthousand}
64 \LWR@formatted{textbaht}
65 \LWR@formatted{textdiscount}
66 \LWR@formatted{textservicemark}

```

#### § 588.4 HTML diacritics

For HTML, Unicode diacritical marks are used:

```

67 \newcommand*{\LWR@HTML@capitalcedilla}[1]{\#1\HTMLunicode{0327}}
68 \newcommand*{\LWR@HTML@capitalogonek}[1]{\#1\HTMLunicode{0328}}
69 \newcommand*{\LWR@HTML@capitalgrave}[1]{\#1\HTMLunicode{0300}}
70 \newcommand*{\LWR@HTML@capitalacute}[1]{\#1\HTMLunicode{0301}}
71 \newcommand*{\LWR@HTML@capitalcircumflex}[1]{\#1\HTMLunicode{0302}}
72 \newcommand*{\LWR@HTML@capitaltilde}[1]{\#1\HTMLunicode{0303}}
73 \newcommand*{\LWR@HTML@capitaldieresis}[1]{\#1\HTMLunicode{0308}}
74 \newcommand*{\LWR@HTML@capitalhungarumlaut}[1]{\#1\HTMLunicode{30B}}
75 \newcommand*{\LWR@HTML@capitalring}[1]{\#1\HTMLunicode{30A}}
76 \newcommand*{\LWR@HTML@capitalcaron}[1]{\#1\HTMLunicode{30C}}
77 \newcommand*{\LWR@HTML@capitalbreve}[1]{\#1\HTMLunicode{306}}
78 \newcommand*{\LWR@HTML@capitalmacron}[1]{\#1\HTMLunicode{304}}
79 \newcommand*{\LWR@HTML@capitaldotaccent}[1]{\#1\HTMLunicode{307}}

```

\textcircled becomes a span with a rounded border. \providecommand is used to avoid conflict with xunicode.

```

80 \providecommand*{\LWR@HTML@textcircled}[1]{%
81 \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{\#1}%
82 }

```

```
83
84 \LWR@formatted{capitalcedilla}
85 \LWR@formatted{capitalogonek}
86 \LWR@formatted{capitalgrave}
87 \LWR@formatted{capitalacute}
88 \LWR@formatted{capitalcircumflex}
89 \LWR@formatted{capitaltilde}
90 \LWR@formatted{capitaldieresis}
91 \LWR@formatted{capitalhungarumlaut}
92 \LWR@formatted{capitalring}
93 \LWR@formatted{capitalcaron}
94 \LWR@formatted{capitalbreve}
95 \LWR@formatted{capitalmacron}
96 \LWR@formatted{capitaldotaccent}
97
98 \LWR@formatted{textcircled}
```

Nullify `textcomp` macros when generating filenames:

```
99 \FilenameNullify{%
100 \renewcommand*\{\textdegree}{}%
101 \renewcommand*\{\textcelsius}{}%
102 \renewcommand*\{\textohm}{}%
103 \renewcommand*\{\textmu}{}%
104 \renewcommand*\{\textlquill}{}%
105 \renewcommand*\{\textrquill}{}%
106 \renewcommand*\{\textcircledP}{}%
107 \renewcommand*\{\texttwelveudash}{}%
108 \renewcommand*\{\textthreequartersemdash}{}%
109 \renewcommand*\{\textmho}{}%
110 \renewcommand*\{\textnaira}{}%
111 \renewcommand*\{\textpeso}{}%
112 \renewcommand*\{\textrecipe}{}%
113 \renewcommand*\{\textinterrobang}{}%
114 \renewcommand*\{\textinterrobangdown}{}%
115 \renewcommand*\{\textperthousand}{}%
116 \renewcommand*\{\textpertenthousand}{}%
117 \renewcommand*\{\textbaht}{}%
118 \renewcommand*\{\textdiscount}{}%
119 \renewcommand*\{\textservicemark}{}%
120 \renewcommand*\{\textcircled}{[1]{#1}}%
121 \renewcommand*\{\capitalcedilla}{[1]{#1}}%
122 \renewcommand*\{\capitalogonek}{[1]{#1}}%
123 \renewcommand*\{\capitalgrave}{[1]{#1}}%
124 \renewcommand*\{\capitalacute}{[1]{#1}}%
125 \renewcommand*\{\capitalcircumflex}{[1]{#1}}%
126 \renewcommand*\{\capitaltilde}{[1]{#1}}%
127 \renewcommand*\{\capitaldieresis}{[1]{#1}}%
128 \renewcommand*\{\capitalhungarumlaut}{[1]{#1}}%
129 \renewcommand*\{\capitalring}{[1]{#1}}%
130 \renewcommand*\{\capitalcaron}{[1]{#1}}%
131 \renewcommand*\{\capitalbreve}{[1]{#1}}%
132 \renewcommand*\{\capitalmacron}{[1]{#1}}%
133 \renewcommand*\{\capitaldotaccent}{[1]{#1}}%
134 }% \FilenameNullify
```

---

```
135
136 }% AtBeginDocument
```

---

File 481 **l warp-textfit.sty**

§ 589 Package **textfit**

Pkg **textfit** **textfit** is emulated.

Text is placed into a <span> of class **textfit**. Sizes are approximated, and also limited by browser min/max font-size settings.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{textfit}[1994/04/15]

```
2 \newsavebox{\LWR@textfitbox}
3
4 \newcommand*{\LWR@textfitscale}[2]{%
5 \setlength{\LWR@templengthone}{#1}%
6 \setlength{\LWR@templengthone}{%
7 1em*\ratio{\LWR@templengthone}{\LWR@templengthtwo}%
8 }%
9 \InlineClass[font-size:\LWR@printlength{\LWR@templengthone}]{textfit}{#2}%
10 }
11
12 \newcommand*{\scaletowidth}[2]{%
13 \sbox{\LWR@textfitbox}{#2}%
14 \settowidth{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
15 \LWR@textfitscale{#1}{#2}%
16 }
17
18 \newcommand*{\scaletoheight}[2]{%
19 \sbox{\LWR@textfitbox}{#2}%
20 \settoheight{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
21 \LWR@textfitscale{#1}{#2}%
22 }
```

---

File 482 **l warp-textpos.sty**

§ 590 Package **textpos**

(Emulates or patches code by NORMAN GRAY.)

Pkg **textpos** **textpos** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{textpos}[2020/09/26]

```
2 \NewDocumentEnvironment{textblock}{m o r(){}{}}
3 \NewDocumentEnvironment{textblock*}{m o r(){}{}}
4 \newcommand*{\TPGrid}[3][]{}
5 \def\TPShowGrid{\@ifstar{\@TPShowGrid}{\@TPShowGrid}}
```

---

```

6 \def\@TPShowGrid#1#2{}
7 \NewDocumentCommand{\TPMargin}{s o}{}
8 \newcommand*\textblockcolour[1]{}
9 \newcommand*\textblockrulecolour[1]{}
10 \newcommand*\textblockcolor[1]{}
11 \newcommand*\textblockrulecolor[1]{}
12 \newcommand*\tekstblokkulur[1]{}
13 \newcommand*\tekstblokrulekulur[1]{}
14 \newlength{\TPHorizModule}
15 \newlength{\TPVertModule}
16 \newlength{\TPboxrulesize}
17 \newcommand\textblocklabel[1]{}
18 \newcommand\showtextsize(){}
19 \newcommand\textblockorigin[2]{}
20 \newcommand\TPoptions[1]{}
21 \newcommand\TPreferencePosition[1]{}

```

---

File 483 **l warp-theorem.sty**

§ 591 Package **theorem**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg **theorem** **theorem** is patched for use by **l warp**.

---

Table 19: Theorem package – css styling of theorems and proofs

**Theorem:** <div> of class theorembody<theoremstyle>

**Theorem Header:** <span> of class theoremheader

where <theoremstyle> is plain, break, etc.

---

for HTML output: 1 \LWR@ProvidesPackagePass{theorem}[2014/10/28]

§ 591.1 **Remembering the theorem style**

Storage for the style being used for new theorems:

2 \newcommand{\LWR@newtheoremstyle}{plain}

Patched to remember the style being used for new theorems:

```

3 \gdef\theoremstyle#1{%
4 \@ifundefined{th@#1}{\@warning
5 {Unknown theoremstyle '#1'. Using 'plain'}%
6 \theorem@style{plain}%
7 \renewcommand{\LWR@newtheoremstyle}{plain}\% l warp
8 }%
9 {%
10 \theorem@style{#1}%

```

```

11 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
12 }%
13 \begingroup
14 \csname th@\the\theorem@style \endcsname
15 \endgroup}

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

16 \gdef\xnuthm#1#2[#3]{%
17 \expandafter\@if definable\csname #1\endcsname
18 {%
19 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
20 \@definecounter{#1}\@newctr{#1}[#3]%
21 \expandafter\xdef\csname the#1\endcsname
22 {\expandafter\noexpand\csname the#3\endcsname
23 \@thmcOUNTERsep\@thmcOUNTER{#1}%
24 \def\@tempa{\global\@namedef{#1}}%
25 \expandafter\@tempa \expandafter{%
26 \csname th@\the\theorem@style
27 \expandafter\endcsname \the\theorem@bodyfont
28 \@thm{#1}{#2}}%
29 \global\expandafter\let\csname end#1\endcsname\@endtheorem
30 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
31 }%
32 }
33 \gdef\ynuthm#1#2{%
34 \expandafter\@if definable\csname #1\endcsname
35 {%
36 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
37 \@definecounter{#1}%
38 \expandafter\xdef\csname the#1\endcsname{\@thmcOUNTER{#1}}%
39 \def\@tempa{\global\@namedef{#1}}\expandafter\@tempa
40 \expandafter{\csname th@\the\theorem@style \expandafter
41 \endcsname \the\theorem@bodyfont \@thm{#1}{#2}}%
42 \global\expandafter\let\csname end#1\endcsname\@endtheorem
43 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
44 }%
45 }
46 \gdef\othm#1[#2]#3{%
47 \expandafter\ifx\csname c@#2\endcsname\relax
48 \@nocounterr{#2}%
49 \else
50 \expandafter\@if definable\csname #1\endcsname
51 {%
52 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
53 \expandafter\xdef\csname the#1\endcsname
54 {\expandafter\noexpand\csname the#2\endcsname}%
55 \def\@tempa{\global\@namedef{#1}}\expandafter\@tempa
56 \expandafter{\csname th@\the\theorem@style \expandafter
57 \endcsname \the\theorem@bodyfont \@thm{#2}{#3}}%
58 \global\expandafter\let\csname end#1\endcsname\@endtheorem
59 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
60 }%
61 \fi}

```

## § 591.2 css patches

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an \InlineClass of class theoremheader.

```

62 \gdef\th@plain{%
63 \def@\begintheorem##1##2{%
64 \item[%
65 \InlineClass{theoremheader}{##1\ ##2}%
66]%
67 }%
68 \def@\opargbegintheorem##1##2##3{%
69 \item[%
70 \InlineClass{theoremheader}{##1\ ##2\ (###3)}%
71]%
72 }%
73 }%
74
75 \gdef\th@break{%
76 \def@\begintheorem##1##2{%
77 \item[%
78 \InlineClass{theoremheader}{##1\ ##2}\newline%
79]%
80 }%
81 \def@\opargbegintheorem##1##2##3{%
82 \item[%
83 \InlineClass{theoremheader}{##1\ ##2\ (###3)}\newline%
84]%
85 }%
86 }%
87
88 \gdef\th@marginbreak{%
89 \def@\begintheorem##1##2{%
90 \item[%
91 \InlineClass{theoremheader}{##2 \qquad ##1}\newline%
92]%
93 }%
94 \def@\opargbegintheorem##1##2##3{%
95 \item[%
96 \InlineClass{theoremheader}{##2 \qquad ##1\ %
97 (###3)}\newline%
98]%
99 }%
100 }%
101
102 \gdef\th@changebreak{%
103 \def@\begintheorem##1##2{%
104 \item[%
105 \InlineClass{theoremheader}{##2\ ##1}\newline%
106]%

```

```

107 }%
108 \def\@opargbegintheorem##1##2##3{%
109 \item[%
110 \InlineClass{theoremheader}{##2\ ##1\ %
111 (##3)}\newline
112]
113 }
114 }
115
116 \gdef\th@change{%
117 \def\@begintheorem##1##2{%
118 \item[%
119 \InlineClass{theoremheader}{##2\ ##1}
120]
121 }%
122 \def\@opargbegintheorem##1##2##3{%
123 \item[%
124 \InlineClass{theoremheader}{##2\ ##1\ (##3)}
125]
126 }
127 }
128
129 \gdef\th@margin{%
130 \def\@begintheorem##1##2{%
131 \item[%
132 \InlineClass{theoremheader}{##2 \qquad ##1}
133]
134 }%
135 \def\@opargbegintheorem##1##2##3{%
136 \item[%
137 \InlineClass{theoremheader}{##2 \qquad ##1\ (##3)}
138]
139 }
140 }

```

Patched for css:

```

141 \gdef\@thm#1#2{\refstepcounter{#1}%
142 \LWR@forcenewpage% lwarp

143 \LWR@printpendingfootnotes% lwarp

144 \BlockClass{theorembody}\LWR@thisthmstyle}% lwarp
145 \trivlist
146 \@topsep \theorempreskipamount % used by first \item
147 \@topsepadd \theorempostskipamount % used by \endparenv
148 \@ifnextchar [%]
149 {\@ythm{#1}{#2}}%
150 {\@begintheorem{#2}{\csname the#1\endcsname}\ignorespaces}}
151
152 \gdef\@endtheorem{%
153 \endtrivlist

154 \LWR@printpendingfootnotes% lwarp

```

---

```

155 \endBlockClass
156 }

```

---

File 484 **l warp-thinsp.sty**

§ 592 Package **thinsp**

Pkg thinsp thinsp is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thinsp}[2016/10/02]

```

2 \AtBeginDocument{
3 \let\thinthinspace\relax% defined by some packages
4 \newcommand*{\thinthinspace}{\thinspace}
5 }
6
7 \newcommand*{\stretchthinspace}{\thinspace}
8 \newcommand*{\stretchthinthinspace}{\thinthinspace}
9 \newcommand*{\stretchnegthinspace}{\negthinspace}

```

---

File 485 **l warp-thm-listof.sty**

§ 593 Package **thm-listof**

(Emulates or patches code by ULRICH M. SCHWARZ, YUKAI CHOU.)

Pkg thm-listof thm-listof is part of thmtools, and is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{thm-listof}[2019/12/22]

For font control, see the generated HTML and use css per amsthm or ntheorem.

Other thm-\* package may be loaded by thm-listof.

```

2 \@ifpackagelater{thm-listof}{2020/08/01}{% v0.72
3 \def\thmtlo@newentry{%
4 \csdef{l@\thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
5 }
6 }{% earlier than v0.72
7 \xpatchcmd{\listoftheorems}{%
8 {%
9 \xa\protected\edef\csname l@\thmt@envname\endcsname{%
10 \nx\dottedtocline{1}{1.5em}{\nx\thmt@listnumwidth}}%
11 }%
12 }{%
13 }{%
14 \csdef{l@\thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
15 }{%
16 {}%
17 {\LWR@patcherror{thm-listof}{listoftheorems}}}

```

---

```

18
19 \xpatchcmd{\thmt@mklistcmd}
20 {%
21 \@xa\protected@edef\csname l@\thmt@envname\endcsname{%
22 \@nx\@dottedtocline{1}{1.5em}{\@nx\thmt@listnumwidth}%
23 }%
24 }
25 {%
26 \csdef{l@\thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
27 }
28 {}%
29 {\LWR@patcherror{thm-listof}{thmt@mklistcmd}}%
30 }

```

---

#### File 486 **l warp-thm-restate.sty**

### § 594 Package **thm-restate**

*(Emulates or patches code by ULRICH M. SCHWARZ.)*

Pkg thm-restate thm-restate is part of thmtools, and is patched for use by l warp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thm-restate}[2020/08/01]

2 \xpatchcmd{\thmt@restatable}
3 {\@ifstar}
4 {\edef\LWR@thisthmstyle{#2}\@ifstar}
5 {}
6 {\LWR@patcherror{thm-restate}{thmt@restatable}}

```

---

#### File 487 **l warp-thmbox.sty**

### § 595 Package **thmbox**

*(Emulates or patches code by EMMANUEL BEFFARA.)*

Pkg thmbox thmbox is emulated for use by l warp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thmbox}[2005/04/24]

2 \renewenvironment{thmbox}[2][]{%
3 {%
4 \begin{BlockClass}{thmbox}
5 \begin{BlockClass}{thmboxtitle}
6 #2
7 \end{BlockClass}
8 }
9 \end{BlockClass}%
10 }
11 \renewenvironment{proof}[1][]{%

```

---

```

12 {%
13 \begin{BlockClass}{thmboxproof}%
14 \InlineClass{thmboxproofname}{\proofname\ #1\unskip\,:}
15 }
16 {%
17 \qquad\HTMLunicode{220E}% end of proof symbol
18 \end{BlockClass}
19 }
20
21 \renewenvironment{example}[1][\examplename]{%
22 {%
23 \begin{BlockClass}{thmboxexample}%
24 \InlineClass{thmboxexamplename}{#1\,:}
25 }
26 {\end{BlockClass}}
27
28 \renewenvironment{leftbar}[1][]%
29 {\begin{BlockClass}{thmboxleftbar}}
30 {\end{BlockClass}}

```

---

File 488 **l warp-thmtools.sty**

§ 596 Package **thmtools**

*(Emulates or patches code by ULRICH M. SCHWARZ.)*

Pkg thmtools thmtools is patched for use by l warp.

Also see **thm-listof** and **thm-restate**.

for HTML output: 1 \LWR@ProvidesPackagePass{thmtools}[2020/08/01]

The following patches either **thm-amsthm** or **thm-ntheorem**.

```

2 \def\thmt@headstyle@margin{%
3 \InlineClass{amsthmnumbertheorem}{\NUMBER}%
4 \%
5 \InlineClass{amsthmnametheorem}{\NAME}%
6 \InlineClass{amsthmnotetheorem}{\NOTE}%
7 }
8
9 \let\thmt@headstyle@swapnumber\thmt@headstyle@margin

```

---

File 489 **l warp-threadcol.sty**

§ 597 Package **threadcol**

Pkg threadcol **threadcol** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{threadcol}[2013/01/06]

```
2 \newcommand{\setthreadname}[1]{}
```

---

File 490 **l warp-threeparttable.sty**

§ 598      Package **threeparttable**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg threeparttable **threeparttable** is emulated.

Table note are contained inside a css <div> of class tnotes. If enumitem is used, the note item labels are also individually highlighted with an additional css <span> of class tnoteitemheader, otherwise they are plain text.

for HTML output: 1 \LWR@ProvidesPackageDrop{threeparttable}[2003/06/13]

```
Env threeparttable [$\langle alignment \rangle$]
2 \newenvironment*{threeparttable}[1][b]
3 {\def\@captype{table}}
4 }
```

```
Env tablenotes [$\langle options \rangle$]
5 \newenvironment*{tablenotes}[1][]{%
6 \LWR@forcenewpage
7 \BlockClass{tnotes}%
8 \description%
9 \}
10 \%
11 \enddescription%
12 \endBlockClass%
13 \}
14 }
```

```
\tnote { $\langle text \rangle$ }
15 \newcommand{\tnote}[1]{\LWR@htmlspan{sup}{#1}}
```

```
Env measuredfigure [$\langle alignment \rangle$]
16 \newenvironment*{measuredfigure}[1][t]
17 {\def\@captype{figure}}
18 }
```

---

File 491 **l warp-threeparttablex.sty**

§ 599      Package **threeparttablex**

Pkg threeparttablex **threeparttablex** is patched for use by l warp.

`threeparttablex` is used with `longtable` and `booktabs` as follows:

```
\begin{longtable}{ [column specifiers] }
[. . .] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{} % not used in HTML
[. . .] \endhead % or \endfirsthead
[. . .] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
... table contents ...
\warpHTMLonly{} % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}
```

**table width** The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

**for HTML output:** 1 \LWR@ProvidesPackagePass{threeparttablex}[2013/07/23]

The width is guessed depending on the number of columns, then limited to a min/max.

```
2 \renewcommand{\insertTableNotes}{%
3 \setlength{\LWR@templengthone}{.375in*\value{\LWR@tabletotalLaTeXcols}}%
4 \setlength{\LWR@templengthone}{\minof{\textwidth}{\LWR@templengthone}}%
5 \setlength{\LWR@templengthone}{\maxof{2.5in}{\LWR@templengthone}}%
6 \multicolumn{\value{\LWR@tabletotalLaTeXcols}}{c}{%
7 \parbox{\LWR@templengthone}{%
8 \begin{tablenotes}[\TPTL@optarg]%
9 \TPTL@font%
10 \TPTL@body%
11 \end{tablenotes}%
12 }%
13 }%
14 }

15 \providecommand{\TPTL@tnotex}{}%
16 \renewcommand{\TPTL@tnotex}[2]{\tnote{\nameref{#2}}}
```

---

File 492 **lwarp-thumb.sty**

§ 600 Package **thumb**

Pkg thumb **thumb** is ignored.

```
for HTML output: 1 \LWR@ProvidesPackageDrop{thumb}[1997/12/24]
2 \newcommand*\Overviewpage{}
3 \newlength{\thumbheight}
4 \newlength{\thumbwidth}
```

File 493 **lwarp-thumbs.sty**

## § 601 Package thumbs

Pkg thumbs thumbs is ignored.

```
for HTML output: 1 \LWR@ProvidesPackageDrop{thumbs}[2014/03/09]

2 \newcommand{\addthumb}{[4]{}}
3 \newcommand{\addtitlethumb}{[5]{}}
4 \newcommand{\stopthumb}{}
5 \newcommand{\continuethumb}{}
6 \newcommand{\thumbsoverview}{[1]{}}
7 \newcommand{\thumbsoverviewback}{[1]{}}
8 \newcommand{\thumbsoverviewverso}{[1]{}}
9 \newcommand{\thumbsoverviewdouble}{[1]{}}
10 \newcommand{\thumbnewcolumn}{}
11 \newcommand{\addthumbsoverviewtocontents}{[2]}
12 \newcommand{\thumbsnophantom}{}
```

File 494 **lwarp-tikz.sty**

§ 602 Package **tikz**

(Emulates or patches code by TILL TANTAU.)

Pkg tikz tikz is supported.

 **displaymath and matrices** If using display math with `tikzpicture` or `\tikz`, along with matrices with the & character, the document must be modified as follows:

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of & in the tikz expression must be replaced with \&.

Accept all options for `lwarp-tikz`:

1 \LWR@ProvidesPackagePass{tikz}[2015/08/07]

**catcodes** `\warp` changes the catcode of `$` for its own use. The Tikz babel library temporarily changes catcodes back to normal for Tikz's use. tikz v3.0.0 introduced the babel library which handles catcode changes. For older versions, `\warp` must change `$`'s catcode itself.

Also see:

<https://tex.stackexchange.com/questions/16199/test-if-a-package-or-package-option-is-loaded>

```

2 \newbool{LWR@tikzbabel}
3
4 \@ifpackagelater{tikz}{2013/12/20}% Test for Tikz version v3.0.0
5 {\usetikzlibrary{babel}\booltrue{LWR@tikzbabel}}
6 {\boolfalse{LWR@tikzbabel}}
```

Env `pgfpicture` The `\pgfpicture` environment is enclosed inside a `\latimage`. Enclose the low-level `\pgfpicture` in a `\latimage`. This is also used by the higher-level `\tikz` and `tikzpicture`.

```

7 \preto\pgfpicture{%
8 \begin{latimage}[-tikz-\~\PackageDiagramAltText]%
9 \ifbool{LWR@tikzbabel}% Test for Tikz version v3.0.0
10 {}%
11 {\catcode`\$=3}% dollar sign is math shift
12 }
13
14 \appto\endpgfpicture{\end{latimage}}
```

Tikz is placed inside an svg image, so use the original meanings of the following:

```

15 \LetLtxMacro\pgfutil@minipage\LWR@print@minipage
16 \let\pgfutil@endminipage\endLWR@print@minipage
17
18 \let\pgfutil@raggedleft\LWR@print@raggedleft
19 \let\pgfutil@raggedright\LWR@print@raggedright

20 \def\pgfutil@font@tiny{\LWR@print@tiny}
21 \def\pgfutil@font@scriptsize{\LWR@print@scriptsize}
22 \def\pgfutil@font@footnotesize{\LWR@print@footnotesize}
23 \def\pgfutil@font@small{\LWR@print@small}
24 \def\pgfutil@font@normalsize{\LWR@print@normalsize}
25 \def\pgfutil@font@large{\LWR@print@large}
26 \def\pgfutil@font@Large{\LWR@print@Large}
27 \def\pgfutil@font@huge{\LWR@print@huge}
28 \def\pgfutil@font@Huge{\LWR@print@Huge}
29
30 \def\pgfutil@font@itshape{\LWR@print@itshape}
31 \def\pgfutil@font@bfseries{\LWR@print@bfseries}
32
33 \def\pgfutil@font@normalfont{\LWR@print@normalfont}
```

File 495 **lwarf-tikz-imagelabels.sty**

§ 603 Package **tikz-imagelabels**

(Emulates or patches code by TOBIAS PLÜSS.)

Pkg tikz-imagelabels tikz-imagelabels is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tikz-imagelabels}[2019/06/27]

```
2 \BeforeBeginEnvironment{annotationimage}{%
3 \begin{lateximage}[-tikz-imagelabels-\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{annotationimage}{\end{lateximage}}
```

---

### File 496 l warp-titleps.sty

## § 604 Package titleps

(Emulates or patches code by JAVIER BEZOS.)

Pkg titleps titleps is loaded and used by l warp during HTML output. All user options and macros are ignored and disabled.

Discard all options for l warp-titleps:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{titleps}[2016/03/15]

\pagestyle and \thispagestyle are already disabled in the l warp code.

```
\newpagestyle {\langle name\rangle } [\langle style\rangle] {\langle commands\rangle }
2 \NewDocumentCommand{\newpagestyle}{m o m}{}{}
```

```
\renewpagestyle {\langle name\rangle } [\langle style\rangle] {\langle commands\rangle }
3 \NewDocumentCommand{\renewpagestyle}{m o m}{}{}
```

```
\sethead [\langle el\rangle] [\langle ec\rangle] [\langle er\rangle] {\langle ol\rangle } {\langle oc\rangle } {\langle or\rangle }
4 \NewDocumentCommand{\sethead}{o o o m m m}{}{}
```

```
\setfoot [\langle el\rangle] [\langle ec\rangle] [\langle er\rangle] {\langle ol\rangle } {\langle oc\rangle } {\langle or\rangle }
5 \NewDocumentCommand{\setfoot}{o o o m m m}{}{}
```

```
\settitemarks * {\langle names\rangle }
6 \NewDocumentCommand{\settitemarks}{s m}{}{}
```

```
\headrule
7 \newcommand*{\headrule}{}{}
```

```
\footrule
8 \newcommand*{\footrule}{}{}
```

```
\setheadrule {\langle length\rangle}
 9 \newcommand*\setheadrule[1]{}

\setfootrule {\langle length\rangle}
 10 \newcommand*\setfootrule[1]{}

\makeheadrule
 11 \newcommand*\makeheadrule{}

\makefootrule
 12 \newcommand*\makefootrule{}

\setmarkboth {\langle code\rangle}
 13 \newcommand{\setmarkboth}[1]{}

\widenhead
 14 \NewDocumentCommand{\widenhead}{s o o m m}{}

\bottitlemarks
 15 \newcommand*\bottitlemarks{}

\toptitlemarks
 16 \newcommand*\toptitlemarks{}

\firstrtitlemarks
 17 \newcommand*\firstrtitlemarks{}

\nextttitlemarks
 18 \newcommand*\nextttitlemarks{}

\outertitlemarks
 19 \newcommand*\outertitlemarks{}

\innertitlemarks
 20 \newcommand*\innertitlemarks{}

\newtitlemark * {\langle name\rangle}
 21 \NewDocumentCommand{\newtitlemark}{s m}{}

```

```
\pretitlemark * {\langle section\rangle} {\langle text\rangle}
22 \NewDocumentCommand{\pretitlemark}{s m m}{}{}

\ifsamemark { \langle group\rangle } { \langle command\rangle } { \langle true\rangle } { \langle false\rangle }
23 \newcommand{\ifsamemark}[4]{}{}

\setfloathead * [\langle .\rangle] [\langle .\rangle] [\langle .\rangle] { \langle .\rangle } { \langle .\rangle } { \langle extra\rangle } [\langle which\rangle]
24 \NewDocumentCommand{\setfloathead}{s o o o m m m m m}{}{}

\setfloatfoot * [\langle .\rangle] [\langle .\rangle] [\langle .\rangle] { \langle .\rangle } { \langle .\rangle } { \langle extra\rangle } [\langle which\rangle]
25 \NewDocumentCommand{\setfloatfoot}{s o o o m m m m m}{}{}

\nextfloathead * [\langle .\rangle] [\langle .\rangle] [\langle .\rangle] { \langle .\rangle } { \langle .\rangle } { \langle extra\rangle } [\langle which\rangle]
26 \NewDocumentCommand{\nextfloathead}{s o o o m m m m m}{}{}

\nextfloatfoot * [\langle .\rangle] [\langle .\rangle] [\langle .\rangle] { \langle .\rangle } { \langle .\rangle } { \langle extra\rangle } [\langle which\rangle]
27 \NewDocumentCommand{\nextfloatfoot}{s o o o m m m m m}{}{}

\newmarkset { \langle markset\rangle }
28 \newcommand{\newmarkset}[1]{}{}

\newextramark * { \langle markset\rangle } { \langle macro-name\rangle }
29 \NewDocumentCommand{\newextramarkset}{s m m}{}{}

\botextramarks { \langle markset\rangle }
30 \newcommand{\botextramarks}[1]{}{}

\topextramarks { \langle markset\rangle }
31 \newcommand{\topextramarks}[1]{}{}

\firstextramarks { \langle markset\rangle }
32 \newcommand{\firstextramarks}[1]{}{}

\nextextramarks { \langle markset\rangle }
33 \newcommand{\nextextramarks}[1]{}{}

\outerextramarks { \langle markset\rangle }
34 \newcommand{\outerextramarks}[1]{}{}
```

```
\innerextramarks {\langle markset\rangle}
35 \newcommand{\innerextramarks}[1]{}
```

---

**File 497 l warp-titleref.sty****§ 605 Package titleref**

Pkg titleref titleref is emulated.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{titleref}[2001/04/05]
2
3 \LetLtxMacro\titleref\nameref
4
5 \providecounter{LWR@currenttitle}
6
7 \newcommand*{\currenttitle}{%
8 \addtocounter{LWR@currenttitle}{1}%
9 \label{currenttitle}\arabic{LWR@currenttitle}}%
10 \nameref{currenttitle}\arabic{LWR@currenttitle}}%
11 }
12
13 \newcommand*{\theTitleReference}[2]{}
```

---

**File 498 l warp-titlesec.sty****§ 606 Package titlesec**

(Emulates or patches code by JAVIER BEZOS.)

Pkg titlesec titlesec is emulated. All user options and macros are ignored and disabled.

Discard all options for l warp-titlesec:

for HTML output:

```
1 \PackageInfo{l warp}{Using the l warp version of package 'titlesec'.}%
2 \ProvidesPackage{l warp-titlesec}[2016/03/21]
3
4 \newbool{LWR@loadtitleps}
5 \boolfalse{LWR@loadtitleps}
6
7 \DeclareOption{pagestyles}{
8 \booltrue{LWR@loadtitleps}
9 }
10
11 \DeclareOption*{}
12
13 \ProcessOptions\relax
14
15 \ifbool{LWR@loadtitleps}{
16 \RequirePackage{l warp-titleps}
17 }{}}
```

```
\titlelabel {\langle label-format\rangle}
18 \newcommand*{\titlelabel}[1]{}

\titleformat* {\langle command\rangle} {\langle format\rangle}

\titleformat {\langle command\rangle} [\langle shape\rangle] {\langle format\rangle} {\langle label\rangle} {\langle sep\rangle} {\langle begfore\rangle} [\langle after\rangle]
19 \newcommand\titleformat{%
20 \@ifstar{\ttl@format@s}{%
21 {\ttl@format@i}}%
22 \newcommand{\ttl@format@s}[1]{}
23 \NewDocumentCommand{\ttl@format@i}{m o m m m o}{}

\chaptertitlename
24 @ifundefined{@chapapp}{\let\@chapapp\chaptername}{}
25 \newcommand\chaptertitlename{\@chapapp}

\titlespacing * {\langle command\rangle} {\langle left\rangle} {\langle before\rangle} {\langle after\rangle} [\langle right\rangle]
26 \NewDocumentCommand{\titlespacing}{s m m m m o}{}

\filright
27 \newcommand*{\filright}{}

\filcenter
28 \newcommand*{\filcenter}{}

\filleft
29 \newcommand*{\filleft}{}

\fillast
30 \newcommand*{\fillast}{}

\filinner
31 \newcommand*{\filinner}{}

\filouter
32 \newcommand*{\filouter}{}

\wordsep
33 \newcommand\wordsep{\fontdimen\tw@\font \oplus
34 \fontdimen\thr@@\font \ominus \fontdimen4\font}
```

---

```

\titleline * [⟨align⟩] {⟨material⟩}
35 \NewDocumentCommand{\titleline}{s o m}{}{}

\titlerule [⟨height⟩]
36 \providecommand*\titlerule{\@ifstar{\ttl@row}{\ttl@rule}}
37 \newcommand*{\ttl@rule}[1][]{}
38 \newcommand*{\ttl@row}[2][]{}

\iftitlemeasuring {⟨true⟩} {⟨false⟩}
39 \newcommand{\iftitlemeasuring}[2]{#2}

\assignpagestyle {⟨command⟩} {⟨pagestyle⟩}
40 \newcommand{\assignpagestyle}[2]{#2}

\titleclass {⟨name⟩} [⟨startlevel⟩] {⟨class⟩} [⟨cmd⟩]
41 \NewDocumentCommand{\titleclass}{m o m o}{}{}
```

---

### File 499 l warp-titletoc.sty

#### § 607 Package **titletoc**

(Emulates or patches code by JAVIER BEZOS.)

Pkg titletoc titletoc is emulated. All user options and macros are ignored and disabled.

Discard all options for l warp-titletoc:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{titletoc}[2011/12/15]

```

\dottedcontents {⟨section⟩} [⟨left⟩] {⟨above⟩} {⟨label⟩} {⟨leader⟩}
2 \NewDocumentCommand{\dottedcontents}{m o m m m}{}{}

\titlecontents * {⟨section⟩} [⟨left⟩] {⟨above⟩} {⟨numbered⟩} {⟨numberless⟩} {⟨filler⟩} [⟨below or
begin⟩] [⟨separator⟩] [⟨end⟩]
3 \newcommand{\titlecontents}{\@ifstar{\ttl@tcstar}{\ttl@tcnostar}}
4 \NewDocumentCommand{\ttl@tcstar}{m o m m m o o o}{}{}
5 \NewDocumentCommand{\ttl@tcnostar}{m o m m m o}{}{}

\contentsmargin [⟨correction⟩] {⟨right⟩}
6 \newcommand{\contentsmargin}[2]{}{}
```

\thecontentslabel

```
7 \newcommand*{\thecontentslabel}{\thecontentslabel}
8 \newcommand*{\thecontentspage}{\thecontentspage}
9 \newcommand{\contentslabel}[2][]{\thecontentslabel}
10 \newcommand{\contentspage}[1][]{\thecontentspage}
11 \newcommand{\contentspush}[1]{}
12 \newcommand{\contentsuse}[2]{}
13 \newcommand*{\startcontents}[1][]{}
14 \newcommand*{\stopcontents}[1][]{}
15 \newcommand*{\resumecontents}[1][]{}
16 \newcommand{\printcontents}[4][]{}
17 \newcommand{\startlist}[2][]{}
18 \newcommand{\stoplist}[2][]{}
19 \newcommand{\resumelist}[2][]{}
20 \newcommand{\printlist}[4][]{}
```

---

File 500 **l warp-titling.sty**

§ 608 Package **titling**

(Emulates or patches code by PETER WILSON.)

Pkg titling

package support l warp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.

⚠ load order

\published and \subtitle If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 69.8.

The various titling footnote restyling commands have no effect.

Pass all options to l warp-titling:

for HTML output: 1 \LWR@ProvidesPackagePass{titling}[2009/09/04]

\@bsmtitleempty Patch \@bsmtitleempty:

2 \let\@LWR@orig@\@bsmtitleempty\@bsmtitleempty  
3 \renewcommand\*\{\@bsmtitleempty}{%  
4 \LWR@orig@\@bsmtitleempty%  
5 }

\keepthetitle Patch \keepthetitle:

6 \let\@LWR@orig@keepthetitle\keepthetitle  
7 \renewcommand\*\{\keepthetitle}{%  
8 \LWR@orig@keepthetitle%  
9 }

\killtitle Patch \killtitle:

10 \let\@LWR@orig@killtitle\killtitle  
11 \renewcommand\*\{\killtitle}{%  
12 \LWR@orig@killtitle%  
13 }

Env titlingpage

14 \renewenvironment\*{titlingpage}  
15 {%

Start an HTML titlepage div:

16 \LWR@printpendingfootnotes  
17 \begin{titlepage}

Prepare for a custom version of `\maketitle` inside the `titlingpage`:

```
18 \LWR@maketitlesetup
19 \let\maketitle\LWR@titlingmaketitle
20 }
21 {
```

At the end of the environment, end the `HTML` `titlepage` div:

```
22 \end{titlepage}
23 }
```

Patch the pre/post title/author/date to add `HTML` tags, then initialize:

```
24 \AtBeginDocument{
25 \pretitle{}
26 \posttitle{}
27
28 \preauthor{}
29 \postauthor{}
30
31 \predate{}
32 \postdate{}
33 }
```

`\LWR@maketitlesetup` Patches `\thanks` macros.

```
34 \renewcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
35 \def\@makefnmark{@\thefnmark}%
\thefootnote \Rightarrow \nameuse{arabic}{footnote}, or
\thefootnote \Rightarrow \nameuse{fnsymbol}{footnote}
```

Redefine the footnote text:

```
36 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
37 \makethanksmark~%
\makethanksmark \Rightarrow \thanksfootmark \Rightarrow \tamark \Rightarrow
@{\thefnmark} \Rightarrow \itshape a (or similar)
```

Print the text:

```
38 ##1%
39 }% \@makefntext
40 }
```

```
\thanksfootmark
```

```
41 \renewcommand{\thanksfootmark}{%
42 % \hb@xt@\thanksmarkwidth{\hfil\normalfont%
43 % \thanksscript{%
44 % \thanksfootpre \tmark \thanksfootpost%
45 % }%
46 % }%
47 }
```

\maketitle HTML mode. Creates an `HTML` titlepage div and typesets the title, etc.

Code from the `titling` package is adapted, simplified, and modified for `HTML` output.

```
48 \renewcommand*{\maketitle}{%
```

An `HTML` titlepage <div> is used for all classes.

```
49 \begin{titlepage}
```

Select which kind of footnote marks to use:

```
50 \@bsmarkseries
```

Set up special patches:

```
51 \LWR@maketitlesetup
```

Typeset the title, etc:

```
52 \@maketitle
```

Immediately generate any \thanks footnotes:

```
53 \LWR@stopars\@thanks\LWR@startpars
```

Close the `HTML` titlepage div:

```
54 \end{titlepage}
```

Reset the footnote counter:

```
55 \@bscontmark
56 }
```

\@maketitle Typesets the title, etc. Patched for `HTML`.

```
57 \DeclareDocumentCommand{\@maketitle}{}{%
58 \maketitlehooka
59 {
60 \LWR@stopars\LWR@htmlltag{\LWR@tagtitle}%
61 \@bspretitle \@title \@bsposttitle%
```

```

62 \LWR@htmltag{\LWR@tagtitleend}\LWR@startpars%
63 }
64 \maketitlehookb
65 {
66 \begin{BlockClass}{author}
67 \renewcommand{\and}{%
68 \end{BlockClass}%
69 \begin{BlockClass}{oneauthor}%
70 }
71 \begin{BlockClass}{oneauthor}%
72 \@bspreauthor \@author \@bspostauthor%
73 \end{BlockClass}%
74 \end{BlockClass}%
75 }
76 \maketitlehookc
77 {
78 \begin{BlockClass}{titledate}%
79 \@bspredate \@date \@bspostdate%
80 \end{BlockClass}%
81 }
82 \maketitlehookd
83 }

```

\LWR@titlingmaketitle \maketitle for use inside an `HTML titlingpage` environment.

```
84 \renewcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
85 \LWR@stoppars@\thanks\LWR@startpars
```

Select which kind of footnote marks to use:

```
86 \@bsmarkseries
```

Set up special patches:

```
87 \LWR@maketitlesetup
```

Typeset the title, etc:

```
88 \@maketitle
```

Immediately generate any \thanks footnotes:

```
89 \LWR@stoppars@\thanks\LWR@startpars
```

Reset the footnote counter:

```
90 \@bscontmark
91 }
```

\thanksmarkseries {*<series>*}

---

Sets the type of footnote marks used by \thanks, where type is ‘arabic’, ‘roman’, ‘fnsymbol’, etc.

```

92 \renewcommand{\thanksmarkseries}[1]{%
93 \def\@bsmarkseries{\renewcommand{\thefootnote}{\@nameuse{#1}{footnote}}}}%
94 }
```

Set default titlepage thanks footnote marks. See section 69.7.

```

95 \@ifclassloaded{memoir}{%
96 \thanksmarkseries{arabic}%
97 }{%
98 \if@titlepage%
99 \thanksmarkseries{arabic}%
100 \else%
101 \thanksmarkseries{fnsymbol}%
102 \fi%
103 }%
```

---

#### File 501 **l warp-tocbasic.sty**

### § 609 Package **tocbasic**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg **tocbasic** **tocbasic** is nullified for **l warp**.

This package may be loaded standalone, but is also loaded automatically if **koma-script** classes are in use. \DeclareDocumentCommand is used to overwrite the **koma-script** definitions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tocbasic}[2018/12/30]

```

2 \DeclareDocumentCommand{\usetocbasicnumberline}{o}{}
3 \DeclareDocumentCommand{\DeclareTOCStyleEntry}{o m m}{}
4 \DeclareDocumentCommand{\DeclareTOCStyleEntries}{o m m}{}
5 \DeclareDocumentCommand{\DeclareTOCEntryStyle}{m o m}{}
6 \DeclareDocumentCommand{\DefineTOCEntryOption}{m o m}{}
7 \DeclareDocumentCommand{\DefineTOCEntryBooleanOption}{m o m m m}{}
8 \DeclareDocumentCommand{\DefineTOCEntryCommandOption}{m o m m m}{}
9 \DeclareDocumentCommand{\DefineTOCEntryIfOption}{m o m m m}{}
10 \DeclareDocumentCommand{\DefineTOCEntryLengthOption}{m o m m m m}{}
11 \DeclareDocumentCommand{\DefineTOCEntryNumberOption}{m o m m m m}{}
12 \DeclareDocumentCommand{\CloneTOCEntryStyle}{m m}{}
13 \DeclareDocumentCommand{\TOCEntryStyleInitCode}{m m}{}
14 \DeclareDocumentCommand{\TOCEntryStyleStartInitCode}{m m}{}
```

---

#### File 502 **l warp-tocbibind.sty**

§ 610      Package **tocbibind**

*(Emulates or patches code by PETER WILSON.)*

Pkg **tocbibind** **tocbibind** is patched for use by **l warp**.

**placement and toc options** An index may be placed inline with other HTML text, or on its own HTML page:

Pkg **makeidx** **Inline, with a manual TOC entry:**

A commonly-used method to introduce an index in a L<sup>A</sup>T<sub>E</sub>X document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname} or chapter
\printindex
```

Pkg **makeidx** **On its own HTML page, with a manual TOC entry:**

```
\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname} or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex
```

Pkg **tocbibind** **Inline, with an automatic TOC entry:**

The **tocbibind** package may be used to automatically place an entry in the TOC.

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex
```

Pkg **tocbibind** **On its own HTML page, with an automatic TOC entry:**

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex
```

Opt [tocbibind] numindex **numbered index section** Use the **tocbibind** **numindex** option to generate a numbered index. Without this option, the index heading has no number.

Other packages, such as **imakeidx**, may also have options for including the index in the Table of Contents.

**for HTML output:**

```
1 \let\simplechapterdelim\relax
2
3 \LWR@ProvidesPackagePass{tocbibind}[2010/10/13]
```

```

4 \renewenvironment{theindex}%
5 {%
6 \if@bibchapter
7 \if@donumindex
8 \chapter*{\indexname}%
9 \else
10 \if@dotocind
11 \chapter*{\indexname}%
12 \addcontentsline{toc}{chapter}{\LWR@isolate{\indexname}}%
13 \else
14 \chapter*{\indexname}%
15 \fi
16 \fi
17 \else
18 \if@donumindex
19 \section*{\indexname}%
20 \else
21 \if@dotocind
22 \section*{\indexname}%
23 \addcontentsline{toc}{\@tocextra}{\LWR@isolate{\indexname}}%
24 \else
25 \section*{\indexname}%
26 \fi
27 \fi
28 \fi
29 \let\item\LWR@indexitem%
30 \let\subitem\LWR@indexsubitem%
31 \let\subsubitem\LWR@indexsubsubitem%
32 }{%

```

The following code is shared by `anonchap`.

```

33 \DeclareDocumentCommand{\simplechapter}{O{\emptyset}}{%
34 \def\@chapcntformat##1{%
35 #1\endcsname\simplechapterdelim\quad%
36 }%
37 }%
38
39 \DeclareDocumentCommand{\restorechapter}{%
40 \let\@chapcntformat\@seccntformat%
41 }

```

### File 503 lwarp-tocdata.sty

#### § 611 Package **tocdata**

(Emulates or patches code by BRIAN DUNN.)

Pkg **tocdata** **tocdata** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{tocdata}[2019/07/06]

```
2 \renewcommand*\{\LWR@maybetocdata}{%
3 \ifdefempty{\TD@thistocdata}{}{%
4 \qquad \InlineClass{authorartist}{\tocdataformat{\TD@thistocdata}}{%
5 \def\TD@thistocdata{}%
6 }%
7 }%
8 \renewrobustcmd{\tocdatapartprint}[4]
9 {%
10 \InlineClass{authorartist}{%
11 \qquad --- %
12 \TDoctionalnameprint{\#1}\TDoctionalnameprint{\#2}\#3\#4%
13 }%
14 }%
15
16 \@ifundefined{chapter}{}{%
17 \let\tocdatachapterprint\tocdatapartprint
18 }
19 \let\tocdatasectionprint\tocdatapartprint
20 \let\tocdatasubsectionprint\tocdatapartprint
21
22 \newcommand*\{\LWR@TD@settextalign}[1]{%
23 \def\LWR@TD@textalign{justify}%
24 \ifcsstring{\TD@#1align}{\centering}%
25 {\def\LWR@TD@textalign{center}}%
26 {}%
27 \ifcsstring{\TD@#1align}{\raggedleft}%
28 {\def\LWR@TD@textalign{right}}%
29 {}%
30 \ifcsstring{\TD@#1align}{\raggedright}%
31 {\def\LWR@TD@textalign{left}}%
32 {}%
33 }%
34
35 \renewcommand{\TDartistaauthorprint}[5]{%
36 \LWR@TD@settextalign{\#1}%
37 \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
38 \InlineClass{authorartist}{\TDoctionalnameprint{\#2}\TDoctionalnameprint{\#3}\#4\#5}%
39 \end{BlockClass}%
40 }
41
42 \newcommand*\{\LWR@TD@setnamealign}[1]{%
43 \def\LWR@TD@textalign{justify}%
44 \ifcsstring{\TD@#1textalign}{\centering}%
45 {\def\LWR@TD@textalign{center}}%
46 {}%
47 \ifcsstring{\TD@#1textalign}{\raggedleft}%
48 {\def\LWR@TD@textalign{right}}%
49 {}%
50 \ifcsstring{\TD@#1textalign}{\raggedright}%
51 {\def\LWR@TD@textalign{left}}%
52 {}%
53 }%
54
55 \renewcommand{\TDartistaauthortextprint}[2]{%
```

---

```

56 \LWR@TD@setnamealign{#1}%
57 \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
58 #2%
59 \end{BlockClass}%
60 }

```

---

File 504 **l warp-tocenter.sty**

§ 612 Package **tocenter**

Pkg **tocenter** **tocenter** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tocenter}[2004/12/09]

```

2 \NewDocumentCommand{\ToCenter}{s o m m}{}%
3 \NewDocumentCommand{\FromMargins}{s o m m m m}{}%

```

---

File 505 **l warp-tocloft.sty**

§ 613 Package **tocloft**

(Emulates or patches code by PETER WILSON.)

Pkg **tocloft** **tocloft** is emulated. Most user options and macros are ignored and disabled. \newlistof and \cftchapterprecis are supported.

Pkg **tocloft** If using **tocloft** with **tocbibind**, **anonchap**, **fncychap**, or other packages which change chapter title formatting, load **tocloft** with its **titles** option, which tells **tocloft** to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

Discard all options for **l warp-tocloft**:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tocloft}[2017/08/31]

```
\tocloftpagestyle {<style>}%
2 \newcommand{\tocloftpagestyle}[1]{}%
```

```
\cftmarktoc
3 \newcommand*{\cftmarktoc}{}%
```

```
\cfttoctitlefont
4 \newcommand*{\cfttoctitlefont}{}%
```

```
\cftaftertoctitle
5 \newcommand*{\cftaftertoctitle}{}%
```

⚠ **tocloft & other packages**

```
6 \newlength{\cftbeforetoctitleskip}
7 \newlength{\cftaftertoctitleskip}

\cftmarklof
8 \newcommand*{\cftmarklof} {}

\cftloftitlefont
9 \newcommand*{\cftloftitlefont} {}

\cftafterloftitle
10 \newcommand*{\cftafterloftitle} {}

11 \newlength{\cftbeforeloftitleskip}
12 \newlength{\cftafterloftitleskip}

\cftmarklot
13 \newcommand*{\cftmarklot} {}

\cftlottitlefont
14 \newcommand*{\cftlottitlefont} {}

\cftafterlottitle
15 \newcommand*{\cftafterlottitle} {}

16 \newlength{\cftbeforelottitleskip}
17 \newlength{\cftafterlottitleskip}

\cftdot
18 \providecommand*{\cftdot}{.}

\cftdotsep
19 \providecommand*{\cftdotsep}{1}

\cftnodots
20 \providecommand*{\cftnodots}{5000}

\cftdotfill {⟨sep⟩}
21 \providecommand{\cftdotfill}[1] {}

\cftsetpnumwidth {⟨length⟩}
22 \DeclareDocumentCommand{\cftsetpnumwidth}{m} {}
```

---

```
\cftsetrmarg {<length>}
23 \DeclareDocumentCommand{\cftsetrmarg}{m}{}}

\cftpnumalign {<alignment>}
24 \DeclareDocumentCommand{\cftpnumalign}{m}{}}

25 \LWR@providelength{\cftparskip}
```

The part-related items are also provided by **memoir**:

```
26 \LWR@providelength{\cftbeforeparts skip}
27 \LWR@providelength{\cftpartindent}
28 \LWR@providelength{\cftpartnumwidth}
29 \providecommand*\cftpartfont(){}
30 \providecommand*\cftpartpresnum(){}
31 \providecommand*\cftpartaftersnum(){}
32 \providecommand*\cftpartaftersnumb(){}
33 \providecommand*\cftpartleader(){}
34 \providecommand*\cftpartdotsep{1}
35 \providecommand*\cftpartpagefont(){}
36 \providecommand*\cftpartafterpnum{}
```

**memoir** uses the full name “chapter” instead of “chap”:

```
37 \LWR@providelength{\cftbeforechapskip}
38 \LWR@providelength{\cftchapindent}
39 \LWR@providelength{\cftchapnumwidth}
40 \newcommand*\cftchapfont(){}
41 \newcommand*\cftchappresnum(){}
42 \newcommand*\cftchapaftersnum(){}
43 \newcommand*\cftchapaftersnumb){}
44 \newcommand*\cftchapleader(){}
45 \newcommand*\cftchapdotsep{1}
46 \newcommand*\cftchappagefont(){}
47 \newcommand*\cftchapafterpnum{}
```

The following do not appear in **memoir**:

```
48 \LWR@providelength{\cftbeforesecskip}
49 \LWR@providelength{\cftsecindent}
50 \LWR@providelength{\cftsecnumwidth}
51 \newcommand*\cftsecfont(){}
52 \newcommand*\cftsecpresnum(){}
53 \newcommand*\cftsecaftersnum(){}
54 \newcommand*\cftsecaftersnumb){}
55 \newcommand*\cftsecleader(){}
56 \newcommand*\cftsecdotsep{1}
57 \newcommand*\cftsecpagefont(){}
58 \newcommand*\cftsecafterpnum{}
```

```
59 \LWR@providelength{\cftbeforesubsecskip}
```

```
60 \LWR@providelength{\cftsubsecindent}
61 \LWR@providelength{\cftsubsecnumwidth}
62 \newcommand*\{\cftsubsecfont\}{}%
63 \newcommand*\{\cftsubsecpresnum\}{}%
64 \newcommand*\{\cftsubsecaftersnum\}{}%
65 \newcommand*\{\cftsubsecaftersnumb\}{}%
66 \newcommand*\{\cftsubsecleader\}{}%
67 \newcommand*\{\cftsubsecdotsep\}{1}%
68 \newcommand*\{\cftsubsecpagefont\}{}%
69 \newcommand*\{\cftsubsecafterpnum\}{}%

70 \LWR@providelength{\cftbeforesubsubsecskip}
71 \LWR@providelength{\cftsubsubsecindent}
72 \LWR@providelength{\cftsubsubsecnumwidth}
73 \newcommand*\{\cftsubsubsecfont\}{}%
74 \newcommand*\{\cftsubsubsecpresnum\}{}%
75 \newcommand*\{\cftsubsubsecaftersnum\}{}%
76 \newcommand*\{\cftsubsubsecaftersnumb\}{}%
77 \newcommand*\{\cftsubsubsecleader\}{}%
78 \newcommand*\{\cftsubsubsecdotsep\}{1}%
79 \newcommand*\{\cftsubsubsecpagefont\}{}%
80 \newcommand*\{\cftsubsubsecafterpnum\}{}%

81 \LWR@providelength{\cftbeforeparaskip}
82 \LWR@providelength{\cftparraindent}
83 \LWR@providelength{\cftparranumwidth}
84 \newcommand*\{\cftparrafont\}{}%
85 \newcommand*\{\cftparrapresnum\}{}%
86 \newcommand*\{\cftparraaftersnum\}{}%
87 \newcommand*\{\cftparraaftersnumb\}{}%
88 \newcommand*\{\cftparraleader\}{}%
89 \newcommand*\{\cftparradotsep\}{1}%
90 \newcommand*\{\cftparrapagefont\}{}%
91 \newcommand*\{\cftparraafterpnum\}{}%

92 \LWR@providelength{\cftbeforesubparaskip}
93 \LWR@providelength{\cftsubparaindent}
94 \LWR@providelength{\cftsubparanumwidth}
95 \newcommand*\{\cftsubparafont\}{}%
96 \newcommand*\{\cftsubparapresnum\}{}%
97 \newcommand*\{\cftsubparaafersnum\}{}%
98 \newcommand*\{\cftsubparaafersnumb\}{}%
99 \newcommand*\{\cftsubparaleader\}{}%
100 \newcommand*\{\cftsubparadotsep\}{1}%
101 \newcommand*\{\cftsubparapagefont\}{}%
102 \newcommand*\{\cftsubparaafterpnum\}{}%

103 \LWR@providelength{\cftbeforefigskip}
104 \LWR@providelength{\cftfigindent}
105 \LWR@providelength{\cftfignumwidth}
106 \newcommand*\{\cftfigfont\}{}%
107 \newcommand*\{\cftfigpresnum\}{}%
108 \newcommand*\{\cftfigaftersnum\}{}%
109 \newcommand*\{\cftfigaftersnumb\}{}%
110 \newcommand*\{\cftfigleader\}{}%
```

```

111 \newcommand*{\cftfigdotsep}{1}
112 \newcommand*{\cftfigpagefont}{}
113 \newcommand*{\cftfigafterpnum}{}

114 \LWR@providelength{\cftbeforesubfigskip}
115 \LWR@providelength{\cftsubfigindent}
116 \LWR@providelength{\cftsubfignumwidth}
117 \newcommand*{\cftsubfigfont}{}
118 \newcommand*{\cftsubfigpresnum}{}
119 \newcommand*{\cftsubfigaftersnum}{}
120 \newcommand*{\cftsubfigaftersnumb}{}
121 \newcommand*{\cftsubfigleader}{}
122 \newcommand*{\cftsubfigdotsep}{1}
123 \newcommand*{\cftsubfigpagefont}{}
124 \newcommand*{\cftsubfigafterpnum}{}

125 \LWR@providelength{\cftbeforetabskip}
126 \LWR@providelength{\cfttabindent}
127 \LWR@providelength{\cfttabnumwidth}
128 \newcommand*{\cfttabfont}{}
129 \newcommand*{\cfttabpresnum}{}
130 \newcommand*{\cfttabaftersnum}{}
131 \newcommand*{\cfttabaftersnumb}{}
132 \newcommand*{\cfttableader}{}
133 \newcommand*{\cfttabdotsep}{1}
134 \newcommand*{\cfttabpagefont}{}
135 \newcommand*{\cfttabafterpnum}{}

136 \LWR@providelength{\cftbeforesubtabskip}
137 \LWR@providelength{\cftsubtabindent}
138 \LWR@providelength{\cftsubtabnumwidth}
139 \newcommand*{\cftsubtabfont}{}
140 \newcommand*{\cftsubtabpresnum}{}
141 \newcommand*{\cftsubtabaftersnum}{}
142 \newcommand*{\cftsubtabaftersnumb}{}
143 \newcommand*{\cftsubtableader}{}
144 \newcommand*{\cftsubtabdotsep}{1}
145 \newcommand*{\cftsubtabpagefont}{}
146 \newcommand*{\cftsubtabafterpnum}{}

147 \DeclareDocumentCommand{\cftsetindents}{m m m} {}

148 \providecommand{\cftpagenumbersoff}[1]{}
149 \providecommand{\cftpagenumberson}[1]{}

\newlistentry [⟨within⟩] {⟨counter⟩} {⟨ext⟩} {⟨level-1⟩}
150 \DeclareDocumentCommand{\newlistentry}{o m m m}
151 {%
152 \LWR@traceinfo{newlistentry #2 #3 #4}%
153 \IfValueTF{#1}%
154 {%
155 \@ifundefined{c@#2}{%
156 \newcounter{#2}[#1]%

```

```

157 \expandafter\edef\csname the#2\endcsname{%
158 \expandafter\noexpand\csname the#1\endcsname.\noexpand\arabic{#2}%
159 }%
160 }{ }%
161 }%
162 {%
163 \@ifundefined{c@#2}{%
164 \newcounter{#2}%
165 }{ }%
166 }%
167 \@namedef{l@#2}##1##2{%
168 \hypertocfloat{1}{#2}{#3}{##1}{##2}%
169 \def\cftwhatismyname{#2}%
170 }%
171 \expandafter\newlength\csname cftbefore#2skip\endcsname%
172 \expandafter\newlength\csname cft#2indent\endcsname%
173 \expandafter\newlength\csname cft#2numwidth\endcsname%
174 \@namedef{cft#2font}{ }%
175 \@namedef{cft#2presnum}{ }%
176 \@namedef{cft#2aftersnum}{ }%
177 \@namedef{cft#2aftersnumb}{ }%
178 \@namedef{cft#2leader}{ }%
179 \@namedef{cft#2dotsep}{1}%
180 \@namedef{cft#2pagefont}{ }%
181 \@namedef{cft#2afterpnum}{ }%
182 \@namedef{toclevel@#2}{#4}%
183 \@namedef{cft#2fillnum}{#1}%
184 \LWR@traceinfo{newlistentry done}%
185 }

```

\newlistof [⟨within⟩] {⟨type⟩} {⟨ext⟩} {⟨listofname⟩}

Emulated through the \newfloat mechanism.

```

186 \DeclareDocumentCommand{\newlistof}{o m m m}%
187 {%
188 \IfValueTF{#1}{%
189 {\newlistentry[#1]{#2}{#3}{0}}%
190 {\newlistentry[#2]{#3}{0}}%
191 }{%
192 \@namedef{ext@#2}{#3}%
193 \@ifundefined{c@#3depth}{\newcounter{#3depth}}{%
194 \setcounter{#3depth}{1}%
195 \@namedef{cftmark#3}{ }%
196 \@namedef{listof#2}{\listof{#2}{#4}}%
197 \@namedef{@cftmake#3title}{ }%
198 \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
199 \expandafter\newlength\csname cftafter#3titleskip\endcsname%
200 \@namedef{cft#3titlefont}{ }%
201 \@namedef{cftafter#3title}{ }%
202 \@namedef{cft#3prehook}{ }%
203 \@namedef{cft#3posthook}{ }%
204 }

```

\cftchapterprecis {⟨text⟩}

```
204 \newcommand{\cftchapterprecis}[1]{%
```

---

```

205 \cftchapterprecishere{#1}
206 \cftchapterprecistoc{#1}
207 \newcommand{\cftchapterprecishere}[1]{%
208 \begin{quote}\textit{#1}\end{quote}}
209 \newcommand{\cftchapterprecistoc}[1]{%
210 \addtocontents{toc}{%
211 {%
212 \protect\begin{quote}#1\protect\end{quote}}%
213 }%
214 }
```

---

File 506 **l warp-tocstyle.sty**

§ 614 Package **tocstyle**

Pkg **tocstyle** **tocstyle** is ignored.

⚠ Not fully tested! Please send bug reports!

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tocstyle}[2017/02/23]

```

2 \newcommand*{\usetocstyle}[2][]{%
3 \newcommand*{\deactivatetocstyle}[1][]{%
4 \newcommand*{\reactivatetocstyle}[1][]{%
5 \NewDocumentCommand{\settocfeature}{o o m m}{}%
6 \NewDocumentCommand{\settocstylefeature}{o m m}{}%
7 \NewDocumentCommand{\newtocstyle}{o o m m}{}%
8 \newcommand*{\aliastoc}[2]{}%
9 \newcommand*{\showtoc}[2]{}%
10 \newcommand{\iftocasdepth}[4]{}%
```

---

File 507 **l warp-todo.sty**

§ 615 Package **todo**

(Emulates or patches code by FEDERICO GARCIA.)

Pkg **todo** **todo** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{todo}[2010/03/31]

```

2 \renewcommand\todoitem[2]{%
3 \refstepcounter{todo}%
4 \item[%]
5 \HTMLUnicode{2610} \quad
6 \ref{todopage:\thetodo}%
7] : {\todoformat\ifx#1\todomark\else\textrm{#1}\fi}#2%
8 \label{todolbl:\thetodo}%
9 }%
10
11 \renewcommand\doneitem[2]{%
```

```

12 \stepcounter{todo}%
13 \item[%
14 \HTMLUnicode{2611} \quad
15 \ref{todopage:\thetodo}%
16] \@nameuse{@done\the\c@todo}:%
17 {\todoformat\ifx#1\todomark\else\textbf{\#1}\fi}#2%
18 }
19
20 \xpatchcmd{\@displaytodo}%
21 { \todoformat #1}{\todoformat \textbf{\#1}}{}%
22 {\PackageWarning{l warp-todo}{Unable to patch @displaytodo.}}%
23
24 \xpatchcmd{\@displayfulltodo}%
25 { \todoformat #1}{\todoformat \textbf{\#1}}{}%
26 {\PackageWarning{l warp-todo}{Unable to patch @displayfulltodo.}}%
27
28 \patchcmd{\todoenv}{\itshape see text.}{\textit{see text.}}{}%
29 {\PackageWarning{l warp-todo}{Unable to patch todoenv.}}%
30
31 \patchcmd{\astodos}{\todoformat #1}{\todoformat \textbf{\#1}}{}%
32 {\PackageWarning{l warp-todo}{Unable to patch astodos.}}%
33
34 \AtBeginDocument{%
35 \crefname{todo}{todo}{todos}%
36 \Crefname{todo}{Todo}{Todos}%
37 }

```

File 508 **l warp-todonotes.sty**

§ 616 Package **todonotes**

(Emulates or patches code by HENRIK SKOV MIDTIBY.)

Pkg **todonotes** **todonotes** is emulated.

The documentation for **todonotes** and **luatodonotes** have an example with a todo inside a caption. If this example does not work it will be necessary to move the todo outside of the caption.

**for HTML output:** 1 \LWR@ProvidesPackagePass{todonotes}[2012/07/25]

```

2 \if@todonotes@disabled
3 \else
4
5 \newcommand{\ext@todo}{\tdo}
6
7 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\tdo}{\l@do}{#1}{#2}}
8 \let\LWR@TODONOTES@orig@todototoc\todototoc
9
10 \renewcommand*{\todototoc}{%
11 \LWR@phantomsection%

```

```
12 \LWRTODONOTES@orig@todototoc%
13 }
14
15 \renewcommand{\@todonotes@drawMarginNoteWithLine}%
16 \fcolorbox%
17 {\@todonotes@currentbordercolor}%
18 {\@todonotes@currentbackgroundcolor}%
19 {\arabic{@todonotes@numberoftodonotes}}%
20 \marginpar{\@todonotes@drawMarginNote}%
21 }
22
23 \renewcommand{\@todonotes@drawInlineNote}{%
24 \fcolorboxBlock%
25 {\@todonotes@currentbordercolor}%
26 {\@todonotes@currentbackgroundcolor}%
27 {%
28 \if@todonotes@authorgiven%
29 {\@todonotes@author:\,}%
30 \fi%
31 \@todonotes@text%
32 }%
33 }
34
35 \renewcommand{\@todonotes@drawMarginNote}{%
36 \if@todonotes@authorgiven%
37 \@todonotes@author\par%
38 \fi%
39 \arabic{@todonotes@numberoftodonotes}: %
40 \fcolorbox%
41 {\@todonotes@currentbordercolor}%
42 {\@todonotes@currentbackgroundcolor}%
43 {%
44 \@todonotes@sizecommand%
45 \@todonotes@text %
46 }%
47 }%
48
49 \renewcommand{\@todonotes@drawLineToRightMargin}{}%
50
51 \renewcommand{\@todonotes@drawLineToLeftMargin}{}%
52
53 \renewcommand{\missingfigure}[2][]{%
54 \setkeys{todonotes}{#1}%
55 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
56 \fcolorboxBlock%
57 {\@todonotes@currentbordercolor}%
58 {\@todonotes@currentfigcolor}%
59 {%
60 \setlength{\fboxrule}{4pt}%
61 \fcolorbox{red}{white}{Missing figure} \quad #2%
62 }%
63 }
64
65 \LetLtxMacro{\LWRTODONOTES@orig@todo}{\todo}
66
```

---

```

67 \RenewDocumentCommand{\@todo}{o m}{%
68 \begingroup%
69 \renewcommand*{\phantomsection}{}%
70 \IfValueTF{#1}{%
71 \LWRTODONOTES@orig@todo[#1]{#2}%
72 }{%
73 \LWRTODONOTES@orig@todo{#2}%
74 }
75 \endgroup%
76 }
77
78 \fi% \if@todonotes@disabled

```

---

File 509 **l warp-topcapt.sty**

§ 617 Package **topcapt**

Pkg topcapt **topcapt** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{topcapt}[2004/12/11]

2 \LetLtxMacro\topcaption\caption

---

File 510 **l warp-tram.sty**

§ 618 Package **tram**

Pkg tram **tram** is emulated.

⚠ **block only** The HTML emulation uses a <div>, which must not appear inside an HTML <span> or an HTML paragraph. For this reason, the **tram** environment should only be used to contain paragraphs inside a **\parbox** or **minipage**. **tram** should not be used to mark up inline text.

To disable **tram**, allowing source compatibility with inline uses:

```

\begin{warpHTML}
\renewenvironment{tram}[1][]{\{}{\}}
\end{warpHTML}

```

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tram}[2013/04/04]

```

2 \newenvironment{tram}[1][]{%
3 {\BlockClass[background:lightgray]{tram}}%
4 {\endBlockClass}%

```

---

File 511 **l warp-transparent.sty**

§ 619      Package **transparent**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg **transparent** **transparent** is emulated. `\texttransparent` works for inline objects. `\transparent` only works for `\includegraphics`.

⚠ Not X<sub>E</sub>T<sub>E</sub>X! Note that **transparent** does not work with X<sub>E</sub>T<sub>E</sub>X.

**for HTML output:** 1 \LWR@ProvidesPackagePass{transparent}[2019/11/29]

```

2 \newcommand*{\LWR@HTML@transparent}[1]{\edef\LWR@opacity{#1}}
3
4 \LWR@formatted{transparent}
5
6
7 \newcommand*{\LWR@HTML@texttransparent}[2]{%
8 \begingroup%
9 \transparent{#1}%
10 \InlineClass[opacity: #1]{transparent}{#2}%
11 \endgroup%
12 }
13
14 \LWR@formatted{texttransparent}
```

File 512 **l warp-trimclip.sty**

§ 620      Package **trimclip**

Pkg **trimclip** **trimclip** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{trimclip}[2018/04/08]

The third argument, the text, is not touched. This allows `\bgroup` / `\egroup`, and verbatim content.

```

2 \csdef{trimbox}{\ifstar@gobble@gobble}
3 \csletcs{trimbox*}{trimbox}
4 \def\endtrimbox{}
5 \csletcs{endtrimbox*}{endtrimbox}
6
7 \csletcs{clipbox}{trimbox}
8 \csletcs{clipbox*}{trimbox}
9 \csletcs{endclipbox}{endtrimbox}
10 \csletcs{endclipbox*}{endtrimbox}
11
12 \csletcs{marginbox}{trimbox}
13 \csletcs{marginbox*}{trimbox}
14 \csletcs{endmarginbox}{endtrimbox}
15 \csletcs{endmarginbox*}{endtrimbox}
```

---

File 513 **l warp-trivfloat.sty**

§ 621 Package **trivfloat**

*(Emulates or patches code by JOSEPH WRIGHT.)*

Pkg trivfloat **trivfloat** is forced to use the built-in **l warp** emulation for floats.

To create a new float type and change its name:

---

```
\trivfloat{example}
\renewcommand{\examplename}{Example Name}
\crefname{example}{example}{examples}
\Crefname{example}{Example}{Examples}
```

---

Discard all options for **l warp-trivfloat**. This tells **trivfloat** not to use **floatrow** or **memoir**.

```
1 \LWR@ProvidesPackageDrop{trivfloat}[2009/04/23]
2 \LWR@origRequirePackage{trivfloat}
```

\tfl@chapter@fix Nullified at the beginning of the document. Is used by **trivfloat** to correct float chapter numbers, but is not needed for **l warp**.

```
3 \AtBeginDocument{\DeclareDocumentCommand{\tfl@chapter@fix}{m m}{}}
```

§ 621.1 **Combining \newfloat, \trivfloat, and algorithmicx**

For both print and **HTML** output:

When using **float**, **trivfloat**, or **algorithmicx** at the same time, be aware of conflicting file usage. **algorithmicx** uses **.loa**. **trivfloat** by default starts with **.loa** and goes up for additional floats, skipping **.lof** and **.lot**.

When using **\newfloat**, be sure to manually assign higher letters to the **\newfloat** files to avoid **.loa** used by **algorithmicx**, and any files used by **trivfloat**. Also avoid using **.lof** and **.lot**.

When using **\trivfloat**, you may force it to avoid conflicting with **algorithmicx** by starting **trivfloat**'s file extensions with **.lob**:

---

```
\makeatletter
\setcounter{tfl@float@cnt}{1} % start trivfloats with .lob
\makeatletter
```

---



---

File 514 **l warp-truncate.sty**

§ 622      Package **truncate**

Pkg **truncate** **truncate** is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{truncate}[2001/08/20]
2 \providecommand{\TruncateMarker}{}{}
3 \newcommand{\truncate}[3][\TruncateMarker]{#3}
```

---

File 515 **l warp-turnthepage.sty**

§ 623      Package **turnthepage**

Pkg **turnthepage** **turnthepage** is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{turnthepage}[2011/03/24]
2 \newcommand{\turnthepage}{}{}
```

---

File 516 **l warp-twoup.sty**

§ 624      Package **twoup**

Pkg **twoup** **twoup** is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{twoup}[2007/02/26]
2 \newcommand{\cleartolastpage}{}{}
```

---

File 517 **l warp-txfonts.sty**

§ 625      Package **txfonts**

(Emulates or patches code by YOUNG Ryu.)

Pkg **txfonts** **txfonts** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{txfonts}[2008/01/22]
```

For MATHJAX:

```
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{txfonts}
6
7 \LWR@mathjax@addgreek@l@up{}{up}
8 \end{warpMathJax}
```

---

File 518 **l warp-txgreeks.sty**

§ 626 Package **txgreeks**

(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)

Pkg txgreeks txgreeks is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors all package options.

for HTML output:

```
1 \LWR@ProvidesPackagePass{txgreeks}[2011/03/16]
2
3 \LWR@infoprocessingmathjax{txgreeks}

4 \LWR@origRequirePackage{l warp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7 \iftgs@uplower% upright lowercase Greek
8 \LWR@mathjax@addgreek@l@up{}{}
9 \LWR@mathjax@addgreek@l@it{other}{}%
10 \else% italic lowercase Greek
11 \LWR@mathjax@addgreek@l@it{}{}
12 \LWR@mathjax@addgreek@l@up{other}{}%
13 \fi
14
15 \iftgs@itupper % italic uppercase Greek
16 \LWR@mathjax@addgreek@u@it*{}{}
17 \LWR@mathjax@addgreek@u@up*{other}{}%
18 \LWR@mathjax@addgreek@u@up*{var}{}%
19 \else% upright uppercase Greek
20 \LWR@mathjax@addgreek@u@up*{}{}
21 \LWR@mathjax@addgreek@u@it*{other}{}%
22 \LWR@mathjax@addgreek@u@it*{var}{}%
23 \fi
24 \end{warpMathJax}
```

---

File 519 **l warp-typearea.sty**

§ 627 Package **typearea**

(Emulates or patches code by MARKUS KOHM.)

Pkg typearea typearea is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. \DeclareDocumentCommand is used to overwrite the koma-script definitions.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{typearea}[2018/03/30]
```

---

```

2 \DeclareDocumentCommand{\typearea}{o m}{}
3 \DeclareDocumentCommand{\recalctypearea}{}{}
4 @ifundefined{footheight}{\newlength\footheight}{}
5 \DeclareDocumentCommand{\areaset}{o m m}{}
6 \DeclareDocumentCommand{\activateareas}{}{}
7 \DeclareDocumentCommand{\storeareas}{m}{}
8 \DeclareDocumentCommand{\BeforeRestoreareas}{s m}{}
9 \DeclareDocumentCommand{\AfterRestoreareas}{s m}{}
10 \DeclareDocumentCommand{\AfterCalculatingTypearea}{s m}{}
11 \DeclareDocumentCommand{\AfterSettingArea}{s m}{}

```

---

File 520 **l warp-typicons.sty**

§ 628 Package **typicons**

*(Emulates or patches code by ARTHUR VIGIL, XAVIER DANAUX.)*

Pkg typicons typicons is patched for use by l warp.

If \ticon is used, the name of the icon is used in the alt tag. Otherwise, for each of the individual icon macros, a generic alt tag is used.

for HTML output:

```

1 \LWR@ProvidesPackagePass{typicons}[2015/05/20]

2 \LetLtxMacro{\LWR@orig@symbol}{\symbol}
3
4 \let\LWR@orig@typicon@TI\TI
5
6 \newcommand*{\LWR@typicon@symbol}[1]{%
7 \begin{lateximage}*[typicon][typicon#1]%
8 \begingroup%
9 \LWR@orig@typicon@TI%
10 \LWR@orig@symbol{#1}%
11 \endgroup%
12 \end{lateximage}%
13 }
14
15 \renewcommand*{\TI}{%
16 \LetLtxMacro{\symbol}{\LWR@typicon@symbol}%
17 }
18
19 \renewcommand*{\ticon}[1]{%
20 \begin{lateximage}*[#1 icon][typicon#1]%
21 \TI\csname ticon@#1\endcsname%
22 \end{lateximage}%
23 }
24 }
```

---

File 521 **l warp-ulem.sty**

§ 629      Package **ulem**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg **ulem** Patched for use by **lwarf**.

**for HTML output:** Use the original package:

```
1 \LWR@ProvidesPackagePass{ulem}[2012/05/18]
```

Basic markup commands, using css:

```
2 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
3 \InlineClass%
4 (text-decoration:underline; text-decoration-skip: auto)%
5 {uline}{\LWR@isolate{#1}}%
6 }
7 \LWR@formatted{uline}
8
9 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
10 \InlineClass%
11 (%
12 text-decoration:underline; text-decoration-skip: auto;%
13 text-decoration-style:double%
14)%
15 {uuline}{\LWR@isolate{#1}}%
16 }
17 \LWR@formatted{uuline}
18
19 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
20 \InlineClass%
21 (%
22 text-decoration:underline; text-decoration-skip: auto;%
23 text-decoration-style:wavy%
24)%
25 {uwave}{\LWR@isolate{#1}}%
26 }
27 \LWR@formatted{uwave}
28
29 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
30 \InlineClass%
31 (text-decoration:line-through)%
32 {sout}{\LWR@isolate{#1}}%
33 }
34 \LWR@formatted{sout}
35
36 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
37 \InlineClass%
38 (text-decoration:line-through)%
39 {xout}{\LWR@isolate{#1}}%
40 }
41 \LWR@formatted{xout}
42
43 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
44 \InlineClass%
```

```

45 (%
46 text-decoration:underline;%
47 text-decoration-skip: auto;%
48 text-decoration-style:dashed%
49)%
50 {\dashuline}{\LWR@isolate{\#1}}%
51 }
52 \LWR@formatted{dashuline}
53
54 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
55 \InlineClass%
56 (%
57 text-decoration:underline;%
58 text-decoration-skip: auto;%
59 text-decoration-style: dotted%
60)%
61 {\dotuline}{\LWR@isolate{\#1}}%
62 }
63 \LWR@formatted{dotuline}

```

Nullified/emulated macros:

```

64 \NewDocumentCommand{\LWR@HTML@markoverwith}{m}{}
65 \LWR@formatted{markoverwith}
66
67 \NewDocumentCommand{\LWR@HTML@ULon}{+m}{\uline{\#1}\egroup}
68 \LWR@formatted{ULon}

```

## File 522 **l warp-umoline.sty**

### § 630 Package **umoline**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg umoline umoline is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{umoline}[2000/07/11]

```

2 \newcommand*{\LWR@HTML@Underline}[1]{%
3 \InlineClass{\uline}{\#1}%
4 }
5 \LWR@formatted{Underline}
6
7 \newcommand*{\LWR@HTML@Midline}[1]{%
8 \InlineClass{\sout}{\#1}%
9 }
10 \LWR@formatted{Midline}
11
12 \newcommand*{\LWR@HTML@Overline}[1]{%
13 \InlineClass{\oline}{\#1}%
14 }
15 \LWR@formatted{Overline}
16

```

---

```

17 \newcommand*{\LWR@HTML@UMOline}[2]{%
18 \InlineClass{uline}{#2}%
19 }
20 \LWR@formatted{UMOline}
21
22 \NewDocumentCommand{\LWR@HTML@UMOspace}{s m o}{\hspace*{#2}}
23 \LWR@formatted{UMOspace}
24
25 \NewDocumentCommand{\LWR@HTML@UMOneline}{s}{\newline}
26 \LWR@formatted{UMOneline}

```

---

File 523 **l warp-underscore.sty**

§ 631 Package **underscore**

Pkg **underscore** **underscore** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{underscore}[2006/09/13]

---

File 524 **l warp-unicode-math.sty**

§ 632 Package **unicode-math**

(Emulates or patches code by WILL ROBERTSON.)

Pkg **unicode-math** **unicode-math** is supported as-is for **HTML** with **svgmath**.

 **MATHJAX** If the document source includes embedded Unicode characters, these may not be reproduced correctly for **pdftotext**, and thus not display correctly in **MATHJAX**.

Symbol font commands are emulated, but not all combinations are supported by **MATHJAX**, especially with the dedicated Greek macros. Symbol macros such as **\symbfsf** may not be sans or bold. For Greek, use the Unicode equivalent, if necessary.

 **\mathversion** The **MATHJAX** emulation does not change with the use of **\mathversion**. Whatever emulation is established at the begin of the document will remain.

The option **sans-style** honors **upright** and **italic**, but **italic** will not be sans, in order to support Greek macros.

Greek macros such as **\alpha** respond to the **math-style** option. Latin symbols does not, per **MATHJAX** limitations, unless placed inside **\symbit** or similar.

Macros from the categories **\mathopen**, **\mathclose**, and **\mathfence** are emulated. Due to current **MATHJAX** limitations, not all stretch to the correct height.

Also emulated are macros from the categories **\mathpunct**, **\mathover**, **\mathunder**, **\mathaccent**, **\mathbotaccent**, and **\mathop**.

The individual **unicode-math** macros of categories **\mathbin**, **\mathord**, and **\mathrel** are not emulated for **MATHJAX**, as there are more than two thousand of them, but they

may be added as needed. Place the following in the document preamble after loading `unicode-math`, including a definition for each macro which is used in the document but undefined in MATHJAX:

Use `\mathrel`, `\mathbin`, etc. depending on the category of each macro. For a list of macro names and symbols, see **`texdoc unimath-symbols`**.

for HTML output:

```
1 \LWR@ProvidesPackagePass{unicode-math}[2019/09/26]

2 \LWR@origRequirePackage{lwarpt-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{unicode-math}
6
7 % Not all are possible in MathJax.
8 \CustomizeMathJax{\let\symnormal\mathit}
9 \CustomizeMathJax{\let\symliteral\mathrm}
10 \CustomizeMathJax{\let\symbb\mathbb}
11 \CustomizeMathJax{\let\symbbit\mathbb}% not italic
12 \CustomizeMathJax{\let\symcal\mathcal}
13 \CustomizeMathJax{\let\symscr\mathscr}
14 \CustomizeMathJax{\let\symfrak\mathfrak}
15
16 \CustomizeMathJax{\let\symsfup\mathsf}
17
18 \CustomizeMathJax{\let\symsfit\mathit}% not sans
19 % \CustomizeMathJax{\newcommand{\symsfit}[1]{%
20 % \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}}% not greek
21 % }
22
23 \CustomizeMathJax{\let\symbfsf\mathbf}% not sans
24 % \CustomizeMathJax{\newcommand{\symbfsf}[1]{%
25 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
26 % }
27
28 \CustomizeMathJax{\let\symbfup\mathbf}
29 \CustomizeMathJax{\newcommand{\symbfit}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\let\symbfcal\mathcal}% not bold
31
32 \CustomizeMathJax{\let\symbfscr\mathscr}% not bold
33 % \CustomizeMathJax{\newcommand{\symbfscr}[1]{%
34 % \mmlToken{mi}[mathvariant="math-bold-script"]{#1}}% not greek
35 % }
36
37 \CustomizeMathJax{\let\symbffrak\mathfrak}% not bold
38 % \CustomizeMathJax{\newcommand{\symbffrak}[1]{%
39 % \mmlToken{mi}[mathvariant="math-bold-fraktur"]{#1}}% not greek
40 % }
```

```

42 \CustomizeMathJax{\let\symbolfsup\mathbf}{% not sans
43 % \CustomizeMathJax{\newcommand{\symbolfsup}[1]{%
44 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}}{% not greek
45 % }
46
47 \CustomizeMathJax{\newcommand{\symbolfsfit}[1]{\boldsymbol{#1}}}{% not sans
48 % \CustomizeMathJax{\newcommand{\symbolfsfit}[1]{%
49 % \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}}}{% not greek
50 % }
51
52 % Duplicates below are commented out.
53 \CustomizeMathJax{\let\symup\mathrm}
54 \CustomizeMathJax{\let\symbolbf\mathbf}{% \symbolbf defined above
55 \CustomizeMathJax{\let\symit\mathit}
56 \CustomizeMathJax{\let\symbolfit\mathit}{% not bold

57 \ExplSyntaxOn
58 \AtBeginDocument{
59 \bool_if:NTF \g__um_sfliteral_bool
60 {\CustomizeMathJax{\let\symsf\symsup}}
61 {
62 \bool_if:NTF \g__um_upsans_bool
63 {\CustomizeMathJax{\let\symsf\symsup}}
64 {\CustomizeMathJax{\let\symsf\symsfit}}
65 }
66 }
67 \ExplSyntaxOff

68 % \CustomizeMathJax{\let\symbolfsup\mathbf}{% not sans
69 % \CustomizeMathJax{\let\symsfit\mathit}{% not sans
70 % \CustomizeMathJax{\let\symbolfsfit\mathit}{% not bold nor sans
71 \CustomizeMathJax{\let\symtt\mathtt}
72 % \CustomizeMathJax{\let\symbolbb\mathbb}
73 % \CustomizeMathJax{\let\symbolbit\mathbb}{% not italic
74 % \CustomizeMathJax{\let\symscr\mathscr}
75 % \CustomizeMathJax{\let\symbolfscr\mathscr}{% not bold
76 % \CustomizeMathJax{\let\symbolfrak\mathfrak}
77 \CustomizeMathJax{\let\symbolffrac\mathbffrac}

```

Some symbol categories defined by `unicode-math`, in case they are used inside custom macros:

```

78 \CustomizeMathJax{\newcommand{\mathfence}[1]{\mathord{#1}}}
79 \CustomizeMathJax{\newcommand{\mathover}[1]{#1}}
80 \CustomizeMathJax{\newcommand{\mathunder}[1]{#1}}
81 \CustomizeMathJax{\newcommand{\mathaccent}[1]{#1}}
82 \CustomizeMathJax{\newcommand{\mathbotaccent}[1]{#1}}
83 \CustomizeMathJax{\newcommand{\mathalpha}[1]{\mathord{#1}}}

```

`math-style` is one of: ISO, TeX, french, upright, or literal, which set `\g__um_upGreek_bool` and `\g__um_upgreek_bool`.

```

84 \ExplSyntaxOn
85

```

```
86 \AtBeginDocument{
87 \bool_if:NTF \g__um_upGreek_bool
88 {\LWR@mathjax@addgreek@u@up*{}{}}
89 {\LWR@mathjax@addgreek@u@it*{}{}}
90
91 \bool_if:NTF \g__um_upgreek_bool
92 {\LWR@mathjax@addgreek@l@up{}{}}
93 {\LWR@mathjax@addgreek@l@it{}{}}
94 }
95
96 \LWR@mathjax@addgreek@u@up*{up}{}
97 \LWR@mathjax@addgreek@u@it*{it}{}
98 \LWR@mathjax@addgreek@l@up{up}{}
99 \LWR@mathjax@addgreek@l@it{it}{}
100
101 \ExplSyntaxOff
102
103 \CustomizeMathJax{\let\lparen()
104 \CustomizeMathJax{\let\rparen())
105 \CustomizeMathJax{\newcommand{\cuberoot}[1]{\sqrt[3]{#1}}}\,}
106 \CustomizeMathJax{\newcommand{\fourthroot}[1]{\sqrt[4]{#1}}}\,
```

```

137 \CustomizeMathJax{\newcommand{\ointctrcclockwise}{\mathop{\backslash unicode{x2233}}\limits}}
138 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\backslash unicode{x2232}}\limits}}
139 \CustomizeMathJax{\newcommand{\leftouterjoin}{\mathop{\backslash unicode{x27D5}}\limits}}
140 \CustomizeMathJax{\newcommand{\rightouterjoin}{\mathop{\backslash unicode{x27D6}}\limits}}
141 \CustomizeMathJax{\newcommand{\fullouterjoin}{\mathop{\backslash unicode{x27D7}}\limits}}
142 \CustomizeMathJax{\newcommand{\bigbot}{\mathop{\backslash unicode{x27D8}}\limits}}
143 \CustomizeMathJax{\newcommand{\bigtop}{\mathop{\backslash unicode{x27D9}}\limits}}
144 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\backslash unicode{x29F8}}\limits}}
145 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\backslash unicode{x29F9}}\limits}}
146 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\backslash unicode{x2A03}}\limits}}
147 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\backslash unicode{x2A05}}\limits}}
148 \CustomizeMathJax{\newcommand{\conjquant}{\mathop{\backslash unicode{x2A07}}\limits}}
149 \CustomizeMathJax{\newcommand{\disjquant}{\mathop{\backslash unicode{x2A08}}\limits}}
150 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\backslash unicode{x2A09}}\limits}}
151 \CustomizeMathJax{\newcommand{\modtwosum}{\mathop{\backslash unicode{x2A0A}}\limits}}
152 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\backslash unicode{x2A0B}}\limits}}
153 \CustomizeMathJax{\newcommand{\intbar}{\mathop{\backslash unicode{x2A0D}}\limits}}
154 \CustomizeMathJax{\newcommand{\intBar}{\mathop{\backslash unicode{x2A0E}}\limits}}
155 \CustomizeMathJax{\newcommand{\fint}{\mathop{\backslash unicode{x2A0F}}\limits}}
156 \CustomizeMathJax{\newcommand{\cirlfint}{\mathop{\backslash unicode{x2A10}}\limits}}
157 \CustomizeMathJax{\newcommand{\awint}{\mathop{\backslash unicode{x2A11}}\limits}}
158 \CustomizeMathJax{\newcommand{\rppoint}{\mathop{\backslash unicode{x2A12}}\limits}}
159 \CustomizeMathJax{\newcommand{\scpoint}{\mathop{\backslash unicode{x2A13}}\limits}}
160 \CustomizeMathJax{\newcommand{\npoint}{\mathop{\backslash unicode{x2A14}}\limits}}
161 \CustomizeMathJax{\newcommand{\pointint}{\mathop{\backslash unicode{x2A15}}\limits}}
162 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\backslash unicode{x2A16}}\limits}}
163 \CustomizeMathJax{\newcommand{\intlarhk}{\mathop{\backslash unicode{x2A17}}\limits}}
164 \CustomizeMathJax{\newcommand{\intx}{\mathop{\backslash unicode{x2A18}}\limits}}
165 \CustomizeMathJax{\newcommand{\intcap}{\mathop{\backslash unicode{x2A19}}\limits}}
166 \CustomizeMathJax{\newcommand{\intcup}{\mathop{\backslash unicode{x2A1A}}\limits}}
167 \CustomizeMathJax{\newcommand{\upint}{\mathop{\backslash unicode{x2A1B}}\limits}}
168 \CustomizeMathJax{\newcommand{\lowint}{\mathop{\backslash unicode{x2A1C}}\limits}}
169 \CustomizeMathJax{\newcommand{\bigtriangleleft}{\mathop{\backslash unicode{x2A1E}}\limits}}
170 \CustomizeMathJax{\newcommand{\zcmp}{\mathop{\backslash unicode{x2A1F}}\limits}}
171 \CustomizeMathJax{\newcommand{\zpipe}{\mathop{\backslash unicode{x2A20}}\limits}}
172 \CustomizeMathJax{\newcommand{\zproject}{\mathop{\backslash unicode{x2A21}}\limits}}
173 \CustomizeMathJax{\newcommand{\biginterleave}{\mathop{\backslash unicode{x2AFC}}\limits}}
174 \CustomizeMathJax{\newcommand{\bigtalloblong}{\mathop{\backslash unicode{x2AFF}}\limits}}
175 \CustomizeMathJax{\newcommand{\arabicmaj}{\mathop{\backslash unicode{x1EEF0}}\limits}}
176 \CustomizeMathJax{\newcommand{\arabichad}{\mathop{\backslash unicode{x1EEF1}}\limits}}
177
178 \end{warpMathJax}

```

File 525 **lwarp-units.sty**

## § 633 Package units

*(Emulates or patches code by AXEL REICHERT.)*

Pkg units units is patched for use by lwarp.

Values are not styled by css, and take the style of the surrounding HTML text.

Units are styled according to the print version, so they will be forced to upright roman in HTML if the print version does so. It may be necessary to adjust the document's body css to match the print version.

```

for HTML output: 1 \LWR@ProvidesPackagePass{units}[1998/08/04]

2 \DeclareRobustCommand*\LWR@HTML@unit}[2][]{{%
3 \ifblank{#1}%
4 {\LWR@textcurrentfont{#2}}%
5 {%
6 #1%
7 \ifthenelse{\boolean{B@UnitsLoose}}{\~}{\,}%
8 \LWR@textcurrentfont{#2}%
9 }%
10 }%
11 \LWR@formatted{unit}

12 \DeclareRobustCommand*\LWR@HTML@unitfrac}[3][]{{%
13 \ifblank{#1}%
14 {%
15 \nicefrac{#2}{#3}}%
16 }%
17 {%
18 #1%
19 \ifthenelse{\boolean{B@UnitsLoose}}{\~}{\,}%
20 \nicefrac{#2}{#3}}%
21 }%
22 }%
23
24 \LWR@formatted{unitfrac}

```

For MATHJAX:

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\unit}[2][]{\mathinner{#1 \mathinner{#2}}}}
27 \CustomizeMathJax{\newcommand{\unitfrac}[3][]{\mathinner{#1 \mathinner{\{}^{\#2}\!\!/\!\!{\}^{\#3}}}}}
28 \end{warpMathJax}

```

## File 526 lwarf-unitsdef.sty

§ 634      Package **unitsdef**

*(Emulates or patches code by PATRICK HAPPEL.)*

Pkg    unitsdef    unitsdef is patched for use by lwarf.

**for HTML output:** 1 \LWR@ProvidesPackagePass{unitsdef}[2005/01/04]

```

2 \renewcommand{\unitvaluesep}{\,}
3
4 \renewcommand{\unittimes}{\@setunitsepfalse\HTMLunicode{22c5}}% \cdot
5

```

---

```

6 \renewunit{\arcmin}{%
7 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
8 {\ensuremath{{}^{\prime}}}{%
9 {\HTML{2032}}% prime
10 }%
11 }%
12 \renewunit{\arcsec}{%
13 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
14 {\ensuremath{{}^{\prime\prime}}}{%
15 {\HTML{2033}}% dbl prime
16 }%
17 }%
18 \renewrobustcmd{\SI}[2]{%
19 \begingroup%
20 \let\unit@@xspace\relax%
21 \unitSIdef\selectfont%
22 {\LWR@textcurrentfont{\#1\#2}}% lwarp
23 \endgroup%
24 }

```

---

File 527 **lwarp-upgreek.sty**

§ 635 Package **upgreek**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg upgreek upgreek is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{upgreek}[2003/02/12]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}%
3 %
4 \begin{warpMathJax}%
5 \LWR@infoprocessingmathjax{upgreek}%
6 %
7 \LWR@mathjax@addgreek@l@up{up}{}
8 \LWR@mathjax@addgreek@u@up{Up}{}
9 %
10 \end{warpMathJax}

```

---

File 528 **lwarp-upref.sty**

§ 636 Package **upref**

Pkg upref upref is ignored.

for HTML output: Discard all options for lwarp-upref:

1 \LWR@ProvidesPackageDrop{upref}[2007/03/14]

---

**File 529 lwarp-url.sty**

§ 637 Package **url**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg url url is patched for use by lwarp.

**for HTML output:** 1 \LetLtxMacro\LWR@url@orig@url\LWR@url

2

3 \LWR@ProvidesPackagePass[url][2013/09/16]

4 \newcommand\*{\LWR@HTML@Url@FormatString}{%

5 \expandafter\LWR@url@orig@url\expandafter{\Url@String}%

6 }

7 \LWR@formatted{\Url@FormatString}

---

---

**File 530 lwarp-ushort.sty**

§ 638 Package **ushort**

(Emulates or patches code by MARTIN VÄTH.)

Pkg ushort ushort is used as-is, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass[ushort][2001/06/13]

2 \begin{warpMathJax}

3 \CustomizeMathJax{\newcommand{\ushortdline}[1]{%

4 \kern{.1em}\underline{\underline{\#1}}\kern{.1em}}%

5 }}

6 \CustomizeMathJax{\newcommand{\ushort}[1]{\kern{.1em}\underline{\#1}\kern{.1em}}}

7 \CustomizeMathJax{\newcommand{\ushortd}[1]{\ushortdline{\#1}}}

8 \CustomizeMathJax{\newcommand{\ushortw}[1]{\kern{.1em}\underline{\#1}\kern{.1em}}}

9 \CustomizeMathJax{\newcommand{\ushortdw}[1]{\ushortdline{\#1}}}

10 \end{warpMathJax}

---

---

**File 531 lwarp-uspace.sty**

§ 639 Package **uspace**

Pkg uspace uspace is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop[uspace][2016/11/06]

---

**File 532 l warp-varioref.sty****§ 640 Package varioref**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg varioref varioref is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{varioref}[2020/01/23]

Page-related output is not used for HTML output.

```
2 \def\reftextfaceafter {\unskip}%
3 \def\reftextfacebefore{\unskip}%
4 \def\reftextafter {\unskip}%
5 \def\reftextbefore {\unskip}%
6 \def\reftextcurrent {\unskip}%
7 \def\reftextfaraway#1{\unskip}%
8 \def\reftextpagerange#1#2{\unskip}%
```

---

**File 533 l warp-verse.sty****§ 641 Package verse**

(Emulates or patches code by PETER WILSON.)

Pkg verse verse is supported and patched by l warp.

for HTML output: Pass all options for l warp-verse:

```
1 \LWR@ProvidesPackagePass{verse}[2009/09/04]
```

When using verse or memoir, always place a \\ after each line.

\attrib The documentation for the verse and memoir packages suggest defining an \attrib command, which may already exist in current documents, but it will only work for print output. l warp provides \attribution, which works for both print and HTML output. To combine the two so that \attrib is used for print and \attribution is used for HTML:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

Len \vleftskip Len \vleftmargini Len \HTMLvleftskip Len \HTMLleftmargini These lengths are used by verse and memoir to control the left margin, and they may already be set by the user for print output. New lengths \HTMLvleftskip and \HTMLleftmargini are provided to control the margins in HTML output. These new lengths may be set by the user before any verse environment, and persist until they are manually changed again. One reason to change \HTMLleftmargini is if there is a wide \flagverse in use, such as the word "Chorus", in which case the value of \HTMLleftmargini should

be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

- ⚠ **spacing** Horizontal spacing relies on *pdftotext*'s ability to discern the layout (-layout option) of the text in the `HTML`-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to `HTML`, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.
- ⚠ **verse margin**

`Env` `verse` The `verse` environment will be placed inside a `HTML <pre>`.

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching verse.}
```

At the beginning of the `verse` environment:

```
4 \AtBeginEnvironment{verse}
5 {%
```

Use the original `list` environment inside a `<pre>` to attempt to preserve formatting.

```
6 \LWR@restoreoriglists%
```

`Pkg` `verse` The `verse` or `memoir` packages can place stanza numbers to the left with their `\flagverse` command. The following does not allow them to go into the left margin, which would cause *pdfcrop* to crop the entire page further to the left.

`Cls` `memoir`

`Len` `\vleftskip`

```
7 \ifdef{\vleftskip}{%
8 \setlength{\vleftskip}{\HTMLvleftskip}
9 \setlength{\leftmargini}{\HTMLleftmargini}
10 }{%
11 \LWR@forcenewpage
12 \LWR@atbeginverbatim{verse}%
13 }
```

After the end of the `verse` environment, which places the `<pre>` tag at the regular left margin:

```
14 \AtEndEnvironment{verse}{%
15 \leavevmode%
16 \LWR@afterendverbatim%
17 }
```

Patch to place `poemtitle` inside an `HTML <span>` of class `poemtitle`:

```
18 \ifdef{\poemtitle}{%
19 \DeclareDocumentCommand{\@vstypepoemtitle}{m}{%
20 \vspace{\beforepoemtitleskip}%
21 {\InlineClass{poemtitle}{\poemtitlefont #1}\par}%
22 \vspace{\afterpoemtitleskip}%
23 }%
24 }{%
25 }
```

```
26 \LWR@traceinfo{Finished patching verse.}
27 }% AfterEndPreamble
```

---

File 534 **l warp-*versonotes*.sty**

§ 642 Package **versonotes**

*(Emulates or patches code by NORMAN GRAY.)*

Pkg *versonotes* **versonotes** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{versonotes}[2019/07/06]

```
2 \newcommand{\versonote}[1]{\marginpar{\#1}}
3 \newdimen\versotextwidth
4 \newdimen\versoleftmargin
5 \newcommand*{\versolayout}{}{}
```

In case the user changed the page number before loading **versonotes**:

```
6 \setcounter{page}{1}
```

---

File 535 **l warp-*vertbars*.sty**

§ 643 Package **vertbars**

*(Emulates or patches code by PETER WILSON.)*

Pkg *vertbars* **vertbars** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vertbars}[2010/11/27]

```
2 \newlength{\barwidth}
3 \setlength{\barwidth}{0.4pt}
4 \newlength{\barspace}
5 \setlength{\barspace}{1em}
6
7 \newenvironment{vertbar}{
8 \LWR@forcenewpage
9 \LWR@forceminwidth{\barwidth}
10 \begin{BlockClass}[
11 border-left: \LWR@printlength{\LWR@atleastonept} solid black ;
12 padding-left: \LWR@printlength{\barspace}%
13]{vertbar}
14 }{
15 \end{BlockClass}
16 }
```

---

File 536 **l warp-*vmargin*.sty**

§ 644      Package **vmargin**

Pkg **vmargin** **vmargin** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vmargin}[2004/07/15]

```

2 \newcommand*{\LWRVM@customsize}[2]{}
3 \newcommand*{\setpapersize}[2][]{\ifstreq{\#2}{custom}{\LWRVM@customsize}{}}
4 \newcommand*{\setmargins}[8]{}
5 \newcommand*{\setmarginsrb}[8]{}
6 \newcommand*{\setmargnohf}[4]{}
7 \newcommand*{\setmargnohfb}[4]{}
8 \newcommand*{\setmarg}[4]{}
9 \newcommand*{\setmargrb}[4]{}
10 \newlength{\PaperWidth}
11 \setlength{\PaperWidth}{8.5in}
12 \newlength{\PaperHeight}
13 \setlength{\PaperHeight}{11in}
14 \newif\ifLandscape

```

File 537 **l warp-vowel.sty**

§ 645      Package **vowel**

(Emulates or patches code by FUKUI REI.)

Pkg **vowel** **vowel** is patched for use by **l warp**.

This package has been tested with *pdflatex* and the Type 1 TIPA fonts using the following package load sequence:

```

\usepackage[T3,T1]{fontenc}
\usepackage[utf8]{inputenc}
\usepackage[noenc]{tipa}
\usepackage{vowel}

```

**for HTML output:** 1 \LWR@ProvidesPackagePass{vowel}[2002/08/08]

```

2 \renewenvironment{vowel}[1][]
3 {%
4 \begin{lateximage}[-vowel-\~\PackageDiagramAltText]%
5 @_vowel[#1]%
6 }%
7 {%
8 @_vowel%
9 \end{lateximage}%
10 }

```

File 538 **l warp-vpe.sty**

§ 646      Package **vpe**

Pkg vpe vpe is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]

File 539 **l warp-vwcol.sty**

§ 647      Package **vwcol**

(Emulates or patches code by WILL ROBERTSON.)

Pkg vwcol vwcol is patched for use with l warp.

The width option is ignored. All vwcol environments adjust to 1–3 equal-width columns, depending on the width of the browser window.

The remaining options are supported, except for lines and maxrecursion.

**for HTML output:** 1 \LWR@ProvidesPackagePass{vwcol}[2015/02/10]

Factored from \vwcol. Each is given a style tag to append to the final style.

```
\LWR@vwcol@addrule {<style tag>}
 2 \newcommand*{\LWR@vwcol@addrule}[1]{%
 3 \appto{\LWR@vwcolstyle}{%
 4 #1: %
 5 \LWR@printlength{\vwcol@rule} solid \LWR@origpound\LWR@vwcol@rulecolor ; %
 6 }%
 7 }
```

```
\LWR@vwcol@addgap {<style tag>}
 8 \newcommand*{\LWR@vwcol@addgap}[1]{%
 9 \appto{\LWR@vwcolstyle}{%
10 #1: %
11 \LWR@printlength{\vwcol@sep} ; %
12 }%
13 }
```

Env vwcol {<key/values>}

Redefine the environment to add a HTML style. The style is built depending on the required options.

14 \renewenvironment\*{vwcol}[1][]{%

New paragraph, and process the options:

15 \LWR@stopars%

16 \vwcolsetup{#1}%

Begin with no style:

```
17 \newcommand*\LWR@vwcolstyle{}{}
```

presep and postsep are created with HTML margins:

```
18 \if@vwcol@presep
19 \appto{\LWR@vwcolstyle}{margin-left: 1em; padding-left: .5em; }
20 \fi
21 \if@vwcol@postsep
22 \appto{\LWR@vwcolstyle}{margin-right: 1em; padding-right: .5em; }
23 \fi
```

sep becomes column-gap:

```
24 \ifdimgreater{\vwcol@sep}{1sp}{
25 \LWR@vwcol@addgap{column-gap}
26 \LWR@vwcol@addgap{-moz-column-gap}
27 \LWR@vwcol@addgap{-webkit-column-gap}
28 }{}
```

rule become column-rule, while prerule and postrule become HTML borders:

```
29 \convertcolorspec[named]{\vwcol@rulecol}{HTML}\LWR@vwcol@rulecolor%
30 \ifdimgreater{\vwcol@rule}{0pt}{
31 \ifdimless{\vwcol@rule}{1pt} {
32 \setlength{\vwcol@rule}{1pt}
33 }{
34 \LWR@vwcol@addrule{column-rule}
35 \LWR@vwcol@addrule{-moz-column-rule}
36 \LWR@vwcol@addrule{-webkit-column-rule}
37 \if@vwcol@prerule\LWR@vwcol@addrule{border-left}\fi
38 \if@vwcol@postrule\LWR@vwcol@addrule{border-right}\fi
39 }{}
```

Each of the justify options becomes a text-align. Indentation is added where appropriate.

```
40 \ifdefequal{\vwcol@justify}{\RaggedRight} {
41 \appto{\LWR@vwcolstyle}{text-align: left; }
42 \ifdimgreater{\vwcol@parindent}{0pt} {
43 \appto{\LWR@vwcolstyle}{%
44 text-indent: \LWR@printlength{\vwcol@parindent}; %
45 }
46 }{
47 }{}
```

  

```
48 \ifdefequal{\vwcol@justify}{\RaggedLeft} {
49 \appto{\LWR@vwcolstyle}{text-align: right; }
50 }{}
```

  

```
51 \ifdefequal{\vwcol@justify}{\Centering} {
52 \appto{\LWR@vwcolstyle}{text-align: center; }
53 }{}
```

  

```
54 \ifdefequal{\vwcol@justify}{\justifying} {
55 \appto{\LWR@vwcolstyle}{text-align: justify; }
56 \ifdimgreater{\vwcol@parindent}{0pt} {
57 \appto{\LWR@vwcolstyle}{%
58 text-indent: \LWR@printlength{\vwcol@parindent}; %
59 }
60 }{}
```

```
60 }{ }
61 }{ }
```

Create the <div> with the assembled style:

```
62 \BlockClass[\LWR@vwcolstyle]{multicols}
63 }
```

When the environment ends:

```
64 {
65 \endBlockClass
66 \LWR@startpars
67 }
```

---

File 540 **l warp-wallpaper.sty**

§ 648 Package **wallpaper**

(Emulates or patches code by MICHAEL H.F. WILKINSON.)

Pkg **wallpaper** **wallpaper** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{wallpaper}[2005/01/18]

```
2 \newcommand*\CenterWallPaper}[2]{}
3 \newcommand*\ThisCenterWallPaper}[2]{}
4 \newcommand*\TileWallPaper}[3]{}
5 \newcommand*\ThisTileWallPaper}[3]{}
6 \newcommand*\TileSquareWallPaper}[2]{}
7 \newcommand*\ThisTileSquareWallPaper}[2]{}
8 \newcommand*\ULCornerWallPaper}[2]{}
9 \newcommand*\ThisULCornerWallPaper}[2]{}
10 \newcommand*\LLCornerWallPaper}[2]{}
11 \newcommand*\ThisLLCornerWallPaper}[2]{}
12 \newcommand*\URCornerWallPaper}[2]{}
13 \newcommand*\ThisURCornerWallPaper}[2]{}
14 \newcommand*\LRCornerWallPaper}[2]{}
15 \newcommand*\ThisLRCornerWallPaper}[2]{}
16 \newcommand*\ClearWallPaper}{}{}
```

---

File 541 **l warp-watermark.sty**

§ 649 Package **watermark**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg **watermark** **watermark** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{watermark}[2004/12/09]

```
2 \newcommand{\watermark}[1]{}
3 \newcommand{\leftwatermark}[1]{}
4 \newcommand{\rightwatermark}[1]{}
5 \newcommand{\thiswatermark}[1]{}
6 \newcommand{\thispageheading}[1]{}
```

---

**File 542 l warp-widetable.sty****§ 650 Package widetable**

(Emulates or patches code by CLAUDIO BECCARI.)

Pkg **widetable** **widetable** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{widetable}[2019-06-25]

```
2 \newenvironment{widetable}{\begin{tabular*}}{\end{tabular*}}
```

---

**File 543 l warp-widows-and-orphans.sty****§ 651 Package widows-and-orphans**

Pkg **widows-and-orphans** **widows-and-orphans** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{widows-and-orphans}[2018/09/01]

```
2 \NewDocumentCommand\Wa0setup{m}{}
3 \NewDocumentCommand\Wa0parameters{}{{}}
4 \NewDocumentCommand\Wa0ignorenext{}{{}}
```

---

**File 544 l warp-witharrows.sty****§ 652 Package witharrows**

(Emulates or patches code by F. PANTIGNY.)

Pkg **witharrows** **witharrows** is patched for use by **l warp**. Emulation is provided for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{witharrows}[2019/12/27]

```
2 \ifbool{mathjax}%
3 % For the hidden print version in the HTML:
4 \newcommand{\Arrow}[2][]{}
5 \newcommand{\unicode}[1]{{}}
6 \NewDocumentEnvironment { DispWithArrows } { ! d < > ! O { } +b }
7 {
8 \IfValueTF{#1}{
```

```
9 \begin{displaymath}
10 #1 \left\{ \begin{array}{c} \\ \end{array} \right.
11 \begin{aligned}
12 \\
13 &\end{aligned}
14 \right. . \\
15 \end{displaymath}
16 }\\
17 \begin{displaymath}
18 \begin{aligned}
19 \\
20 &\end{aligned}
21 \end{displaymath}
22 }\\
23 }\\
24 {}\\
25 \NewDocumentEnvironment { DispWithArrows* } { ! d < > ! O { } +b }
26 {
27 \IfValueTF{#1}{%
28 \begin{displaymath}
29 #1 \left\{ \begin{array}{c} \\ \end{array} \right.
30 \begin{aligned}
31 \\
32 &\end{aligned}
33 \right. . \\
34 \end{displaymath}
35 }\\
36 \begin{displaymath}
37 \begin{aligned}
38 \\
39 &\end{aligned}
40 \end{displaymath}
41 }\\
42 }\\
43 {}\\
44 }\\
45 % If not MathJax, use SVG images.
46 \BeforeBeginEnvironment{WithArrows}{\global\booltrue{LWR@unknownmathsize}}
47 \BeforeBeginEnvironment{DispWithArrows}{%
48 \begin{BlockClass}{displaymathnumbered}%
49 \begin{ lateximage}%
50 }\\
51 \AfterEndEnvironment{DispWithArrows}{\end{ lateximage}\end{BlockClass}}\\
52 \BeforeBeginEnvironment{DispWithArrows*}{%
53 \begin{BlockClass}{displaymath}%
54 \begin{ lateximage}%
55 }\\
56 \AfterEndEnvironment{DispWithArrows*}{\end{ lateximage}\end{BlockClass}}\\
57 }\\
58 \\
59 \begin{warpMathJax}
60 \CustomizeMathJax{\newenvironment{WithArrows}[1][]{\begin{aligned}}{\end{aligned}}}
61 % Unable to make a sized box.
62 \CustomizeMathJax{\newcommand{\Arrow}[2][]{\&{\Large\unicode{x2938}}\textit{#2}}}
63 \end{warpMathJax}
```

---

**File 545 l warp-wrapfig.sty**

§ 653      Package **wrapfig**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg wrapfig wrapfig is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{wrapfig}[2003/01/31]

```
2 \newcommand*\{\LWR@wrapposition}{}
3
4 \newcommand*\{\LWR@subwrapfigure}{2}{%
5 \renewcommand*\{\LWR@wrapposition}{}%
6 \ifthenelse{%
7 \equal{#1}{r}\OR\equal{#1}{R}\OR%
8 \equal{#1}{o}\OR\equal{#1}{O}%
9 }%
10 {\renewcommand*\{\LWR@wrapposition}{float:right}}%
11 {\renewcommand*\{\LWR@wrapposition}{float:left}}%
12 \setlength{\LWR@templengthone}{#2}%
13 \LWR@BlockClassWP{
14 width:\LWR@printlength{\LWR@templengthone}; \LWR@wrapposition; %
15 margin:10pt%
16 }%
17 {
18 width:\LWR@printlength{\LWR@templengthone}; \LWR@wrapposition; %
19 }%
20 (note)%
21 {marginblock}%

22 \setlength{\linewidth}{\LWR@templengthone}%
23 }
24
25
26 \NewDocumentEnvironment{wrapfigure}{o m o m}
27 {
28 \begin{\LWR@setvirtualpage}*%
29 \LWR@subwrapfigure{#2}{#4}%
30 \renewcommand*\{@capttype}{figure}%
31 }
32 {
33 \end{\LWR@BlockClassWP}%
34 \end{\LWR@setvirtualpage}%
35 }
36
37
38 \NewDocumentEnvironment{wraptble}{o m o m}
39 {
40 \begin{\LWR@setvirtualpage}*%
41 \LWR@subwrapfigure{#2}{#4}%
```

```
42 \renewcommand*{\@capttype}{table}%
43 }
44 {%
45 \endLWR@BlockClassWP%
46 \end{LWR@setvirtualpage}%
47 }
48
49
50 \NewDocumentEnvironment{wrapfloat}{m o m o m}
51 {%
52 \begin{LWR@setvirtualpage}%
53 \LWR@subwrapfigure{#3}{#5}%
54 \renewcommand*{\@capttype}{#1}%
55 }
56 {%
57 \endLWR@BlockClassWP%
58 \end{LWR@setvirtualpage}%
59 }
60
61 \newlength{\wrapoverhang}
```

---

File 546 **lwarf-xbmks.sty**

§ 654 Package **xbmks**

Pkg xbmks xbmks is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{xbmks}[2018/07/04]

```
2 \newcommand{\xbookmarksetup}[1]{}
3 \NewDocumentCommand{\pdfbookmarkx}{o m o m}{}
4 \NewDocumentCommand{\currentpdfbookmarkx}{m o m}{}
5 \NewDocumentCommand{\subpdfbookmarkx}{m o m}{}
6 \NewDocumentCommand{\belowpdfbookmarkx}{m o m}{}
```

---

File 547 **lwarf-xcolor.sty**

§ 655 Package **xcolor**

(Emulates or patches code by DR. UWE KERN.)

Pkg xcolor xcolor is supported by lwarf.

## § 655.1 Limitations

|                                    |                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| \colorboxBlock and \fcolorboxBlock | \colorboxBlock and \fcolorboxBlock are provided for increased HTML compatibility, and they are identical to \colorbox and \fcolorbox in print mode. In HTML mode they place their contents into a <div> instead of a <span>. These <div>s are set to display: inline-block so adjacent \colorboxBlocks appear side-by-side in HTML, although text is placed before or after each. |
|                                    | Print-mode definitions for \colorboxBlock and \fcolorboxBlock are created by lwarp's core if xcolor is loaded.                                                                                                                                                                                                                                                                    |
| background: none                   | \fcolorbox and \fcolorboxBlock allow a background color of none, in which case only the frame is drawn, which can be useful for HTML.                                                                                                                                                                                                                                             |
| color support                      | Color definitions, models, and mixing are fully supported without any changes required.                                                                                                                                                                                                                                                                                           |
| colored tables                     | \rowcolors is supported, except that the optional argument is ignored so far.                                                                                                                                                                                                                                                                                                     |
| colored text and boxes             | \textcolor, \colorbox, and \fcolorbox are supported.                                                                                                                                                                                                                                                                                                                              |
| \color and \pagecolor              | \color and \pagecolor are ignored. Use css or \textcolor where possible.                                                                                                                                                                                                                                                                                                          |

## § 655.2 xcolor definitions: location and timing

The lwarp core and its lwarp-xcolor package are tightly integrated to allow comparable results for print, HTML, and print inside an HTML `lateximage`. This requires a number of definitions and redefinitions depending on whether each of `xcolor` and `lateximage` is being used, and whether print or HTML is being generated. Some of these actions are one-time when `xcolor` is loaded, and others are temporary as `lateximage` is used.

**When `xcolor` is loaded in print mode:** No special actions are taken at the time that `xcolor` is loaded in print mode, but see `\AtBeginDocument` below.

**When lwarp-xcolor is loaded in HTML mode:** `xcolor`'s original definitions are saved for later restoration. `\LWR@restoreorigformatting` is appended to restore these definitions for use inside a `lateximage`. New HTML-mode definitions are created for `\textcolor`, `\pagecolor`, `\nopagecolor`, `\colorbox`, `\colorboxBlock`, `\fcolorbox`, `\fcolorboxBlock`, and `fcolorminipage`.

**\AtBeginDocument in print or HTML mode:** See Section 89. If `xcolor` has been loaded, the print-mode `\fcolorbox` is modified to accept a background color of none, and additional definitions are created for lwarp's new macros print-mode macros `\colorboxBlock`, `\fcolorboxBlock`, and `fcolorminipage`. The HTML versions of these macros will already have been created by lwarp-xcolor if it has been loaded.

For use inside an HTML `lateximage`, `\LWR@restoreorigformatting` is appended to temporarily set these functions to their print-mode versions.

**In a `lateximage` in HTML mode:** `\LWR@restoreorigformatting` temporarily restores the print-mode definitions of `xcolor`'s functions. See `\LWR@restoreorigformatting` on page 539.

**\color:**

**Print:** Used as-is.

**HTML:** Ignored by *pdftotext*, and will not appear.

**HTML lateximage:** Colors will appear in a *lateximage*.

#### \textcolor:

**Print:** Used as-is.

**HTML:** Redefined by *lwarf-xcolor*, page 1229.

**HTML lateximage:** Remembers and reuses the print version.

#### \pagecolor:

**Print:** Used as-is.

**HTML:** Ignored.

**HTML lateximage:** Colors will be picked up in a *lateximage*.

#### \nopagecolor:

**Print:** Used as-is.

**HTML:** Ignored.

**HTML lateximage:** Colors will be picked up in a *lateximage*.

#### \colorbox:

**Print:** Used as-is.

**HTML:** Redefined by *lwarf-xcolor*, page 1230.

**HTML lateximage:** Remembers and reuses the print version.

#### \colorboxBlock:

**Print:** Becomes \colorbox.

**HTML:** Newly defined by *lwarf-xcolor* to use a <div>, page 1230.

**HTML lateximage:** Remembers and reuses the print version \colorbox.

#### \fcolorbox:

**Print:** Modified to allow a background of none.

LWR@print@fcolorbox at section 89

**HTML:** Redefined by *lwarf-xcolor*, page 1230.

**HTML lateximage:** Remembers and reuses the print version.

#### \fcolorboxBlock:

**Print:** Becomes \fcolorbox. Section 89

**HTML:** Newly defined by *lwarf-xcolor* to use a <div>, page 1231.

**HTML lateximage:** Remembers and reuses the print version \fcolorbox.

#### fcolorminipage:

**Print:** Newly defined in the *lwarf* core.

LWR@print@fcolorminipage at section 89

**HTML:** Newly defined by *lwarf-xcolor*, page 1232.

**HTML `\textrimage`:** Uses the print version.

**\boxframe:**

**Print:** Used as-is.

**HTML:** Redefined by `l warp-xcolor`, page 1233.

**HTML `\textrimage`:** Remembers and reuses the print version.

### § 655.3 Package loading

**for HTML output:** 1 \LWR@ProvidesPackagePass{xcolor}[2016/05/11]

### § 655.4 Remembering and restoring original definitions

Remember the following print-mode actions to be restored when inside a `\textrimage` environment:

```
2 \LetLtxMacro{\LWR@print@pagecolor}{\pagecolor}
3 \LetLtxMacro{\LWR@print@nopagecolor}{\nopagecolor}
```

**\LWR@restoreorigformatting** Inside a `\textrimage` the following gets restored to their print-mode actions:

```
4 \appto{\LWR@restoreorigformatting}{%
5 \LetLtxMacro{\pagecolor}{\LWR@print@pagecolor}%
6 \LetLtxMacro{\nopagecolor}{\LWR@print@nopagecolor}%
7 }
```

### § 655.5 \normalcolor

`\normalcolor`

```
8 \DeclareRobustCommand{\LWR@HTML@normalcolor}{\color{black}}%
9
10 \LWR@formatted{normalcolor}
```

### § 655.6 HTML color style

**\LWR@findcurrenttextcolor** Sets `\LWR@tempcolor` to the current color.

```
11 \renewcommand*{\LWR@findcurrenttextcolor}{%
12 \LWR@traceinfo{\LWR@findcurrenttextcolor}%
13 \protect\colorlet{\LWR@current@color}{.}%
14 \LWR@traceinfo{\LWR@findcurrenttextcolor B}%
15 \protect\convertcolorspec[named]{\LWR@current@color}{HTML}\LWR@tempcolor%
16 \LWR@traceinfo{\LWR@findcurrenttextcolor: done}%
17 }
```

**\LWR@currenttextcolorstyle** Prints a color style for the current color.

```
18 \newcommand*{\LWR@currenttextcolorstyle}{%
19 \LWR@findcurrenttextcolor%
20 \ifdefstring{\LWR@tempcolor}{000000}%
21 {}%
22 {color: \LWR@origpound\LWR@tempcolor ; }%
23 }
```

\LWR@textcurrentcolor {*text*} Like \textcolor but uses the current \color instead.

```
24 \DeclareDocumentCommand{\LWR@textcurrentcolor}{m}{%
25 \begingroup%
26 \LWR@hook@processingtags%
27 \LWR@findcurrenttextcolor%
28 \InlineClass[color:\LWR@origpound\LWR@tempcolor]{textcolor}{%
29 \renewcommand*\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
30 #1%
31 }%
32 \endgroup%
33 }
```

\LWR@colorstyle {*1: model*} {*2: color*}

For a color style, prints the color converted to HTML colors.

```
34 \NewDocumentCommand{\LWR@colorstyle}{m m}{%
35 \begingroup%
36 \LWR@hook@processingtags%
```

Use the `xcolor` package to convert to an HTML color space:

```
37 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
```

Print the converted color:

```
38 \LWR@origpound\LWR@tempcolor%
39 \endgroup%
40 }
```

\LWR@backgroundcolor [*model*] {*color*} {*text*}

Similar to \textcolor, but prints black text against a color background.

Converted into an HTML hex color span.

```
41 \NewDocumentCommand{\LWR@backgroundcolor}{O{named} m m}{%
42 \begingroup%
43 \LWR@hook@processingtags%
44 \InlineClass[background:\LWR@colorstyle{#1}{#2}]{backgroundcolor}{%
45 #3%
46 }%
47 \endgroup%
48 }
```

### § 655.7 **HTML border**

\LWR@borderpadding {*colorstyle*} {*color*} Prints the `HTML` attributes for a black border and padding.  
\LWR@forceminwidth must be used first in order to set the border width.

```
49 \newcommand*{\LWR@borderpadding}[2]{%
50 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@colorstyle{#1}{#2} ; %
51 padding:\LWR@printlength{\fboxsep}%
52 }
```

### § 655.8 **High-level macros**

\color [*model*] {*color*}

⚠ The current `\color` is used by `HTML` rules and frames, but does not affect the current `HTML` text output, due to the lack of `HTML` states and scoping limitations. Use `\textcolor` if possible.

```
53 \NewDocumentCommand{\LWR@HTML@color}{o m}{%
54 \IfValueTF{#1}{%
55 \LWR@print@color[#1]{#2}%
56 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
57 }{%
58 \LWR@print@color{#2}%
59 \convertcolorspec{named}{#2}{HTML}\LWR@tempcolor%
60 }%
61 \edef\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
62 }%
63
64 \LWR@formatted{color}
```

\textcolor [*model*] {*color*} {*text*}

Converted into an `HTML` hex color span.

```
65 \NewDocumentCommand{\LWR@HTML@textcolor}{o m m}{%
66 \begingroup%
67 \LWR@hook@processingtags%
68 \IfValueTF{#1}{%
69 \color[#1]{#2}%
70 }{%
71 \color{#2}%
72 }%
73 \InlineClass[color:\LWR@currenttextcolor]{textcolor}{#3}%
74 \endgroup%
75 }%
76
77 \LWR@formatted{textcolor}
```

\pagecolor [*model*] {*color*}

Ignored. Use `css` instead.

```
78 \renewcommand*{\pagecolor}[2][named]{}
```

\nopagecolor Ignored.

```
79 \renewcommand*\nopagecolor{}
```

\colorbox [*model*] {*color*} {*text*}

Converted into an HTML hex background color <span>.

```
80 \NewDocumentCommand{\LWR@HTML@colorbox}{O{named} m +m}{%
81 \begingroup%
82 \LWR@hook@processingtags%
83 \InlineClass[%%
84 background:\LWR@colorstyle{#1}{#2} ; %
85 padding:\LWR@printlength{\fboxsep}%
86]{colorbox}{#3}%
87 \endgroup%
88 }%
89
90 \AtBeginDocument{%
91 \LWR@formatted{colorbox}%
92 }
```

\colorboxBlock [*model*] {*color*} {*text*}

Converted into an HTML hex background color <div>.

```
93 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{O{named} m +m}{%
94 \begingroup%
95 \LWR@hook@processingtags%%
96 \LWR@stoppars%
97 \begin{BlockClass}[%%
98 background:\LWR@colorstyle{#1}{#2} ; %
99 padding:\LWR@printlength{\fboxsep}%
100]{colorboxBlock}%
101 #3%
102 \end{BlockClass}%
103 \endgroup%
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
104 \global\booltrue{\LWR@minipagethispar}%
105 }%
106
107 \AtBeginDocument{%
108 \LWR@formatted{colorboxBlock}%
109 }
```

```
\fcolorbox [⟨framemodel⟩] {⟨framecolor⟩} [⟨boxmodel⟩] {⟨boxcolor⟩} {⟨text⟩}
```

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```
110 \NewDocumentCommand{\LWR@HTML\fcolorbox}{O{named} m O{#1} m +m}{%
111 \LWR@traceinfo{HTML fcolorbox #2 #4}%
112 \begingroup%
113 \LWR@hook@processingtags%
114 \LWR@forceminwidth{\fboxrule}%
115 \ifthenelse{\equal{#4}{none}}{%
116 % no background color
117 \InlineClass[%
118 \LWR@borderpadding{#1}{#2}%
119]{\fcolorbox}{#5}%
120 }{%
121 % yes background color
122 \InlineClass[%
123 \LWR@borderpadding{#1}{#2} ; %
124 background:\LWR@colorstyle{#3}{#4}%
125]{\fcolorbox}{#5}%
126 }%
127 \endgroup%
128 }
129
130 \AtBeginDocument{%
131 \LWR@formatted{\fcolorbox}%
132 }
```

```
\fcolorboxBlock [⟨framemodel⟩] {⟨framecolor⟩} [⟨boxmodel⟩] {⟨boxcolor⟩} {⟨text⟩}
```

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```
133 \NewDocumentCommand{\LWR@HTML\fcolorboxBlock}{O{named} m O{#1} m +m}{%
134 \LWR@traceinfo{HTML fcolorboxBlock #2 #4}%
135 \begingroup%
136 \LWR@hook@processingtags%
137 \LWR@forceminwidth{\fboxrule}%
138 \LWR@stoppars%
139 \ifthenelse{\equal{#4}{none}}{%
140 % no background color
141 \begin{BlockClass}[%]
142 \LWR@borderpadding{#1}{#2}%
143]{\fcolorboxBlock}%
144 #5
145 \end{BlockClass}%
146 }{%
147 % yes background color
148 \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
```

```

149 \begin{BlockClass}[%

150 background:\LWR@origpound\LWR@tempcolortwo\ ; %

151 \LWR@borderpadding{\#1}{\#2} %

152]{fcolorboxBlock}

153 #5

154 \end{BlockClass} %

155 }%

156 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

157 \global\booltrue{\LWR@minipagethispar} %

158 \LWR@traceinfo{HTML fcolorboxBlock done} %

159 }

160

161 \AtBeginDocument{

162 \LWR@formatted{fcolorboxBlock}

163 }

```

Creates a framed HTML <div> around its contents.

A print-output version is defined in the **lwarp** core: section 89

```

\LWR@subfcolorminipage {<framemodel>} {<framecolor>} {<background tag>} {<height>}

164 \NewDocumentCommand{\LWR@subfcolorminipage}{m m m m}{%

165 \LWR@stoppars%

166 \begin{BlockClass}[%

167 #3%

168 \LWR@borderpadding{\#1}{\#2} ; %

169 \IfValueT{\#4}{height:\LWR@printlength{\LWR@tempheight} ; }%

170 width:\LWR@printlength{\LWR@tempwidth} %

171]{fcolorminipage} %

172 }

Env fcolorminipage [<1:framemodel>] [<2:framecolor>] [<3:boxmodel>] [<4:boxcolor>] [<5:align>] [<6:height>]

 [<7:inner-align>] [<8:width>]

173 \NewDocumentEnvironment{\LWR@HTML@fcolorminipage}{O{named} m O{\#1} m O{c} o o m}

174 { %

175 \LWR@hook@processingtags%

176 \setlength{\LWR@tempwidth}{\#8} %

177 \IfValueT{\#6}{\setlength{\LWR@tempheight}{\#6}} %

178 \LWR@forceminwidth{\fboxrule} %

179 \convertcolorspec{\#1}{\#2}{HTML}\LWR@tempcolor %

180 \ifthenelse{\equal{\#4}{none}} %

181 {\LWR@subfcolorminipage{\#1}{\#2}{\#6}} %

182 { %

183 \convertcolorspec{\#3}{\#4}{HTML}\LWR@tempcolortwo %

184 \LWR@subfcolorminipage{\#1}{\#2}{ %

185 background:\LWR@origpound\LWR@tempcolortwo\ ; } %

```

```

186 {#6}%
187 }%
188 }%
189 {%
190 \end{BlockClass}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

191 \global\booltrue{LWR@minipagethispar}%
192 }
193
194 \AtBeginDocument{
195 \LWR@formattedenv{fcolorminipage}%
196 }

```

\boxframe {*width*} {*height*} {*depth*}

The depth is added to the height, but the box is not descended below by the depth. \textcolor is honored.

```

197 \newcommand*{\LWR@HTML@boxframe}[3]{%
198 {%
199 \setlength{\LWR@tempwidth}{#1}%
200 \setlength{\LWR@tempheight}{#2}%
201 \addtolength{\LWR@tempheight}{#3}%
202 \LWR@forceminwidth{\fboxrule}%
203 \LWR@findcurrenttextcolor%
204 \InlineClass[%
205 display:inline-block ; %
206 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@currenttextcolor{} ; %
207 width:\LWR@printlength{\LWR@tempwidth} ; %
208 height:\LWR@printlength{\LWR@tempheight}%
209]{boxframe}{}%
210 }%
211 }
212
213 \LWR@formatted{boxframe}

```

### § 655.9 Row colors

```

\rowc@l@rs [⟨cmds⟩] {⟨startrow⟩} {⟨odd color⟩} {⟨even color⟩}
214 \newcommand*{\LWR@xcolor@tempcolor}{}%
215
216 \def\rowc@l@rs[#1]#2#3#4%
217 {
218 \rownum=1%
219 \rowcolorstrue%
220 \ifxempty{#3}%
221 \def\@oddrowcolor{\norowcolor}%
222 {%
223 \convertcolorspec[named]{#3}{HTML}\LWR@xcolor@tempcolor%
224 \edef\@oddrowcolor{%

```

```

225 \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
226 }%
227 }%
228 \@ifxempty{\#4}%
229 {\def\@evenrowcolor{\norowcolor}}%
230 {%
231 \convertcolorspec{named}{\#4}{HTML}\LWR@xcolortempcolor%
232 \edef\@evenrowcolor{%
233 \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
234 }%
235 }%
236 \if@rowcmd
237 \def\@rowcolors
238 {%
239 #1%
240 \if@rowcolors
241 \noalign{%
242 \relax\ifnum\rownum<#2\norowcolor\else
243 \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi\fi%
244 }%
245 \fi%
246 }%
247 \else
248 \def\@rowcolors
249 {%
250 \if@rowcolors
251 \ifnum\rownum<#2%
252 \noalign{%
253 \norowcolor
254 }%
255 \else
256 #1%
257 \noalign{%
258 \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi%
259 }%
260 \fi
261 \fi%
262 }%
263 \fi
264 \ignorespaces%
265 }

```

\@norowcolor Turns off color for this row.

```

266 \def\@norowcolor{%
267 \renewcommand{\LWR@xcolorrowHTMLcolor}{}%
268 }

```

\@rowc@lors Executed at the end of each row.

```

269 \def\@rowc@lors{%
270 % \noalign{%
271 \advance\rownum\@ne%
272 % }%
273 \@rowcolors%

```

274 }

---

File 548 **l warp-xexchangebar.sty**

§ 656 Package **xexchangebar**

Pkg xexchangebar xexchangebar is ignored

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xexchangebar}[2017/08/03]  
2 \LWR@origRequirePackage{l warp-changebar}

---

File 549 **l warp-xellipsis.sty**

§ 657 Package **xellipsis**

(Emulates or patches code by DONALD P. GOODMAN III.)

Pkg xellipsis xellipsis is patched for use by l warp.

When non-zero, each of the spaces is converted to an HTML thin unbreakable space.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xellipsis}[2015/11/01]

```
2 \newcommand*{\LWR@xellipsespace}[1]{%
3 \ifdim#1=0pt\else%
4 \ifdim#1<\fontdimen2\font%
5 ,%
6 \else%
7 ~%
8 \fi%
9 \fi%
10 }%
11
12 \def\xelip{%
13 \mbox{%
14 \LWR@xellipsespace{\xeliprebef}%
15 \xelipprechar%
16 \LWR@xellipsespace{\xelippreaft}%
17 \LWR@xellipsespace{\xelipbef}%
18 \xelipchar%
19 \xel@loopi = 1%
20 \loop\ifnum\xelipnum>\xel@loopi%
21 \advance\xel@loopi by1%
22 \LWR@xellipsespace{\xelipgap}%
23 \xelipchar%
24 \repeat%
25 \LWR@xellipsespace{\xelipaft}%
26 \LWR@xellipsespace{\xelippostbef}%
27 \xelippostchar%
28 \LWR@xellipsespace{\xelippostaft}%
29 }%
```

30 }%

---

File 550 **l warp-xetexko.sty**

§ 658 Package **xetexko**

(Emulates or patches code by DOHYUN KIM.)

Pkg xetexko xetexko is patched for use by l warp.

for HTML output:

```
1 \LWR@loadbefore{xetexko}
2
3 \LWR@ProvidesPackagePass{xetexko}[2021/03/22]

4 \renewcommand{\verticallytypesetting}{}
5 \renewenvironment{vertical}[1]{\BlockClass{verticalrl}}{\endBlockClass}
6 \renewenvironment{horizontal}[1]{\BlockClass{horizontaltb}}{\endBlockClass}
7 \renewcommand{\vertlatin}[1]{#1}
```

---

File 551 **l warp-xevlna.sty**

§ 659 Package **xevlna**

(Emulates or patches code by ZDENĚK WAGNER.)

Pkg xevlna xevlna is patched for use by l warp.

Non-breakable spaces are inserted into HTML.

for HTML output:

```
1 \LWR@ProvidesPackagePass{xevlna}[2016/09/05]

2 \def\ProcessCSpreposition{\ifx\next\xevlnaXeTeXspace\HTMLentity{nbsp}\fi}
3
4 \appto{\LWR@hook@processingtags}{\xevlnaDisable}%
```

---

File 552 **l warp-xfakebold.sty**

§ 660 Package **xfakebold**

(Emulates or patches code by HERBERT VOSS.)

Pkg xfakebold xfakebold is patched for use by l warp, and additional underlying support is found in the l warp core.

⚠ text mode xfakebold is only used in SVG math and lateximages. Text mode is not set bold, but \setBold in text will be applied to any following SVG math.

for HTML output:

```
1 \LWR@ProvidesPackagePass{xfakebold}[2020/06/24]
```

---

```

2 \newcommand*{\LWR@HTML@setBold}{\booltrue{\LWR@xfakebold}}
3 \LWR@formatted{setBold}
4
5 \newcommand*{\LWR@HTML@unsetBold}{\boolfalse{\LWR@xfakebold}}
6 \LWR@formatted{unsetBold}
7
8 \renewcommand*{\LWR@applyxfakebold}{%
9 \ifbool{\LWR@xfakebold}{\LWR@print@setBold}{\LWR@print@unsetBold}%
10 }

```

For MATHJAX, `xfakebold` is ignored.

```

11 \begin{warpMathJax}
12 \CustomizeMathJax{\newcommand{\setBold}[1][]{}}
13 \CustomizeMathJax{\newcommand{\unsetBold}{}}
14 \end{warpMathJax}

```

---

### File 553 **lwarp-xfrac.sty**

#### § 661 Package **xfrac**

(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)

Pkg **xfrac** Supported by adding `xfrac` instances, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xfrac}[2018-08-23]

⚠ **font size** In the user's document preamble, `lwarp` should be loaded after font-related setup. During HTML conversion, this font is used by `lwarp` to generate its initial PDF output containing HTML tags, later to be converted by `pdftotext` to a plain text file. While the text may be in any font which `pdftotext` can read, the math is directly converted into SVG images using this same user-selected font. `xfrac` below is set for the Latin Modern (lmr) font. If another font is used, it may be desirable to redefine `\xfracHTMLfontsize` with a different em size.

**\sfrac** [*<instance>*] [*<num>*] [*<sep>*] [*<denom>*]

A text-mode instance for the default font is provided below. The numerator and denominator formats are adjusted to encase everything in HTML tags. `\scalebox` is made null inside the numerator and denominator, since the HTML tags should not be scaled, and we do not want to introduce additional HTML tags for scaling.

In math mode, which will appear inside a `\teximage`, no adjustments are necessary.

**\xfracHTMLfontsize** User-redefinable macro which controls the font size of the fraction.

```

2 \newcommand*{\xfracHTMLfontsize}{.6em}

```

**instances** Instances of `xfrac` for various font choices:

Produce css for a small raised numerator and a small denominator.

Scaling is turned off so that *pdftotext* correctly reads the result.

```
3 \DeclareInstance{xfrac}{default}{text}{
4 numerator-format = {%
5 \begingroup%
6 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
7 \InlineClass{numerator}{#1}\,,
8 \endgroup%
9 },
10 denominator-format = {%
11 \begingroup%
12 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
13 \InlineClass{denominator}{#1}%
14 \endgroup%
15 },
```

For *pdftotext*, do not scale the text:

```
16 scaling = false
17 }
18
19 \DeclareInstance{xfrac}{lmr}{text}{
20 numerator-format = {%
21 \begingroup%
22 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
23 \InlineClass{numerator}{#1}\,,
24 \endgroup%
25 },
26 denominator-format = {%
27 \begingroup%
28 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
29 \InlineClass{denominator}{#1}%
30 \endgroup%
31 },
```

For *pdftotext*, do not scale the text:

```
32 scaling = false
33 }
34
35 \DeclareInstance{xfrac}{lmss}{text}{
36 numerator-format = {%
37 \begingroup%
38 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
39 \InlineClass{numerator}{#1}\,,
40 \endgroup%
41 },
42 denominator-format = {%
43 \begingroup%
44 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
45 \InlineClass{denominator}{#1}%
46 \endgroup%
47 },
```

For *pdftotext*, do not scale the text:

```

48 scaling = false
49 }
50
51 \DeclareInstance{xfrac}{lmtt}{text}{
52 numerator-format = {%
53 \begingroup%
54 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
55 \InlineClass{numerator}{#1},%
56 \endgroup%
57 },
58 denominator-format = {%
59 \begingroup%
60 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
61 \InlineClass{denominator}{#1}%
62 \endgroup%
63 },

```

For *pdftotext*, do not scale the text:

```

64 scaling = false
65 }

```

For MATHJAX:

```

66 \begin{warpMathJax}
67 \CustomizeMathJax{\newcommand{\LWRsfrac}[2][]{\{}^{\LWRsfracnumerator\!#1\!\!\!}_{\LWRsfracdenominator\!#2\!\!\!}\}}
68 \CustomizeMathJax{\newcommand{\sfrac}[2][]{\def\LWRsfracnumerator{#2}\LWRsfrac}}
69 \end{warpMathJax}

```

---

#### File 554 lwarf-xltabular.sty

## § 662 Package xltabular

(Emulates or patches code by ROLF NIEPRASCHK, HERBERT Voss.)

Pkg xltabular xltabular is emulated by lwarf.

**for HTML output:** Relies on tabularx.

⚠ **table numbering** At present, an xltabular without a caption or with only a \caption\* may be misnumbered in HTML, so it may be necessary to place at the end of the table:

```
\warpHTMLonly{\addtocounter{table}{-1}}
```

```

1 \RequirePackage{tabularx}
2 \RequirePackage{ltablex}
3
4 \LWR@ProvidesPackageDrop{xltabular}[2018/05/23]
5
6 \DeclareDocumentEnvironment{xltabular}{o m m}
7 {\longtable{#3}}
8 {\endlongtable}

```

---

**File 555 l warp-xltxtxtra.sty**

§ 663      Package **xltxtxtra**

(Emulates or patches code by WILL ROBERTSON, JONATHAN KEW.)

Pkg xltxtxtra xltxtxtra is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xltxtxtra}[2016/01/21]

```
2 \RequirePackage{realscripts}
3 \RequirePackage{metalogo}
4 \newcommand*\TeX@logo@spacing[6]{}
5
6 \newcommand*{\vfrac}[2]{%
7 \#1/\textsubscript{\#2}%
8 }
9
10 \newcommand\namedglyph[1]{%
11 \tempcnta=\XeTeXglyphindex "#1"\relax
12 \ifnum\tempcnta>0
13 \XeTeXglyph\tempcnta
14 \else
15 \xxt@namedglyph@fallback{\#1}%
16 \fi}
17
18 \newcommand\xxt@namedglyph@fallback[1]{[#1]}
19
20 \DeclareDocumentCommand{\showhyphens}{m}{}
```

---

**File 556 l warp-xmpincl.sty**

§ 664      Package **xmpincl**

(Emulates or patches code by MAARTEN SNEEP.)

Pkg xmpincl xmpincl is ignored.

**for HTML output:** Discard all options for l warp-xmpincl:

```
1 \LWR@ProvidesPackageDrop{xmpincl}[2008/05/10]
2 \newcommand*{\includexmp}[1]{}
```

---

**File 557 l warp-xpiano.sty**

§ 665      Package **xpiano**

*(Emulates or patches code by ENRICO GREGORIO.)*

Pkg xpiano xpiano is patched for use by l warp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{xpiano}

2 \ExplSyntaxOn
3 \NewDocumentCommand{\LWR@print@keyboard}{ O{}m }
4 {
5 \xpiano_keyboard:nn { #1 } { #2 }
6 }
7
8 \NewDocumentCommand{\LWR@HTML@keyboard}{ O{}m }
9 {
10 \begin{lateximage}*
11 [%]
12 -xpiano-~\PackageDiagramAltText{}: \detokenize\expandafter{\#2}%
13]
14 [\detokenize\expandafter{\#1}]
15 \xpiano_keyboard:nn { #1 } { #2 }
16 \end{lateximage}
17 }
18 \ExplSyntaxOff
19
20 \LWR@formatted{keyboard}
```

File 558 **l warp-xpinyin.sty**

§ 666      Package **xpinyin**

*(Emulates or patches code by SOBEN LEE.)*

Pkg xpinyin xpinyin is supported.

Pinyin is disabled for file names, the sidetoc, and regular footnotes, but is left enabled for minipage footnotes, as per the print mode.

for HTML output:

```
1 \LWR@ProvidesPackagePass{xpinyin}[2019-04-07]
```

The original's boxes are not used, instead the contents are used with <ruby>, <rb>, and <rt> tags per modern HTML. Color is detected. ratio is ignored for pdftotext to work correctly. Extra spaces are placed inside the tags to allow line breaks in the HTML text.

```

2 \ExplSyntaxOn
3 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_make_pinyin_box:nnn #1#2#3
4 {
5 \color_group_begin: \color_ensure_current:
6 \l__xpinyin_pinyin_box_hook_tl
7 \renewcommand*\l__xpinyin_ratio_tl{1}% for pdftotext
8 __xpinyin_select_font:
```

```

9 \clist_if_exist:cTF { c__xpinyin_multiple_ #1 _clist }
10 { \l__xpinyin_multiple_tl \l__xpinyin_format_tl }
11 { \l__xpinyin_format_tl }
12 \ifdefempty{\l__xpinyin_format_tl}
13 {#3}
14 {\LWR@textcurrentcolor{#3}}
15 \color_group_end:
16 }
17 \LWR@formatted{__xpinyin_make_pinyin_box:nnn}
18
19 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_CJKsymbol:nn #1#2
20 {
21 __xpinyin_leavevmode:
22 \LWR@htmllagc{ruby}
23 \LWR@htmllagc{rb}
24 __xpinyin_save_CJKsymbol:n {#2}\null% \null removes extra space
25 \LWR@htmllagc{/rb\space}
26 \LWR@htmllagc{rp}(\LWR@htmllagc{/rp\space}
27 \LWR@htmllagc{rt}
28 __xpinyin_make_pinyin_box:nnn {#1} {#2} { \use:c { c__xpinyin_ #1 _tl } }
29 \LWR@htmllagc{/rt\space}
30 \LWR@htmllagc{rp})\LWR@htmllagc{/rp\space}
31 \LWR@htmllagc{/ruby\space}\null
32 }
33 \LWR@formatted{__xpinyin_CJKsymbol:nn}
34
35 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_single_CJKsymbol:nn #1#2
36 {
37 __xpinyin_leavevmode:
38 \LWR@htmllagc{ruby}
39 \LWR@htmllagc{rb}
40 __xpinyin_save_CJKsymbol:n {#1}\null% \null removes extra space
41 \LWR@htmllagc{/rb\space}
42 \LWR@htmllagc{rp}(\LWR@htmllagc{/rp\space}
43 \LWR@htmllagc{rt}
44 __xpinyin_make_pinyin_box:xnn
45 { __xpinyin_to_unicode:n {#1} } {#1} { __xpinyin_pinyin:n {#2} }
46 \LWR@htmllagc{/rt\space}
47 \LWR@htmllagc{rp})\LWR@htmllagc{/rp\space}
48 \LWR@htmllagc{/ruby\space}\null
49 }
50 \LWR@formatted{__xpinyin_single_CJKsymbol:nn}
51
52 \ExplSyntaxOff

```

The **lwarf** core uses the following to disable CJK **xpinyin** for filenames, sidetoc, and footnotes.

```

53 \renewcommand*\LWR@disablepinyin{\disablepinyin}
54
55 \FilenameNullify{\LWR@disablepinyin}

```

**§ 667 Package **xr****

(Emulates or patches code by JEAN-PIERRE DRUCBERT, DAVID CARLISLE.)

Pkg **xr** **xr** is patched for use by **l warp**. The `*_html.aux` file is used. `\externaldocument` is modified to also accept the optional arguments for **xr-hyper**, which currently uses **xr** for HTML output.

See section 5.17.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xr}[2019/07/22]%

```
2 \LetLtxMacro{\LWR@orig}{\externaldocument}\externaldocument
3
4 \RenewDocumentCommand{\externaldocument}{O{} O{} m O{} }{%
5 \ifblank{#1}{%
6 \LWR@orig{\externaldocument[#3_html]}%
7 }{%
8 \LWR@orig{\externaldocument[#1]{#3_html}}%
9 }%
10 }
```

---

**File 560 **l warp-xr-hyper.sty******§ 668 Package **xr-hyper****

(Emulates or patches code by DAVID CARLISLE.)

Pkg **xr-hyper** **xr-hyper** is replaced by **xr**, which is modified to accept the optional arguments for `\externaldocument`. So far, no hyperlinks are provided for citations.

See section 5.17.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xr-hyper}[2019/10/03]%
2
3 \LWR@origRequirePackage{l warp-xr}

---

**File 561 **l warp-xtab.sty******§ 669 Package **xtab****

(Emulates or patches code by PETER WILSON.)

Pkg **xtab** **xtab** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xtab}[2011/07/31]

 **Misplaced alignment tab character &** For `\tablefirsthead`, etc., enclose them as follows:

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

 **lateximage** `supertabular` and `xtab` are not supported inside a `lateximage`.

```
2 \newcommand{\LWRXT@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5 \long\gdef\LWRXT@firsthead{\#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9
10 \newcommand{\tablelasthead}[1]{}
11
12 \newcommand{\notablelasthead}{}
13
14 \newcommand{\tabletail}[1]{}
15
16 \newcommand{\LWRXT@lasttail}{}
17
18 \newcommand{\tablelasttail}[1]{%
19 \long\gdef\LWRXT@lasttail{\#1}%
20 }

21 \newcommand{\tablecaption}[2][]{%
22 \long\gdef\LWRXT@caption{%
23 \ifblank{\#1}{%
24 {\caption{\#2}}%
25 {\caption[\#1]{\#2}}%
26 }%
27 }%
28
29 \let\topcaption\tablecaption
30 \let\bottomcaption\tablecaption

31 \newcommand*\LWRXT@caption{}%
32
33 \newcommand*\shrinkheight[1]{}
34
35 \newcommand*\xentrystretch[1]{}
36
37 \NewDocumentEnvironment{xtabular}{s o m}
38 {%
39 \LWR@traceinfo{xtabular}%
40 \table%
41 \LWRXT@caption%
42 \begin{tabular}{\#3}%
43 \TabularMacro\ifdefvoid{\LWRXT@firsthead}%
44 {\LWR@getmynexttoken}%
45 {\expandafter\LWR@getmynexttoken\LWRXT@firsthead}%
}
```

---

```

46 }%
47 {%
48 \ifdefvoid{\LWRXT@lasttail}%
49 {}%
50 {}%
51 \TabularMacro\ResumeTabular%
52 \LWRXT@lasttail%
53 {}%
54 \end{tabular}%
55 \endtable%

56 \gdef\LWRXT@caption{}%

57 \LWR@traceinfo{xtabular done}%
58 }
59
60 \NewDocumentEnvironment{mpxtabular}{s o m}
61 {\minipage{\linewidth}\xtabular{#3}}
62 {\endxtabular\endminipage}

```

---

File 562 **lwarf-xunicode.sty**

§ 670 Package **xunicode**

Pkg xunicode Error if xunicode is loaded after lwarf.

Patch **lwarf-xunicode**, but also verify that is was loaded before **lwarf**:

**for HTML output:**

```

1 \LWR@loadbefore{xunicode}%
2
3 \LWR@ProvidesPackagePass{xunicode}[2011/09/09]

```

\textcircled becomes a span with a rounded border. \providecommand is used to avoid conflict with **textcomp**.

```

4 \providecommand*\LWR@HTML@textcircled}[1]{%
5 \InLineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%
6 }
7
8 \LWR@formatted{textcircled}

```

Nullify xunicode macros when generating filenames:

```

9 \FilenameNullify{%
10 \renewcommand*\textdegree{}%
11 \renewcommand*\textcelsius{}%
12 \renewcommand*\textohm{}%
13 \renewcommand*\textmu{}%
14 \renewcommand*\textlquill{}%
15 \renewcommand*\textrquill{}%
16 \renewcommand*\textcircledP{}%
17 \renewcommand*\texttwelveudash{}%

```

---

```

18 \renewcommand*\{\textthreequartersemdash}{}
19 \renewcommand*\{\textmho}{}
20 \renewcommand*\{\textnaira}{}
21 \renewcommand*\{\textpeso}{}
22 \renewcommand*\{\textrecipe}{}
23 \renewcommand*\{\textinterrobang}{}
24 \renewcommand*\{\textinterrobangdown}{}
25 \renewcommand*\{\textperthousand}{}
26 \renewcommand*\{\textpertenthousand}{}
27 \renewcommand*\{\textbaht}{}
28 \renewcommand*\{\textdiscount}{}
29 \renewcommand*\{\textservicemark}{}
30 \renewcommand*\{\textcircled}[1]{#1}
31 \renewcommand*\{\capitalcedilla}[1]{#1}
32 \renewcommand*\{\capitalogonek}[1]{#1}
33 \renewcommand*\{\capitalgrave}[1]{#1}
34 \renewcommand*\{\capitalacute}[1]{#1}
35 \renewcommand*\{\capitalcircumflex}[1]{#1}
36 \renewcommand*\{\capitaltilde}[1]{#1}
37 \renewcommand*\{\capitaldieresis}[1]{#1}
38 \renewcommand*\{\capitalhungarumlaut}[1]{#1}
39 \renewcommand*\{\capitalring}[1]{#1}
40 \renewcommand*\{\capitalcaron}[1]{#1}
41 \renewcommand*\{\capitalbreve}[1]{#1}
42 \renewcommand*\{\capitalmacron}[1]{#1}
43 \renewcommand*\{\capitaldotaccent}[1]{#1}
44 }% FilenameNullify

```

---

File 563 **lwarf-xurl.sty**

§ 671 Package **XURL**

Pkg xurl xurl is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xurl}[2020/01/14]  
2  
3 \def\useOriginalUrlSetting{}

---

File 564 **lwarf-xy.sty**

§ 672 Package **XY**

(Emulates or patches code by KRISTOFFER H. ROSE, ROSS MOORE.)

Pkg xy xy is patched for use by lwarf.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xy}[2013/10/06]

After **xy** modules have been loaded:

2 \AtBeginDocument{

The original definitions without a `\teximage`:

```
3 \LetLtxMacro{\LWR@orig@xy}{\xy}
4 \LetLtxMacro{\LWR@orig@endxy}{\endxy}
```

The outer-most `xy` environment is placed in a `\teximage`, but not more than one level deep, which would conflict with `xy`:

```
5 \renewcommand*{\xy}{%
6 \ifnumcomp{\value{\LWR@teximagedepth}}{>}{0}{%
7 \addtocounter{\LWR@teximagedepth}{1}%
8 {\begin{teximage}[-xy-\PackageDiagramAltText]}%
9 \LWR@orig@xy%
10 }%
11 %
12 \renewcommand*{\endxy}{%
13 \LWR@orig@endxy%
14 \ifnumcomp{\value{\LWR@teximagedepth}}{>}{1}{%
15 \addtocounter{\LWR@teximagedepth}{-1}%
16 {\end{teximage}}%
17 }}
```

The `\xybox` must use the original definitions of `\xy`, `\endxy`:

```
18 \def\xybox#1{%
19 \LWR@orig@xy#1\LWR@orig@endxy%
20 \Edge@c={\rectangleEdge}\computeLeftUpness@%
21 }
```

If `\xygraph` is used, it is placed inside a `\teximage`:

```
22 @ifundefined{xygraph}{}{%
23 %
24 \LetLtxMacro{\LWR@origxygraph}{\xygraph}
25 %
26 \renewcommand{\xygraph}[1]{%
27 \begin{teximage}[-xy- xygraph \PackageDiagramAltText]
28 \LWR@origxygraph{#1}%
29 \end{teximage}%
30 }%
31 %
32 }% xygraph defined
33 %
34 }% AtBeginDocument
```

File 565 **l warp-zhlineskip.sty**

§ 673 Package **zhlineskip**

Pkg `zhlineskip` `zhlineskip` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{zhlineskip}[2019/05/15]

```
2 \newcommand*{\SetTextEnvironmentSinglespace}[1]{}
3 \newcommand*{\RestoreTextEnvironmentLeading}[1]{}
4 \newcommand*{\SetMathEnvironmentSinglespace}[1]{}
5 \newcommand*{\RestoreMathEnvironmentLeading}[1]{}
```

---

**File 566 lwarf-zwpagelayout.sty****§ 674 Package zwpagelayout**

(Emulates or patches code by ZDENĚK WAGNER.)

Pkg zwpagelayout zwpagelayout is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{zwpagelayout}[2013/01/13]

2 \def\noBboxes{}
3 @onlypreamble\noBboxes
4
5 \expandafter\ifx\csname definecolor\endcsname\relax \else
6 \definecolor{cmykblack}{cmyk}{0,0,0,1}
7 \definecolor{grblack}{gray}{0}
8 % \ifzwpl@redefineblack
9 % \definecolor{black}{cmyk}{0,0,0,1}\color{black}
10 % \fi
11 \definecolor{cmykred}{cmyk}{0,1,1,0}
12 \definecolor{cmykgreen}{cmyk}{1,0,1,0}
13 \definecolor{cmykblue}{cmyk}{1,1,0,0}
14 \definecolor{rgbred}{rgb}{1,0,0}
15 \definecolor{rgbgreen}{rgb}{0,1,0}
16 \definecolor{rgbblue}{rgb}{0,0,1}
17 % \ifzwpl@redefinetocmyk
18 % \definecolor{red}{cmyk}{0,1,1,0}
19 % \definecolor{green}{cmyk}{1,0,1,0}
20 % \definecolor{blue}{cmyk}{1,1,0,0}
21 % \fi
22 \fi
23
24 \let\OverprintXeTeXExtGState\relax
25
26 \DeclareRobustCommand{\SetOverprint}{\ignorespaces}
27 \DeclareRobustCommand{\SetKnockout}{\ignorespaces}
28 \DeclareRobustCommand{\textoverprint[1]{{\SetOverprint#1}}}
29 \DeclareRobustCommand{\textknockout[1]{{\SetKnockout#1}}}
30
31 \def\SetPDFminorversion#1{}
32 @onlypreamble\SetPDFminorversion
33
34 \newcommand*{\Vcorr}{}
35
36 \DeclareRobustCommand{\vb[1][]{}}
37 \NewDocumentCommand{\NewOddPage}{* o}{}
38 \NewDocumentCommand{\NewEvenPage}{* o}{}
39 \def\SetOddPageMessage#1{\gdef\ZW@oddwarning{}}
```

```
40 \def\SetEvenPageMessage#{\gdef\Z@evenwarning}
41 \def\ZW@oddwarning{Empty page inserted}\let\ZW@evenwarning\ZW@oddwarning
42
43 \def\clap#1{#1}
44
45 \def\CropFlap{2in}
46 \def\CropSpine{1in}
47 \def\CropXSpine{1in}
48 \def\CropXtrim{.25in}
49 \def\CropYtrim{.25in}
50 \def\UserWidth{5in}
51 \def\UserLeftMargin{1in}
52 \def\UserRightMargin{1in}
53 \def\UserTopMargin{1in}
54 \def\UserBotMargin{1in}
55 \def\thePageNumber{\LWR@origpound\,\arabic{page}}
56 \ifx\TeX
57 \def\ifcaseZWdriver{\ifcase2}
58 \else
59 \def\ifcaseZWdriver{\ifcase1}
60 \fi
61 \DeclareRobustCommand\ZWifdriver[2]{}

```

---

File 567 **lwarp-patch-komascript.sty**

§ 675 Package **patch-komascript**

Pkg lwarp-patch-komascript Patches for komascript classes.

lwarp loads this package when `scrbook`, `scrartcl`, or `scrreprt` classes are detected.

Many features are ignored during the `HTML` conversion. The goal is source-level compatibility.

`\captionformat`, `\figureformat`, and `\tableformat` are not yet emulated.

⚠ Not fully tested! [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

**for HTML output:** 1 `\ProvidesPackage{lwarp-patch-komascript}`

`typearea` is emulated.

2 `\RequirePackage{lwarp-typearea}`

`tocbasic` is emulated.

3 `\RequirePackage{lwarp-tocbasic}`

`scrextend` patches most of the new macros.

4 `\RequirePackage{lwarp-scrextend}`

Indexing macros, simplified for `\lwrap`:

```

5 \AtBeginDocument{
6
7 \renewcommand*{\idx@heading}{%
8 \idx@heading{\indexname}%
9 }
10
11 \renewenvironment{theindex}{%
12 \idx@heading%
13 \index@preamble\par\nobreak
14 \let\item\lwr@indexitem%
15 \let\subitem\lwr@indexsubitem%
16 \let\subsubitem\lwr@indexsubsubitem%
17 }
18 {}
19
20 \renewcommand*\indexspace{%
21
22 }% AtBeginDocument

```

The `\minisec` is placed inside a `<div>` of class `minisec`.

```

23 \renewcommand*{\minisec}[1]{%
24 \begin{BlockClass}{minisec}
25 #1
26 \end{BlockClass}
27 }

```

The part and chapter preambles are placed as plain text just after each heading.

```

28 \@ifundefined{setpartpreamble}{}{%
29 \RenewDocumentCommand{\setpartpreamble}{o o +m}{%
30 \renewcommand{\part@preamble}{#3}%
31 }
32 }
33
34 \@ifundefined{setchapterpreamble}{}{%
35 \RenewDocumentCommand{\setchapterpreamble}{o o +m}{%
36 \renewcommand{\chapter@preamble}{#3}%
37 }
38 }

```

Do not use `\chaptername`:

```
39 \renewcommand*{\lwr@printchaptername}{}%
```

Simple captions are used in all cases.

```

40 \AtBeginDocument{%
41 \AtBeginDocument{%
42 \LetLtxMacro{\captionbelow}{\caption}
43 \LetLtxMacro{\captionabove}{\caption}
44
45 \LetLtxMacro{\captionofbelow}{\captionof}

```

```

46 \LetLtxMacro\captionof{above\captionof}
47 }
48 }
49
50 \RenewDocumentEnvironment{captionbeside}{o m o o o s}
51 {}
52 {%
53 \IfValueTF{#1}%
54 {\caption[#1]{#2}}%
55 {\caption{#2}}%
56 }
57
58 \RenewDocumentEnvironment{captionofbeside}{m o m o o o s}
59 {}
60 {%
61 \IfValueTF{#2}%
62 {\captionof{#1}{#2}{#3}}%
63 {\captionof{#1}{#3}}%
64 }
65
66 \RenewDocumentCommand{\setcapindent}{s m}{}
67 \renewcommand*{\setcaphanging}{}%
68 \renewcommand*{\setcapwidth}[2][]{}
69 \renewcommand*{\setcapdynwidth}[2][]{}
70 \RenewDocumentCommand{\setcapmargin}{s o m}{}

```

File 568 **l warp-patch-memoir.sty**

§ 676 Package **patch-memoir**

*(Emulates or patches code by PETER WILSON.)*

Pkg l warp-patch-memoir Patches for **memoir** class.

⚠ Not fully tested! Please send bug reports!

l warp loads this package when the **memoir** class is detected.

⚠ **captions** l warp uses **caption**, which causes a warning from **memoir**. This is normal. Adjust captions via **caption**, instead of **memoir**.

⚠ **options clash** While emulating **memoir**, l warp pre-loads a number of packages (section 676.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading l warp:

```

\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{l warp}
...
\usepackage{package_name}

```

⚠ **version numbers** **memoir** emulates a number of packages, and declares a version date for each which

often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since `lwarp` is intended to support the freestanding packages, which are often newer than the date declared by `memoir`, it is hoped that `memoir` will update and change its emulated version numbers to match.

`\label(bookmark){tag}` `\label` accepts an optional (bookmark) argument, but this is ignored in `HTML`.

 `comment` The `comment` environment is from the `comment` package, and thus requires that the `\begin` and `\end` each be on its own line:

```
\begin{comment}
This is a comment.
\end{comment}
```

`\newcomment` Comments defined with `\newcomment` use `memoir`'s definitions, and behave as expected, where the `\begin` and `\end` do have to each be on its own line.

 `verbatim footnotes` `\verbfootnote` is not supported.

 `\newfootnoteseries` `\newfootnoteseries`, etc. are not supported.

 `page notes` `lwarp` loads `pagenote` to perform `memoir`'s pagenote functions, but there are minor differences in `\pagenotesubhead` and related macros.

`page notes with cleveref` To add support for pagenotes with `cleveref`, add:

```
\crefname{pagenote}{page note}{page notes}
\crefname{pagenote}{Page note}{Page notes}
```

`page note \nameref` Note that for print mode, `\nameref` prints the section name where the page notes are declared in the text, but for `HTML` it prints the name where the page notes are printed.

 `poems` Poem numbering is not supported.

 `verbatim` The `verbatim` environment does not yet support the `memoir` enhancements. It is currently recommended to load and use `fancyvrb` instead.

 `glossaries` The `memoir` glossary system is not yet supported by `lwarpmk`. The `glossaries` package may be used instead, but does require the glossary entries be changed from the `memoir` syntax to the `glossaries` syntax.

`for HTML output:` 1 `\ProvidesPackage{lwarp-patch-memoir}`

## § 676.1 Packages

These are pre-loaded to provide emulation for many of `memoir`'s functions. `memoir` pretends that `abstract`, etc. are already loaded, via its “emulated” package mechanism, but `lwarp` is directly loading the “`lwarp-`” version of each, which happens to avoid `memoir`'s emulation system.

```
2 \RequirePackage{lwarp-abstract}% req'd
3 % \RequirePackage{lwarp-array}% no longer req'd
4 \RequirePackage{lwarp-booktabs}% req'd
5 % \RequirePackage{lwarp-ccaption}% emulated below
6 \RequirePackage{lwarp-changepage}% req'd
7 \RequirePackage{lwarp-crop}
8 % \RequirePackage{lwarp-dcolumn}% no longer req'd
```

```

9 \RequirePackage{l warp-enumerate}% req'd
10 \RequirePackage{l warp-epigraph}% req'd
11 \RequirePackage{l warp-fancyvrb}% req'd
12 \RequirePackage{l warp-footmisc}% req'd

13 \let\framed\relax \let\endframed\relax
14 \let\shaded\relax \let\endshaded\relax
15 \let\leftbar\relax \let\endleftbar\relax
16 \let\snugshade\relax \let\endsnugshade\relax
17 \RequirePackage{l warp-framed}% req'd
18
19 \RequirePackage{l warp-hanging}% req'd
20 \RequirePackage{l warp-maketitle}% req'd
21 \DisemulatePackage{moreverb}
22 \RequirePackage{l warp-moreverb}
23 \RequirePackage{l warp-mparhack}
24 \RequirePackage{l warp-needspace}% req'd
25 \RequirePackage{l warp-nextpage}% req'd
26 \RequirePackage{l warp-pagenote}% req'd
27 \RequirePackage{l warp-parskip}
28 \RequirePackage{l warp-setspace}% req'd
29 \RequirePackage{l warp-showidx}

30 \makeindex

31 % \RequirePackage{l warp-tabularx}% no longer req'd
32 \RequirePackage{l warp-titling}% req'd
33 % \RequirePackage{l warp-tocbibind}% not emulated by memoir
34 \RequirePackage{l warp-tocloft}% req'd
35 \RequirePackage{l warp-verse}% req'd

```

## § 676.2 Label handling

Insert the `l warp` label mechanism into the `memoir` package mechanism:

- `\@mem@old@label` is the L<sup>A</sup>T<sub>E</sub>X definition of `\label`.
- `\LWR@orig@label` becomes the `memoir` definition.
- `l warp`'s `\LWR@new@label` uses `\LWR@orig@label`.
- Want `memoir`'s `\label` to use `l warp`'s `\label`, which then would use L<sup>A</sup>T<sub>E</sub>X's `\label`.
- So:
  - `\@mem@old@label` is set to `\LWR@new@label`.
  - `\LWR@orig@label` is set to `\@mem@old@label`.
- `cleveref` then encapsulates all the above with `\cref@old@label`.
- For a subcaption, `cleveref` modifies `memoir`'s `\sf@memsub@label`, but that change is undone by `l warp`.

```

36 \LetLtxMacro{\LWR@orig@label}{\mem@old@label}
37 \LetLtxMacro{\mem@old@label}{\LWR@new@label}

```

Patches for subfloats to support additional `l warp` labels. This is the non-`hyperref` version from `memoir`.

```

38 \AtBeginDocument{
39 \renewcommand*{\sf@@memsub@label}[1]{%
40 \@bsphack
41 \sf@@memsub@label@hook{\#1}%
42 % \memoldlabel{\#1}%
43 \cref@label{\#1}%
44 \LWR@label@createtag{sub@\#1}%
45 \protected@write\@auxout{}{%
46 \string\newlabel{sub@\#1}%
47 {\@nameuse{@thesub@\capttype}}%
48 {\thepage}}%
49 \LWR@write@lwarplabel{sub@\#1}%
50 \@esphack
51 }
52 }

```

### § 676.3 Page layout

`memoir` already set the page size to a default, so it must be forced large for `l warp`'s use, to avoid tag overflows off the page.

```

53 \setstocksize{190in}{20in}
54 \setlrmarginsandblock{2in}{2in}{*}
55 \setulmarginsandblock{1in}{1in}{*}

56 \renewcommand*{\stockavi}{}
57 \renewcommand*{\stockav}{}
58 \renewcommand*{\stockai}{}
59 \renewcommand*{\stockaiii}{}
60 \renewcommand*{\stockavii}{}
61 \renewcommand*{\stockbvi}{}
62 \renewcommand*{\stockbv}{}
63 \renewcommand*{\stockbiv}{}
64 \renewcommand*{\stockbiii}{}
65 \renewcommand*{\stockbvi}{}
66 % \renewcommand*{\stockmetriccrownvo}{}% in docs but not in the package
67 \renewcommand*{\stockmlargecrownvo}{}
68 \renewcommand*{\stockmdemyvo}{}
69 \renewcommand*{\stockmsmallroyalvo}{}
70 \renewcommand*{\pageavi}{}
71 \renewcommand*{\pageavii}{}
72 \renewcommand*{\pageav}{}
73 \renewcommand*{\pageaiv}{}
74 \renewcommand*{\pageaiii}{}
75 \renewcommand*{\pagebvi}{}
76 \renewcommand*{\pagebvii}{}
77 \renewcommand*{\pagebv}{}
78 \renewcommand*{\pagebiv}{}
79 \renewcommand*{\pagebiii}{}

```

```
80 \% renewcommand*\{\pagemetriccrownvo\}{} in docs but not in the package
81 \renewcommand*\{\pagemlargecrownvo\}{}%
82 \renewcommand*\{\pagemdemyvo\}{}%
83 \renewcommand*\{\pageasmallroyalvo\}{}%
84
85 \renewcommand*\{\stockdbill\}{}%
86 \renewcommand*\{\stockstatement\}{}%
87 \renewcommand*\{\stockexecutive\}{}%
88 \renewcommand*\{\stockletter\}{}%
89 \renewcommand*\{\stockold\}{}%
90 \renewcommand*\{\stocklegal\}{}%
91 \renewcommand*\{\stockledger\}{}%
92 \renewcommand*\{\stockbroadsheet\}{}%
93 \renewcommand*\{\pagedbill\}{}%
94 \renewcommand*\{\pagestatement\}{}%
95 \renewcommand*\{\pageexecutive\}{}%
96 \renewcommand*\{\pageletter\}{}%
97 \renewcommand*\{\pageold\}{}%
98 \renewcommand*\{\pagelegal\}{}%
99 \renewcommand*\{\pageledger\}{}%
100 \renewcommand*\{\pagebroadsheet\}{}%
101
102 \renewcommand*\{\stockpottvo\}{}%
103 \renewcommand*\{\stockfoolscapvo\}{}%
104 \renewcommand*\{\stockcrownvo\}{}%
105 \renewcommand*\{\stockpostvo\}{}%
106 \renewcommand*\{\stocklargecrownvo\}{}%
107 \renewcommand*\{\stocklargepostvo\}{}%
108 \renewcommand*\{\stocksmalldemyvo\}{}%
109 \renewcommand*\{\stockdemyvo\}{}%
110 \renewcommand*\{\stockmediumvo\}{}%
111 \renewcommand*\{\stocksmalldroyalvo\}{}%
112 \renewcommand*\{\stockroyalvo\}{}%
113 \renewcommand*\{\stocksuperroyalvo\}{}%
114 \renewcommand*\{\stockimperialvo\}{}%
115 \renewcommand*\{\pagepottvo\}{}%
116 \renewcommand*\{\pagefoolscapvo\}{}%
117 \renewcommand*\{\pagecrownvo\}{}%
118 \renewcommand*\{\pagepostvo\}{}%
119 \renewcommand*\{\pagelargecrownvo\}{}%
120 \renewcommand*\{\pagelargepostvo\}{}%
121 \renewcommand*\{\pagesmalldemyvo\}{}%
122 \renewcommand*\{\pagedemyvo\}{}%
123 \renewcommand*\{\pagemediumvo\}{}%
124 \renewcommand*\{\pagesmalldroyalvo\}{}%
125 \renewcommand*\{\pageroyalvo\}{}%
126 \renewcommand*\{\pagesuperroyalvo\}{}%
127 \renewcommand*\{\pageimperialvo\}{}%
128
129 \renewcommand*\{\memfontfamily\}{}%
130 \renewcommand*\{\memfontenc\}{}%
131 \renewcommand*\{\memfontpack\}{}%
132
133 \renewcommand*\{\anyptfilebase\}{}%
134 \renewcommand*\{\anyptsize\}{10}
```

```
135
136 \renewcommand{\setstocksize}[2]{}
137 \renewcommand{\settrimmedsize}[3]{}
138 \renewcommand{\settrims}[2]{}
139
140 % \newlength{\lxvchars}
141 % \setlength{\lxvchars}{305pt}
142 % \newlength{\xlvchars}
143 % \setlength{\xlvchars}{190pt}
144 \renewcommand{\setxlvchars}[1]{}
145 \renewcommand{\setlxvchars}[1]{}
146
147 \renewcommand{\settypeblocksize}[3]{}
148 \renewcommand{\setlrmargins}[3]{}
149 \renewcommand{\setlrmarginsandblock}[3]{}
150 \renewcommand{\setbinding}[1]{}
151 \renewcommand{\setulmargins}[3]{}
152 \renewcommand{\setulmarginsandblock}[3]{}
153 \renewcommand{\setcolsepandrue}[2]{}
154
155 \renewcommand{\setheadfoot}[2]{}
156 \renewcommand{\setheaderspaces}[3]{}
157 \renewcommand{\setmarginnotes}[3]{}
158 \renewcommand{\setfootins}[2]{}
159 \renewcommand{\checkandfixthelayout}[1][]{}
160 \renewcommand{\checkthelayout}[1]{}
161 \renewcommand{\fixthelayout}{}%
162 %
163 % \newlength{\stockheight}
164 % \newlength{\trimtop}
165 % \newlength{\trimedge}
166 % \newlength{\stockwidth}
167 % \newlength{\spinemargin}
168 % \newlength{\foremargin}
169 % \newlength{\uppermargin}
170 % \newlength{\headmargin}
171 %
172 \renewcommand{\typeoutlayout}{}%
173 \renewcommand{\typeoutstandardlayout}{}%
174 \renewcommand{\settypeoutlayoutunit}[1]{}%
175 \renewcommand{\fixpdflayout}{}%
176 \renewcommand{\fixdvipslayout}{}%
177
178 \renewcommand{\medievalpage}[1][]{}
179 \renewcommand{\isopage}[1][]{}
180 \renewcommand{\semiisopage}[1][]{}
181
182 \renewcommand{\setpagebl}[3]{}
183 \renewcommand{\setpageml}[3]{}
184 \renewcommand{\setpagetl}[3]{}
185 \renewcommand{\setpagetm}[3]{}
186 \renewcommand{\setpagebr}[3]{}
187 \renewcommand{\setpagemr}[3]{}
188 \renewcommand{\setpagebr}[3]{}
189 \renewcommand{\setpagebm}[3]{}
```

```
190 \renewcommand{\setpagecc}[3]{}
```

#### § 676.4 Text and fonts

```
191 \let\miniscule\tiny
192 \let\HUGE\Huge
193
194 \renewcommand*{\abnormalparskip}[1]{}
195 \renewcommand*{\nonzeroparskip}{}{}
196 \renewcommand*{\traditionalparskip}{}{}
197
198 \let\onelineskip\baselineskip
199
200 \let\OnehalfSpacing\onehalfspacing
201 \let\DoubleSpacing\doublespacing
202 \renewcommand*{\setPagenoteSpacing}[1]{}
203 \renewcommand*{\setFloatSpacing}[1]{}
204 \renewcommand{\SingleSpacing}{\@ifstar\singlespacing\singlespacing}
205 \let\setSingleSpace\SetSingleSpace
206 \let\SingleSpace\singlespace
207 \let\endSingleSpace\endsingleSpace
208 \let\Spacing\spacing
209 \let\endSpacing\endspacing
210 \let\OnehalfSpace\onehalfspace
211 \let\endOnehalfSpace\endonehalfspace
212 \csletcs{OnehalfSpace*}{onehalfspace}
213 \csletcs{endOnehalfSpace*}{endonehalfspace}
214 \let\DoubleSpace\doublespace
215 \let\endDoubleSpace\enddoublespace
216 \csletcs{DoubleSpace*}{doubleSpace}
217 \csletcs{endDoubleSpace*}{enddoubleSpace}
218 \renewcommand*{\setDisplayskipStretch}[1]{}
219 \renewcommand*{\memdskipstretch}{}{}
220 \renewcommand*{\noDisplayskipStretch}{}{}
221 \renewcommand*{\memdskips}{}{}
222
223 \renewcommand*{\midsloppy}{}{}
224 \renewenvironment*{\midsloppypar}{}{}{}
225
226 \renewcommand*{\sloppybottom}{}{}
```

#### § 676.5 Titles

```
227 \csletcs{titlingpage*}{titlingpage}
228 \csletcs{endtitlingpage*}{endtitlingpage}
229 \let\titlingpageend\relax
230 \newcommand{\titlingpageend}[2]{}
231 \let\andnext\and
232 \renewcommand*{\thanksmarkstyle}[1]{}
233
234 \renewcommand{\thanksfootmark}{%
235 \thanksscript{\tmark}%
236 }
```

```

237
238 % \newlength{\thanksmarksep} already provided by memoir
239 \renewcommand\titlingpageend[2]{}

```

## § 676.6 Abstracts

```

240 % \newlength{\absindent}
241 % \newlength{\absparsep}
242 \renewcommand*\abstractcol(){}
243 \renewcommand*\abstractintoc(){}
244 \renewcommand*\abstractnum(){}
245 \renewcommand*\abstractrunin(){}

```

## § 676.7 Document divisions

```

\book * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
246 \DeclareDocumentCommand{\book}{s d() o o d() m}{%
247 \LWR@section{#1}{#3}{#6}{book}%
248 }

249 \def\@apppage{%
250 \part*\{appendixpagename\}
251 }
252 \renewcommand\mempreaddappagetotohook{}
253 \renewcommand\mempostaddappagetotohook{}

254 \def\@sapppage{%
255 \part*\{appendixpagename\}
256 }
257

258 \DeclareDocumentCommand{\mainmatter}{s}{%
259 \booltrue{LWR@mainmatter}%
260 }
261
262 \DeclareDocumentCommand{\frontmatter}{s}{%
263 \boolfalse{LWR@mainmatter}%
264 }

265 \renewcommand*\raggedbottomsection{}
266 \renewcommand*\normalbottomsection{}
267 \renewcommand*\bottomsectionskip{}
268 \renewcommand*\bottomsectionpenalty{}
269 \csletcs{appendixpage}{appendixpage}
270 \renewcommand*\namedsubappendices{}
271 \renewcommand*\unnamedsubappendices{}
272 \renewcommand*\beforebookskip{}
273 \renewcommand*\afterbookskip{}
274 \renewcommand*\beforepartskeep{}
275 \renewcommand*\afterpartskeep{}
276 \renewcommand*\midbookskip{}
277 \renewcommand*\midpartskeep{}
278 \renewcommand*\printbookname{}

```

```
279 \renewcommand*\{\booknamefont}{}
280 \renewcommand*\{\booknamenum}{}
281 \renewcommand*\{\printbooknum}{}
282 \renewcommand*\{\booknumfont}{}
283 \renewcommand*\{\printpartname}{}
284 \renewcommand*\{\partnamefont}{}
285 \renewcommand*\{\partnamenum}{}
286 \renewcommand*\{\printpartnum}{}
287 \renewcommand*\{\partnumfont}{}
288 \renewcommand*\{\printbooktitle}{[1]{}}
289 \renewcommand*\{\booktitlefont}{}
290 \renewcommand*\{\printparttitle}{[1]{}}
291 \renewcommand*\{\parttitlefont}{}
292 \renewcommand*\{\bookpageend}{}
293 \renewcommand*\{\bookblankpage}{}
294 \renewcommand*\{\nobookblankpage}{}
295 \renewcommand*\{\partpageend}{}
296 \renewcommand*\{\partblankpage}{}
297 \renewcommand*\{\nopartblankpage}{}
298 \RenewDocumentCommand{\newleadpage}{s o m m}{}% todo
299 \RenewDocumentCommand{\renewleadpage}{s o m m}{}% todo
300 \renewcommand*\{\leadpagetoclevel}{chapter}
301
302 \renewcommand*\{\openright}{}
303 \renewcommand*\{\openleft}{}
304 \renewcommand*\{\openany}{}
305 \renewcommand*\{\clearforchapter}{}
306 \renewcommand*\{\memendofchapterhook}{}
307 \renewcommand*\{\chapterheadstart}{}
308 % \newlength{\beforechapskip}
309 \renewcommand*\{\afterchaptnum}{}
310 % \newlength{\midchapskip}
311 \renewcommand*\{\afterchapttitle}{}
312 % \newlength{\afterchapskip}
313 \renewcommand*\{\printchaptername}{}
314 \renewcommand*\{\chapnamefont}{}
315 \renewcommand*\{\chapnamenum}{}
316 \renewcommand*\{\printchaptnum}{}
317 \renewcommand*\{\chapnumfont}{}
318 \renewcommand*\{\printchapttitle}{[1]{}}
319 \renewcommand*\{\chapttitlefont}{}
320 \renewcommand*\{\printchaptnonum}{}
321 \renewcommand*\{\indentafterchapter}{}
322 \renewcommand*\{\noindentafterchapter}{}
323 \renewcommand*\{\insertchapterspace}{}
324
325 \renewcommand*\{\chapterstyle}{[1]{}}
326 \renewcommand*\{\makechapterstyle}{[2]{}}
327 \renewcommand*\{\chapindent}{}
328 \let\chapterprecis\cftchapterprecis
329 \let\chapterprecishere\cftchapterprecishere
330 \let\chapterprecistoc\cftchapterprecistoc
331 \renewcommand*\{\precisfont}{}
332 \renewcommand*\{\prechapterprecis}{}
333 \renewcommand*\{\postchapterprecis}{}
```

```
334 \renewcommand{\precistotext}[1]{}
335 \renewcommand*{\precistocfont}={}
336 \renewcommand*{\precistocformat}{}
337 % \newlength{\prechapterprecisshift}
338
339 \renewcommand*{\setbeforesecskip}[1]{}
340 \renewcommand*{\setaftersecskip}[1]{}
341 \renewcommand*{\setsecindent}[1]{}
342 \renewcommand*{\setsecheadstyle}[1]{}
343 \renewcommand*{\setbeforesubsecskip}[1]{}
344 \renewcommand*{\setaftersubsecskip}[1]{}
345 \renewcommand*{\setsubsecindent}[1]{}
346 \renewcommand*{\setsubsecheadstyle}[1]{}
347 \renewcommand*{\setbeforesubsubsecskip}[1]{}
348 \renewcommand*{\setaftersubsubsecskip}[1]{}
349 \renewcommand*{\setsubsubsecindent}[1]{}
350 \renewcommand*{\setsubsubsecheadstyle}[1]{}
351 \renewcommand*{\setbeforeparaskip}[1]{}
352 \renewcommand*{\setafterparaskip}[1]{}
353 \renewcommand*{\setparaindent}[1]{}
354 \renewcommand*{\setparaheadstyle}[1]{}
355 \renewcommand*{\setbeforesubparaskip}[1]{}
356 \renewcommand*{\setaftersubparaskip}[1]{}
357 \renewcommand*{\setsubparaindent}[1]{}
358 \renewcommand*{\setsubparaheadstyle}[1]{}
359 \renewcommand{@hangfrom}[1]{#1}
360 \renewcommand{\sethangfrom}[1]{}
361 \renewcommand{\setsecnumformat}[1]{}
362
363 \renewcommand*{\hangsecnum}{}
364 \renewcommand*{\defaultsecnum}{}
365
366 \renewcommand*{\sechook}{}
367 \renewcommand{\setsechook}[1]{}
368 \renewcommand*{\subsechook}{}
369 \renewcommand{\setsubsechook}[1]{}
370 \renewcommand*{\subsubsechook}{}
371 \renewcommand{\setsubsubsechook}[1]{}
372 \renewcommand*{\parahook}{}
373 \renewcommand{\setparahook}[1]{}
374 \renewcommand*{\subparahook}{}
375 \renewcommand{\setsubparahook}[1]{}
376
377 \RenewDocumentCommand{\plainbreak}{s m}{\begin{center}~\end{center}}
378
379 \RenewDocumentCommand{\fancybreak}{s +m}{%
380 \begin{center}#2\end{center}%
381 }
382
383 \RenewDocumentCommand{\plainfancybreak}{s m m +m}{%
384 \begin{center}#4\end{center}%
385 }
386
387 \RenewDocumentCommand{\pfbreak}{s}{%
388 \begin{center}
```

```
389 \pfbreakdisplay
390 \end{center}
391 }
392
393 % \newlength{\pfbreakskip}
394 \renewcommand{\pfbreakdisplay}{*\quad*\quad*}
395
396 \renewcommand{\makeheadstyles}[2]{}
397 \renewcommand*{\headstyles}[1]{}
```

## § 676.8 Pagination and headers

```
398 \renewcommand*{\savepagenumber}{}%
399 \renewcommand*{\restorepagenumber}{}%
400 \renewcommand*{\uppercaseheads}{}%
401 \renewcommand*{\nouppercaseheads}{}%
402
403 \renewcommand*{\bookpagemark}[1]{}%
404 \renewcommand*{\partmark}[1]{}%
405 \renewcommand*{\bibmark}{}%
406 \renewcommand*{\indexmark}{}%
407 \renewcommand*{\glossarymark}{}%
408
409 \LWR@origpagestyle{empty}
410 \renewcommand*{\ps@empty}{}%
411 \renewcommand*{\makepagestyle}[1]{}%
412 \renewcommand*{\emptypshook}{}%
413 % \renewcommand*{\empty@oddhead}{}%
414 % \renewcommand*{\empty@oddfoot}{}%
415 % \renewcommand*{\empty@evenhead}{}%
416 % \renewcommand*{\empty@evenfoot}{}%
417 \renewcommand*{@oddhead}{}%
418 \renewcommand*{@oddfoot}{}%
419 \renewcommand*{@evenhead}{}%
420 \renewcommand*{@evenfoot}{}%
421 \renewcommand*{\aliaspagestyle}[2]{}%
422 \renewcommand*{\copypagestyle}[2]{}%
423
424 \renewcommand*{\makeevenhead}[4]{}%
425 \renewcommand*{\makeoddhead}[4]{}%
426 \renewcommand*{\makeevenfoot}[4]{}%
427 \renewcommand*{\makeoddfoot}[4]{}%
428 \renewcommand*{\makerunningwidth}[3]{}%
429 % \newlength{\headwidth}
430 \renewcommand*{\makeheadrule}[3]{}%
431 \renewcommand*{\makefootrule}[3]{}%
432 \renewcommand*{\makeheadfootruleprefix}[3]{}%
433 % \newlength{\normalrulethickness}
434 % \setlength{\normalrulethickness}{.4pt}
435 % \newlength{\footruleheight}
436 % \newlength{\footruleskip}
437 \renewcommand*{\makeheadposition}[5]{}%
438 \renewcommand{\makepsmarks}[2]{}%
439 \renewcommand*{\makeheadfootstrut}[3]{}%
```

---

```

440 \renewcommand{\createmark}[5]{\csdef{#1mark}{1}{}}
441 \renewcommand{\createplainmark}[3]{\csdef{#1mark}{3}{}}
442 \renewcommand{\memUhead}[1]{}
443 \renewcommand*{\clearplainmark}[1]{}
444 \renewcommand*{\clearmark}[1]{}
445 \renewcommand{\addtopsmarks}[3]{}
446 \renewcommand{\ifonlyfloats}[2]{#2}
447 \renewcommand*{\mergepagefloatstyle}[3]{}
448
449 \renewcommand*{\framepichead}{}
450 \renewcommand*{\framepictextfoot}{}
451 \renewcommand*{\framepichook}{}
452 \renewcommand*{\showheadfootlocoff}{}
453 \renewcommand*{\showtextblocklocoff}{}

```

## § 676.9 Paragraphs and lists

```

454 \renewcommand{\hangfrom}[1]{#1}
455 \let\centerfloat\centering
456 \renewcommand*{\raggedyright}[1][]{}
457 % \newlength{\ragrparindent}
458 \renewcommand{\sourceatright}[2][]{\attribution{#2}}
459 \let\memorigdbs\LWR@endofline
460 \let\memorigpar\par
461 \let\atcentercr\LWR@endofline
462
463 \renewcommand*{\linenottooshort}[1][]{}
464 \renewcommand*{\russianpar}{}
465 \renewcommand*{\lastlinerulefill}{}
466 \renewcommand*{\lastlineparrule}{}
467 \renewcommand*{\justlastraggedleft}{}
468 \renewcommand*{\raggedrightthenleft}{}
469 \renewcommand*{\leftcenterright}{}
470
471 \renewcommand{\leftspringright}[4]{%
472 \begin{minipage}{#1\linewidth}#3\end{minipage}\qquad%
473 \begin{minipage}{#2\linewidth}\begin{flushright}#4\end{flushright}\end{minipage}%
474 }
475
476 \renewenvironment*{\blockdescription}
477 {\LWR@descriptionstart\LWR@origdescription}
478 {\enddescription}
479
480 \renewcommand*{\blockdescriptionlabel}[1]{\textbf{#1}}
481 \renewenvironment*{\labelled}[1]{\begin{description}}{\end{description}}
482 \renewenvironment*{\flexlabelled}[6]{\begin{description}}{\end{description}}
483 \renewcommand*{\tightlists}{}
484 \renewcommand*{\defaultlists}{}
485 \RenewDocumentCommand{\firmlists}{s}{}
486 \renewcommand*{\firmlist}{}
487 \renewcommand*{\tightlist}{}
488 \renewcommand*{\zerotrivseps}{}
489 \renewcommand*{\savetrivseps}{}
490 \renewcommand*{\restoretrevseps}{}

```

## § 676.10 Contents lists

```

491 \csletcs{tableofcontents*}{tableofcontents}
492 \csletcs{listoffigures*}{listoffigures}
493 \csletcs{listoftables*}{listoftables}
494 \renewenvironment{KeepFromToc}{}{}
495 \renewcommand*\onecoltocetc(){}
496 \renewcommand*\twocoltocetc(){}
497 \renewcommand*\ensureonecol(){}
498 \renewcommand*\restorefromonecol(){}
499 \renewcommand*\doccoltocetc(){}
500
501 \renewcommand{\tocheadstart}){}
502 \renewcommand{\printtictitle}[1]{}}
503 \renewcommand{\tocmark}){}
504 \renewcommand{\aftertictitle}){}
505 \renewcommand{\lofheadstart}){}
506 \renewcommand{\printloftitle}[1]{}}
507 \renewcommand{\lofmark}){}
508 \renewcommand{\afterloftitle}){}
509 \renewcommand{\lotheadstart}){}
510 \renewcommand{\printlottitle}[1]{}}
511 \renewcommand{\lotmark}){}
512 \renewcommand{\afterlottitle}){}
513
514 \renewcommand*\setpnumwidth}[1]{}}
515 \renewcommand*\setrmarg}[1]{}}
516 \renewcommand*\cftbookbreak}){}
517 \renewcommand*\cftpabreak}){}
518 \renewcommand*\cftchapterbreak}){}
519 % \newlength{\cftbeforebookskip}
520 % \newlength{\cftbookindent}
521 % \newlength{\cftbooknumwidth}
522 \renewcommand*\cftbookfont}){}
523 \renewcommand*\cftbookname}){}
524 \renewcommand*\cftbookpresnum}){}
525 \renewcommand*\cftbookaftersnum}){}
526 \renewcommand*\cftbookaftersnumb}){}
527 \renewcommand*\cftbookleader}){}
528 \renewcommand*\cftbookdotsep}[1]{}}
529 \renewcommand*\cftbookpagefont}){}
530 \renewcommand*\cftbookafterpnum}){}
531 \renewcommand*\cftbookformatpnum}[1]{}}
532 \renewcommand*\cftbookformatpnumhook}[1]{}}

```

Part is already defined by `tocloft`.

```

533 % \newlength{\cftbeforechapterskip}
534 % \newlength{\cftchapterindent}
535 % \newlength{\cftchaptnumwidth}
536 \renewcommand*\cftchapterfont}){}
537 \renewcommand*\cftchaptername}){}
538 \renewcommand*\cftchapterpresnum}){}
539 \renewcommand*\cftchapteraftersnum}){}
540 \renewcommand*\cftchapteraftersnumb}){}

```

```
541 \renewcommand*\{cftchapterleader}{}
542 \renewcommand*\{cftchapterdotsep}{1}
543 \renewcommand*\{cftchapterpagefont}{}
544 \renewcommand*\{cftchapterafterpnum}{}
545 \renewcommand*\{cftchapterformatpnum}[1]{}
546 \renewcommand*\{cftchapterformatpnumhook}[1]{}

547 % \newlength{\cftbeforesections skip}
548 % \newlength{\cftsectionindent}
549 % \newlength{\cftsectionnumwidth}
550 \renewcommand*\{cftsectionfont}{}
551 \renewcommand*\{cftsectionname}{}
552 \renewcommand*\{cftsectionpresnum}{}
553 \renewcommand*\{cftsectionaftersnum}{}
554 \renewcommand*\{cftsectionaftersnumb}{}
555 \renewcommand*\{cftsectionleader}{}
556 \renewcommand*\{cftsectiondotsep}{1}
557 \renewcommand*\{cftsectionpagefont}{}
558 \renewcommand*\{cftsectionafterpnum}{}
559 \renewcommand*\{cftsectionformatpnum}[1]{}
560 \renewcommand*\{cftsectionformatpnumhook}[1]{}

561 % \newlength{\cftbeforesubsections skip}
562 % \newlength{\cftsubsectionindent}
563 % \newlength{\cftsubsectionnumwidth}
564 \renewcommand*\{cftsubsectionfont}{}
565 \renewcommand*\{cftsubsectionname}{}
566 \renewcommand*\{cftsubsectionpresnum}{}
567 \renewcommand*\{cftsubsectionaftersnum}{}
568 \renewcommand*\{cftsubsectionaftersnumb}{}
569 \renewcommand*\{cftsubsectionleader}{}
570 \renewcommand*\{cftsubsectiondotsep}{1}
571 \renewcommand*\{cftsubsectionpagefont}{}
572 \renewcommand*\{cftsubsectionafterpnum}{}
573 \renewcommand*\{cftsubsectionformatpnum}[1]{}
574 \renewcommand*\{cftsubsectionformatpnumhook}[1]{}

575 % \newlength{\cftbeforesubsubsections skip}
576 % \newlength{\cftsubsubsectionindent}
577 % \newlength{\cftsubsubsectionnumwidth}
578 \renewcommand*\{cftsubsubsectionfont}{}
579 \renewcommand*\{cftsubsubsectionname}{}
580 \renewcommand*\{cftsubsubsectionpresnum}{}
581 \renewcommand*\{cftsubsubsectionaftersnum}{}
582 \renewcommand*\{cftsubsubsectionaftersnumb}{}
583 \renewcommand*\{cftsubsubsectionleader}{}
584 \renewcommand*\{cftsubsubsectiondotsep}{1}
585 \renewcommand*\{cftsubsubsectionpagefont}{}
586 \renewcommand*\{cftsubsubsectionafterpnum}{}
587 \renewcommand*\{cftsubsubsectionformatpnum}[1]{}
588 \renewcommand*\{cftsubsubsectionformatpnumhook}[1]{}

589 % \newlength{\cftbeforeparagraphskip}
590 % \newlength{\cftp paragraph indent}
591 % \newlength{\cftp paragraph num width}
592 \renewcommand*\{cftp paragraph font}{}
593 \renewcommand*\{cftp paragraph dot sep}{1}
```

```
593 \renewcommand*{\cftpparagraphname}{}
594 \renewcommand*{\cftpparagraphpresnum}{}
595 \renewcommand*{\cftpparagraphaftersnum}{}
596 \renewcommand*{\cftpparagraphaftersnumb}{}
597 \renewcommand*{\cftpparagraphleader}{}
598 \renewcommand*{\cftpparagraphdotsep}{1}
599 \renewcommand*{\cftpparagraphpagefont}{}
600 \renewcommand*{\cftpparagraphafterpnum}{}
601 \renewcommand*{\cftpparagraphformatpnum}[1]{}
602 \renewcommand*{\cftpparagraphformatpnumhook}[1]{}

603 % \newlength{\cftbeforesubparagraphskip}
604 % \newlength{\cftsubparagraphindent}
605 % \newlength{\cftsubparagraphnumwidth}
606 \renewcommand*{\cftsubparagraphfont}{}
607 \renewcommand*{\cftsubparagraphname}{}
608 \renewcommand*{\cftsubparagraphpresnum}{}
609 \renewcommand*{\cftsubparagraphaftersnum}{}
610 \renewcommand*{\cftsubparagraphaftersnumb}{}
611 \renewcommand*{\cftsubparagraphleader}{}
612 \renewcommand*{\cftsubparagraphdotsep}{1}
613 \renewcommand*{\cftsubparagraphpagefont}{}
614 \renewcommand*{\cftsubparagraphafterpnum}{}
615 \renewcommand*{\cftsubparagraphformatpnum}[1]{}
616 \renewcommand*{\cftsubparagraphformatpnumhook}[1]{}

617 % \newlength{\cftbeforefigureskip}
618 % \newlength{\cftfigureindent}
619 % \newlength{\cftfigurenumwidth}
620 \renewcommand*{\cftfigurefont}{}
621 \renewcommand*{\cftfigurename}{}
622 \renewcommand*{\cftfigurepresnum}{}
623 \renewcommand*{\cftfigureaftersnum}{}
624 \renewcommand*{\cftfigureaftersnumb}{}
625 \renewcommand*{\cftfigureleader}{}
626 \renewcommand*{\cftfiguredotsep}{1}
627 \renewcommand*{\cftfigurepagefont}{}
628 \renewcommand*{\cftfigureafterpnum}{}
629 \renewcommand*{\cftfigureformatpnum}[1]{}
630 \renewcommand*{\cftfigureformatpnumhook}[1]{}

631 % \newlength{\cftbeforesubfigureskip}
632 % \newlength{\cftsubfigureindent}
633 % \newlength{\cftsubfigurenumwidth}
634 \newcommand*{\cftsubfigurefont}{}
635 \newcommand*{\cftsubfigurename}{}
636 \newcommand*{\cftsubfigurepresnum}{}
637 \newcommand*{\cftsubfigureaftersnum}{}
638 \newcommand*{\cftsubfigureaftersnumb}{}
639 \newcommand*{\cftsubfigureleader}{}
640 \newcommand*{\cftsubfiguredotsep}{1}
641 \newcommand*{\cftsubfigurepagefont}{}
642 \newcommand*{\cftsubfigureafterpnum}{}
643 \newcommand*{\cftsubfigureformatpnum}[1]{}
644 \newcommand*{\cftsubfigureformatpnumhook}[1]{}

```

```
645 % \newlength{\cftbeforetables skip}
646 % \newlength{\cfttableindent}
647 % \newlength{\cfttablenumwidth}
648 \renewcommand*\cfttablefont{}
649 \renewcommand*\cfttablename{}
650 \renewcommand*\cfttablepresnum(){}
651 \renewcommand*\cfttableaftersnum(){}
652 \renewcommand*\cfttableaftersnumb(){}
653 \renewcommand*\cfttableleader(){}
654 \renewcommand*\cfttabledotsep(){1}
655 \renewcommand*\cfttablepagefont(){}
656 \renewcommand*\cfttableafterpnum(){}
657 \renewcommand*\cfttableformatpnum}[1]{}
658 \renewcommand*\cfttableformatpnumhook}[1]{}}

659 % \newlength{\cftbeforesubtables skip}
660 % \newlength{\cfts subtableindent}
661 % \newlength{\cfts subtablenumwidth}
662 \newcommand*\cfts subtablefont{}
663 \newcommand*\cfts subtablename{}
664 \newcommand*\cfts subtablepresnum(){}
665 \newcommand*\cfts subtableaftersnum(){}
666 \newcommand*\cfts subtableaftersnumb(){}
667 \newcommand*\cfts subtableleader(){}
668 \newcommand*\cfts subtabledotsep(){1}
669 \newcommand*\cfts subtablepagefont(){}
670 \newcommand*\cfts subtableafterpnum(){}
671 \newcommand*\cfts subtableformatpnum}[1]{}
672 \newcommand*\cfts subtableformatpnumhook}[1]{}}

673 \renewcommand*\booknumberline}[1]{}
674 \renewcommand*\partnumberline}[1]{}
675 \renewcommand*\chapternumberline}[1]{}
676 \renewcommand*\numberlinehook}[1]{}
677 % \renewcommand*\cftwhatismyname}{}}%
678 \renewcommand*\booknumberlinehook}[1]{}
679 \renewcommand*\partnumberlinehook}[1]{}
680 \renewcommand*\chapternumberlinehook}[1]{}
681 \renewcommand*\numberlinebox}[2]{}
682 \renewcommand*\booknumberlinebox}[2]{}
683 \renewcommand*\partnumberlinebox}[2]{}
684 \renewcommand*\chapternumberlinebox}[2]{}
685 %
686 % \newlength{\cftp arfillskip}
687 \renewcommand*\cftpagenumbers off}[1]{}
688 \renewcommand*\cftpagenumbers on}[1]{}
689 \renewcommand*\cftlocalchange}[3]{}
690 \renewcommand*\cftaddtitleline}[4]{}
691 \renewcommand*\cftaddnumtitleline}[4]{}
692 \renewcommand*\cftinsertcode}[2]{}
693 \renewcommand*\cftinserthook}[2]{}
694 \renewcommand*\settocpreprocessor}[2]{}
695 \DeclareRobustCommand*\cftpagenumbers off}[1]{}
696 \DeclareRobustCommand*\cftpagenumbers on}[1]{}
```

### § 676.11 Floats and captions

\@xfloat

\@xdblfloat Reestablish lwarf's takeover the float handing, which memoir tried to grab:

```

697 \AtBeginDocument{
698 \def\@xfloat #1[#2]{%
699 \LWR@floatbegin{#1}[#2]
700 \normalsize
701 \@nameuse{#1adjustment}%
702 \LWR@futurenonspacetlet\LWR@mynexttoken\LWR@floatalignment%
703 }
704 \def\@xdblfloat #1[#2]{%
705 \LWR@floatbegin{#1}[#2]
706 \normalsize
707 \@nameuse{#1adjustment}%
708 \LWR@futurenonspacetlet\LWR@mynexttoken\LWR@floatalignment%
709 }
710 }
```

\newfloat [*1: within*] {*2: type*} {*3: ext*} {*4: capname*}

```

711 \RenewDocumentCommand{\newfloat}{o m m m}{%
712 \def\LWR@tempone{#4}%
713 \def\LWR@temptwo{\@nameuse{#2name}}%
714 \Ifdefeq{\LWR@tempone}{\LWR@temptwo}{% recursive name, already defined
715 \IfValueTF{#1}{%
716 {\DeclareFloatingEnvironment[fileext=#3,within=#1]{#2}}%
717 {\DeclareFloatingEnvironment[fileext=#3]{#2}}%
718 }{%
719 \IfValueTF{#1}{%
720 {\DeclareFloatingEnvironment[fileext=#3,within=#1,name={#4}]{#2}}%
721 {\DeclareFloatingEnvironment[fileext=#3,name={#4}]{#2}}%
722 }%
723 }%
```

**newfloat** package automatically creates the \listof command for new floats, but **float** does not, so remove \listof here in case it is manually created later.

```

723 \cslet{listof#2s}\relax%
724 \cslet{listof#2es}\relax%
725 }
```

\newlistof [*within*] {*type*} {*ext*} {*listofname*}

Emulated through the \newfloat mechanism. Note that memoir uses a different syntax than **tocloft** for the name.

```

726 \RenewDocumentCommand{\newlistof}{o m m m}
727 {%
728 \IfValueTF{#1}{%
729 {\newlistentry{#1}{#2}{#3}{0}}%
730 {\newlistentry{#2}{#3}{0}}%
731 }{%
732 \Ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
733 \setcounter{#3depth}{1}%
734 \namedef{#3mark}{ }%
735 \namedef{#2}{\listof{#2}{#4}}%
```

```

736 \@namedef{@cftmake#3title}{()}%
737 \@ifundefined{cftbefore#3titleskip}{%
738 \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
739 \expandafter\newlength\csname cftafter#3titleskip\endcsname%
740 }{}%
741 \@namedef{cft#3titlefont}{()}%
742 \@namedef{cftafter#3title}{()}%
743 \@namedef{cft#3prehook}{()}%
744 \@namedef{cft#3posthook}{()}%
745 }

746 \renewcommand{\setfloatadjustment}[2]{}

```

Borrowed from the `lwarp` version of `keyfloat`:

```

747 \NewDocumentEnvironment{KFLTmemoir@marginfloat}{O{-1.2ex} m}
748 {%
749 \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{}(note){marginblock}%
750 \renewcommand*{\@capttype}{\#2}%
751 }
752 {%
753 \endLWR@BlockClassWP%
754 }
755

756 \DeclareDocumentEnvironment{marginfigure}{o}
757 {\begin{KFLTmemoir@marginfloat}{figure}}
758 {\end{KFLTmemoir@marginfloat}}
759

760 \DeclareDocumentEnvironment{margintable}{o}
761 {\begin{KFLTmemoir@marginfloat}{table}}
762 {\end{KFLTmemoir@marginfloat}}

763 \renewcommand{\setmarginfloatcaptionadjustment}[2]{}
764 \renewcommand{\setmpjustification}[2]{}
765 \renewcommand*{\mpjustification}{}%
766 \renewcommand*{\setfloatlocations}[2]{}
767 \DeclareDocumentCommand{\suppressfloats}{o}{}%
768 \renewcommand*{\FloatBlock}{}%
769 \renewcommand*{\FloatBlockAllowAbove}{}%
770 \renewcommand*{\FloatBlockAllowBelow}{}%
771 \renewcommand*{\setFloatBlockFor}{}%
772

773 \renewcommand{\captiontitlefinal}[1]{}

```

`\fleitable`, `\flegfigure`, `\flegtoctable`, `\flegtocfigure` are defined by `memoir` using `\newfloat`. These are defined with an @ in `ccaption`.

```

774 \renewcommand{\fleitable}{\tablename}%
775 \renewcommand{\flegfigure}{\figurename}%
776 \renewcommand{\flegtoctable}{}%
777 \renewcommand{\flegtocfigure}{}%

778 \renewcommand{\@makesubfloatcaption}[2]{%
779 \minipage{fullwidth}

```

```

780 \begin{minipage}{\linewidth}%
781 #1 \ignorespaces #2 \unskip%
782 \end{minipage}%
783 }
784
785 \renewcommand*\tightsubcaptions(){}
786 \renewcommand*\loosesubcaptions(){}
787
788 \renewcommand*\subcapturesize}[1]{}
789 \renewcommand*\subcaptionlabelfont}[1]{}
790 \renewcommand*\subcaptionfont}[1]{}
791 \renewcommand*\subcaptionstyle}[1]{}
792
793 \renewcommand*\hangsubcaption(){}
794 \renewcommand*\shortsubcaption){}
795 \renewcommand*\normalsubcaption){}
796
797 \RenewDocumentEnvironment{sidecaption}{o m o}
798 {}
799 {%
800 \IfValueTF{#1}{\caption[#1]{#2}}{\caption{#2}}%
801 \IfValueT{#3}{\label{#3}}%
802 }
803
804 % \newlength{\sidecapwidth}
805 % \newlength{\sidecapsep}
806 \renewcommand*\setsidecaps}[2]{}
807 \renewcommand*\sidecapmargin}[1]{}
808 % \newif\ifscapmargleft
809 \scapmargleftfalse
810 \renewcommand*\setsidecappos}[1]{}

```

## Env sidecontcaption

```

811 \RenewDocumentEnvironment{sidecontcaption}{m o}
812 {}
813 {%
814 \ifdef{\ContinuedFloat}{%
815 {\ContinuedFloat}{%
816 {\addtocounter{@cotype}{-1}}{%
817 \caption{#1}}}}

```

Without `\@cotype`, the section is referred to instead.

```

818 \IfValueT{#2}{\label[\@cotype]{#2}}%
819 }

```

`\sidenamedlegend` does not appear to use the TOC argument.

```

820 \renewenvironment{sidenamedlegend}[2][]{
821 \begin{center}
822 \nameuse{@cotype name}\CaptionSeparator#2
823 \end{center}
824 }
825 {}
826

```

```
827 \renewenvironment{sidelegend}[1]
828 {\begin{center}
829 #1
830
831 }
832 {\end{center}}
833
834 \renewcommand*{\sidecapstyle}{}
835 \renewcommand*{\overridescapmargin}[1]{}
836 % \newlength{\sidecapraise}
837 \renewcommand*{\sidecapfloatwidth}{\linewidth}
838
839 \LetLtxMacro\ctabular\tabular
840 \LetLtxMacro\endctabular\endtabular
841
842 \renewcommand{\autorows}[5][]{%
843 #5%
844 }
845
846 \renewcommand{\autocols}[5][]{%
847 #5%
848 }
```

### § 676.12 Footnotes and page notes

```
849 \renewcommand*{\feetabovefloat}{}
850 \renewcommand*{\feetbelowfloat}{}
851 \renewcommand*{\feetatbottom}{}
852
853 \renewcommand*{\verbfootnote}[2][]{%
854 \PackageError{lwarp,memoir}%
855 {Verbatim footnotes are not yet supported by lwarp}%
856 {This may be improved some day.}%
857 }
858
859 \renewcommand*{\plainfootnotes}{}
860 \renewcommand*{\twocolumnfootnotes}{}
861 \renewcommand*{\threecolumnfootnotes}{}
862 \renewcommand*{\paragraphfootnotes}{}
863 \renewcommand*{\footfudgefiddle}{}
864
865 \renewcommand*{\newfootnoteseries}[1]{%
866 \PackageError{lwarp,memoir}%
867 {Memoir footnote series are not yet supported by lwarp}%
868 {This may be improved some day.}%
869 }
870
871 \renewcommand*{\plainfootstyle}[1]{}
872 \renewcommand*{\twocolumnfootstyle}[1]{}
873 \renewcommand*{\threecolumnfootstyle}[1]{}
874 \renewcommand*{\paragraphfootstyle}[1]{}
875
876 \renewcommand*{\footfootmark}{}
877 \renewcommand*{\footmarkstyle}[1]{}
878
879 % \newlength{\footmarkwidth}
```

```
880 % \newlength{\footmarksep}
881 % \newlength{\footparindent}
882
883 \renewcommand*{\foottextfont}{}
884
885 \renewcommand*{\marginparmargin}[1]{}
886 \renewcommand*{\sideparmargin}[1]{}
887
888 \LetLtxMacro{\sidepar}{\marginpar}
889 \renewcommand*{\sideparfont}{}
890 \renewcommand*{\sideparform}{}
891 \LWR@providelength{\sideparvshift}
892
893 \renewcommand*{\parnopar}{}
894
895 \renewcommand{\sidebar}[1]{\begin{quote}#1\end{quote}}
896 \renewcommand*{\sidebarmargin}[1]{}
897 \renewcommand*{\sidebarfont}{}
898 \renewcommand*{\sidebarform}{}
899 % \newlength{\sidebarhsep}
900 % \newlength{\sidebarvsep}
901 % \newlength{\sidebarwidth}
902 % \newlength{\sidebartopsep}
903 \renewcommand{\setsidebarheight}[1]{}
904 \renewcommand*{\setsidebars}[6]{}
905 \renewcommand*{\footnotesatfoot}{}
906 \renewcommand*{\footnotesinmargin}{}
907
908 \LetLtxMacro{\sidefootnote}{\footnote}
909 \LetLtxMacro{\sidefootnotemark}{\footnotemark}
910 \LetLtxMacro{\sidefootnotetext}{\footnotetext}
911
912 \renewcommand*{\sidefootmargin}[1]{}
913 % \newlength{\sidefoothsep}
914 % \newlength{\sidefootvsep}
915 % \newlength{\sidefootwidth}
916 % \newlength{\sidefootadjust}
917 % \newlength{\sidefootheight}
918 \renewcommand*{\setsidefootheight}[1]{}
919 % \renewcommand*{\sidefootfont}{% in docs but not in the package
920 \renewcommand*{\setsidefeet}[6]{}
921 \renewcommand*{\sidefootmarkstyle}[1]{}
922 \renewcommand*{\sidefoottextfont}{}
923 \renewcommand*{\sidefootform}{}
924 \renewcommand*{\continuousnotenums}{\pncntopttrue}% from pagenote
925 \renewcommand*{\notepageref}{}
926 \renewcommand*{\prenotetext}{}
927 \renewcommand*{\postnotetext}{}
928 \LetLtxMacro{\printpageinnoteshyperref}{\printpageinnotes}
929 \renewcommand*{\foottopagenote}{}
930 \renewcommand*{\pagetofootnote}{}
```

---

```
\m@m@wrpnote
\startnoteentrystart To have cleveref work with page note labels, the following patch writes \thepagenote and also adds \arabic{pagenote} to the first argument written to the .ent file:
```

```
\startnoteentry{\thepagenote}{\arabic{pagenote}} ...
```

The arabic value is required for **cleveref**. \thepagenote becomes \@firstoftwo#1 and the arabic value becomes \@secondoftwo#1.



**\nameref** Note that for print mode, \nameref prints the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

```
931 \xpatchcmd{\m@m@wrpnote}
932 {\string\startnoteentry{\thepagenote}}
933 {\string\startnoteentry{\thepagenote}{\arabic{pagenote}}}
934 {}
935 {\LWR@patcherror{memoir}{m@m@wrpnote}}
936
937 \renewcommand\startnoteentrystart[4]{%
938 \pnoteinnotes%
939 \noteidinnotes{\@firstoftwo#1}{#2}%
940 \@ifmtarg{#2}{%
941 \phantomsection\def@\currentlabel{#1}% original
942 \def@\currentlabel{\@firstoftwo#1}%
943 \def\cref@\currentlabel{%
944 [pagenote][\@secondoftwo#1][]@\firstoftwo#1% l warp
945 }%
946 }{}%
947 \pagenoteanchor{#4}%
948 \pageinnotes{#3}%
949 \pnotetext%
950 }
```

### § 676.13 Decorative text

```
951 \renewcommand*\epigraphposition}[1]{}
952 \renewcommand*\epigraphtextposition}[1]{}
953 \renewcommand*\epigraphsourceposition}[1]{}
954 \renewcommand*\epigraphfontsize}[1]{}
955 \renewcommand*\epigraphforheader}[2][]{}
956 \renewcommand*\epigraphpicture{}
```

### § 676.14 Poetry

```
957 \renewcommand*\vphantom{}%
958 \renewcommand*\leftofline}[1]{#1}
959 % \let\linenumberfrequency\poemlines
960 % \renewcommand*\linenumberfont}[1]{}
961
962 \DeclareDocumentCommand{\PoemTitle}{s o o m}{%
963 \IfValueTF{#2}{%
964 {\poemtitle[#2]{#4}}%
965 {\poemtitle{#4}}%
966 }
967
968 \renewcommand*\NumberPoemTitle{}%
969 \renewcommand*\PlainPoemTitle{}%
970 \renewcommand*\poemtitlepstyle{}}
```

---

```

971 \renewcommand*\{\poemtitlestarmark}[1]{}
972 \renewcommand*\{\poemtitlestarpstyle}{}
973 \renewcommand*\{\PoemTitleheadstart}{}
974 \renewcommand*\{\printPoemTitlenum}{}
975 \renewcommand*\{\printPoemTitlenum}{}
976 \renewcommand*\{\afterPoemTitlenum}{}
977 \renewcommand*\{\printPoemTitletitle}[1]{}
978 \renewcommand*\{\afterPoemTitle}{}
979 \newlength{\midpoemtitleskip}
980 \renewcommand*\{\PoemTitlenumfont}{}
981 \renewcommand*\{\PoemTitlefont}{}

```

### § 676.15 Boxes, verbatims and files

```

982 \renewenvironment{qframe}{\framed}{\endframed}
983 \renewenvironment{qshade}{\shaded}{\endshaded}

984 \renewcommand*\{\setverbatimfont}[1]{}
985 \renewcommand*\{\tabson}[1]{}
986 \renewcommand*\{\tabsoff}{}
987 \renewcommand*\{\wrappingon}{}
988 \renewcommand*\{\wrappingoff}{}
989 \renewcommand*\{\verbatimindent}{}
990 \renewcommand*\{\verbatimbreakchar}[1]{}

991 \DefineVerbatimEnvironment{fboxverbatim}{Verbatim}{frame=single}

```

`boxedverbatim` is already defined by `moreverb`. `boxedverbatim*` does not appear to work at all, even in a minimal print `memoir` document.

```

992 \renewcommand*\{\bvbox}{}
993 \renewcommand*\{\bvtopandtail}{}
994 \renewcommand*\{\bvsides}{}
995 \renewcommand*\{\nobvbox}{}
996 % \newlength{\bvboxsep}
997 \renewcommand*\{\bvtoprulehook}{}
998 \renewcommand*\{\bvtomidhook}{}
999 \renewcommand*\{\bvdrrulehook}{}
1000 \renewcommand*\{\bvlleftsidehook}{}
1001 \renewcommand*\{\bvrightrightsidehook}{}
1002 \renewcommand*\{\bverpagegettrue}{}
1003 \renewcommand*\{\bverpagefalse}{}
1004 \renewcommand{\bvtopofpage}[1]{}
1005 \renewcommand{\bvendofpage}[1]{}
1006 \renewcommand*\{\linenumberfrequency}[1]{}
1007 \renewcommand*\{\resetbvlinenumber}{}
1008 \renewcommand*\{\setbvlinenums}[2]{}
1009 \renewcommand*\{\linenumberfont}[1]{}
1010 \renewcommand*\{\bvnnumbersinside}{}
1011 \renewcommand*\{\bvnnumbersoutside}{}

```

### § 676.16 Cross referencing

```

1012 \renewcommand*\{\ref}[1]{\cref{\#1}}
1013 \renewcommand*\{\tref}[1]{\cref{\#1}}

```

```

1014 \renewcommand*{\pref}[1]{\cpageref{#1}}
1015 \renewcommand*{\Aref}[1]{\cref{#1}}
1016 \renewcommand*{\Bref}[1]{\cref{#1}}
1017 \renewcommand*{\Pref}[1]{\cref{#1}}
1018 \renewcommand*{\Sref}[1]{\cref{#1}}
1019 \renewcommand*{\figurerefname}{Figure}
1020 \renewcommand*{\tablerefname}{Table}
1021 \renewcommand*{\pagerefname}{page}
1022 \renewcommand*{\bookrefname}{Book~}
1023 \renewcommand*{\partrefname}{Part~}
1024 \renewcommand*{\chapterrefname}{Chapter~}
1025 \renewcommand*{\sectionrefname}{\S}
1026 \renewcommand*{\appendixrefname}{Appendix~}
1027 \LetLtxMacro\titleoref\nameref
1028 \renewcommand*{\headnameref}{}
1029 \renewcommand*{\tocnameref}{}
1030
1031 \providecounter{LWR@currenttitle}
1032
1033 \renewcommand*{\currenttitle}{%
1034 \addtocounter{LWR@currenttitle}{1}%
1035 \label{currenttitle}\arabic{LWR@currenttitle}}%
1036 \nameref{currenttitle}\arabic{LWR@currenttitle}}%
1037 }
1038
1039 \renewcommand*{\theTitleReference}[2]{}
1040 \renewcommand*{\namerefon}{}
1041 \renewcommand*{\namerefoff}{}

```

### § 676.17 Back matter

\@wrindexhyp Redefined to write the LWR@autoindex counter instead of page. Note that memoir has two versions, depending on the use of hyperref.

```

1042 \AtBeginDocument{
1043
1044 \def\@wrindexhyp#1|||\{%
1045 \addtocounter{LWR@autoindex}{1}%
1046 \label{LWRindex-\arabic{LWR@autoindex}}%
1047 % \ifshowindexmark@\showidx{#1}\fi
1048 \protected@write\@auxout{}{%
1049 {\string\@wrindexm@{\@idxfile}{#1}{\thepage}}%
1050 {\string\@wrindexm@{\@idxfile}{#1}{\arabic{LWR@autoindex}}}%
1051 \endgroup
1052 \@esphack}%

```

\@rspindexhyp \specialindex behaves like a regular \index, pointing to where \specialindex is used. If \specialindex is used inside a figure or table after the \caption, then the hyperlink will be given the name of that particular figure or table.

```

1053 \def\@rspindexhyp#1|||\{%
1054 \addtocounter{LWR@autoindex}{1}%
1055 \label{LWRindex-\arabic{LWR@autoindex}}%
1056 % \ifshowindexmark@\showidx{#1}\fi
1057 \protected@write\@auxout{}{%
1058 {\string\@wrindexm@{\@idxfile}{#1}{\@nameuse{\@sptheidx}}}}%

```

---

```

1059 {\string\@@wrindexm@{\@idxfile}{#1}{\arabic{LWR@autoindex}}}}%
1060 \endgroup
1061 \@esphack}%
1062
1063 }% \AtBeginDocument

```

\@spindex Patched to append \_html to the file:

```

1064 \renewcommand{\@spindex}[2]{%
1065 \@ifundefined{#1@idxfile}{%
1066 {\ifreportnoidxfile
1067 \@memwarn{Undefined index file #1}%
1068 \fi
1069 \begingroup
1070 \@sanitize
1071 \@nowrindex}%
1072 {\def{@idxfile}{#1_html}%
1073 \def{@sptheidx}{#2}%
1074 \begingroup
1075 \@sanitize
1076 \@wrspindex}%

```

\makeindex Patched to use \_html filename and \BaseJobname:

```

1077 \catcode`_=12%
1078 \renewcommand*{\makeindex}[1][\BaseJobname]{%
1079 \if@filesw
1080 \def\gindex{\@bsphack%
1081 \@ifnextchar [{\@index}{\@index[\BaseJobname]}}%
1082 \def\specialindex{\@bsphack\@spindex}%
1083 \makememindexhook
1084 \expandafter\newwrite\csname #1@idxfile\endcsname
1085 \expandafter\immediate\openout \csname #1@idxfile\endcsname #1_html.idx\relax
1086 \typeout{Writing index file #1_html.idx }%
1087 \fi}
1088 \catcode`_=8%

```

\printindex Patched to use \_html filename and \BaseJobname. This will later be patched by the lwarp core.

```

1089 \catcode`_=12%
1090 \renewcommand{\printindex}[1][\BaseJobname]{\@input{\#1_html.ind}}
1091 \catcode`_=8%
1092 \DeclareDocumentCommand{\newblock}{}{%
1093 %
1094 \renewcommand*{\showindexmarks}{}%
1095 \renewcommand*{\hideindexmarks}{}%
1096
1097 \renewcommand*{\xindyindex}{}%

```

### § 676.18 Miscellaneous

```

1098 \renewcommand*\{\\changemarks}{}
1099 \renewcommand*\{\\nochangemarks}{}
1100 \renewcommand*\{\\added}[1]{}
1101 \renewcommand*\{\\deleted}[1]{}
1102 \renewcommand*\{\\changed}[1]{}
1103
1104 \renewcommand*\{\\showtrimsoff}{}
1105 \renewcommand*\{\\showtrimson}{}
1106 \renewcommand*\{\\trimXmarks}{}
1107 \renewcommand*\{\\trimLmarks}{}
1108 \renewcommand*\{\\trimFrame}{}
1109 \renewcommand*\{\\trimNone}{}
1110 \renewcommand*\{\\trimmarkscolor}{}
1111 \renewcommand*\{\\trimmarks}{}
1112 \renewcommand*\{\\tmarktl}{}
1113 \renewcommand*\{\\tmarktr}{}
1114 \renewcommand*\{\\tmarkbr}{}
1115 \renewcommand*\{\\tmarkbl}{}
1116 \renewcommand*\{\\tmarktm}{}
1117 \renewcommand*\{\\tmarkmr}{}
1118 \renewcommand*\{\\tmarkbm}{}
1119 \renewcommand*\{\\tmarkml}{}
1120 \renewcommand*\{\\trimmark}{}
1121 \renewcommand*\{\\quarkmarks}{}
1122 \renewcommand*\{\\registrationColour}[1]{}
1123
1124 \renewcommand*\{\\leavespergathering}[1]{}
1125
1126 \renewcommand*\{\\noprelistbreak}{}
1127
1128 \renewcommand*\{\\cleartorecto}{}
1129 \renewcommand*\{\\cleartoverso}{}
1130
1131 \renewenvironment{vplace}[1][]{}

```

### § 676.19 ccaption emulation

```

1132 \renewcommand*\{\\captiondelim}[1]{\renewcommand*\{\\CaptionSeparator}{#1}}
1133 \renewcommand*\{\\captionnamefont}[1]{}
1134 \renewcommand*\{\\captiontitlefont}[1]{}
1135 \renewcommand*\{\\flushleftright}{}
1136 \renewcommand*\{\\centerlastline}{}
1137 \renewcommand*\{\\captionstyle}[2][]{}
1138 \DeclareDocumentCommand{\captionwidth}{m}{}
1139 \renewcommand*\{\\changeccaptionwidth}{}
1140 \renewcommand*\{\\normalccaptionwidth}{}
1141 \renewcommand*\{\\hangcaption}{}
1142 \renewcommand*\{\\indentcaption}[1]{}
1143 \renewcommand*\{\\normalcaption}{}
1144 \renewcommand{\precaption}[1]{}
1145 \renewcommand{\postcaption}[1]{}
1146 \renewcommand{\midbcaption}[1]{}
1147 \renewcommand{\contcaption}[1]{%
1148 % \ContinuedFloat%
}
```

```

1149 % \caption{#1}%
1150 \begin{LWR@figcaption}% later becomes \caption*
1151 \LWR@isolate{@nameuse{@capttype name}}~%
1152 \thechapter.\the\value{@capttype}\CaptionSeparator\LWR@isolate{#1}%
1153 \end{LWR@figcaption}%
1154 }

1155 \newlength{\abovelegendskip}
1156 \setlength{\abovelegendskip}{0.5\baselineskip}
1157 \newlength{\belowlegendskip}
1158 \setlength{\belowlegendskip}{\abovelegendskip}

```

The extra \\ here forces a <br> in HTML when \legend is used in a \marginpar.

```

1159 \renewcommand{\legend}[1]{\begin{center}#1\\\end{center}}
1160
1161 \renewcommand{\namedlegend}[2][]{%
1162 \begin{center}
1163 @nameuse{fleg@\capttype}\CaptionSeparator#2\\
1164 \end{center}
1165 @nameuse{flegtoc@\capttype}{#1}
1166 }

```

\fleitable, \flegfigure, \flegtoable, \flegtocfigure are defined by **memoir** using \newfloat. These are defined with an @ in \caption.

```

1167 \renewcommand{\newfixedcaption}[3][\caption]{%
1168 \renewcommand{#2}{\def{@capttype}{#3}#1}%
1169 \renewcommand{\renewfixedcaption}[3][\caption]{%
1170 \renewcommand{#2}{\def{@capttype}{#3}#1}%
1171 \renewcommand{\providefixedcaption}[3][\caption]{%
1172 \providecommand{#2}{\def{@capttype}{#3}#1}%
1173
1174 \renewcommand{\bitwonuscaption}[6][]{%
1175 \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1176 \addtocounter{@capttype}{-1}%
1177 \begingroup%
1178 \csdef{@capttype name}{#4}%
1179 \ifblank{#5}{\caption{#6}}{\caption[#5]{#6}}%
1180 \endgroup%
1181 \ifblank{#1}{}{\label{#1}}%
1182 }
1183
1184 \LetLtxMacro\bionenumcaption\bitwonuscaption% todo
1185
1186 \renewcommand{\bicaption}[5][]{%
1187 \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1188 \begin{LWR@figcaption}% later becomes \caption*
1189 \LWR@isolate{#4} % space
1190 \thechapter.\the\value{@capttype}\CaptionSeparator\LWR@isolate{#5}%
1191 \end{LWR@figcaption}%
1192 \ifblank{#1}{}{\label{#1}}%
1193 }
1194
1195 \renewcommand{\bicontcaption}[3]{%
1196 \contcaption{#1}%

```

```

1197 \begingroup%
1198 \csdef{\@capttype name}{#2}%
1199 \contcaption{#3}%
1200 \endgroup%
1201 }

```

Only in `ccaption`, not in `memoir`:

```

1202 % \LetLtxMacro\longbitwonumcaption\bitwonumcaption%
1203 % \LetLtxMacro\longbionenumcaption\bitwonumcaption%
1204 % \LetLtxMacro\longbicaption\bicaption%

```

Patches for subfloats to support additional `lwarp` labels:

```

1205 \renewcommand{@memsubbody}{%
1206 \bgroup
1207 \let\label=\memsub@label
1208 \ifdonemaincaption\else
1209 \advance\csname c@\@capttype\endcsname\@ne
1210 \fi
1211 % \refstepcounter{sub@\capttype}\@contkeep%
1212 % \leavevmode% lwarp
1213 \@ifnextchar [%%
1214 {@memsubfig}%
1215 {@memsubfig[\@empty]}}
1216
1217 \renewcommand{@memcontsubbody}{%
1218 \bgroup
1219 \let\label=\memsub@label
1220 \@contset
1221 % \refstepcounter{sub@\capttype}\@contkeep%
1222 % \leavevmode% lwarp
1223 \@ifnextchar [%%
1224 {@memsubfig}%
1225 {@memsubfig[\@empty]}}
1226
1227
1228 \long\def{@memsubfloat#1[#2][#3]#4}{%
1229 % \tempcnta=\@ne
1230 % \if@tightsubcap
1231 % \ifminipage
1232 % \tempcnta=\z@
1233 % \else
1234 % \ifdim\lastskip=\z@
1235 % \tempcnta=\@ne
1236 % \else
1237 % \tempcnta=\tw@
1238 % \fi
1239 % \fi
1240 % \fi
1241 % \if@contbotsub
1242 % \def\subfig@top{\subfloat@skip}%
1243 % \def\subfig@bottom{\subfloat@bottomskip}%
1244 % \else
1245 % \def\subfig@top{\subfloat@bottomskip}%
1246 % \def\subfig@bottom{\subfloat@skip}%

```

```

1247 % \fi
1248 % \setbox\@tempboxa \hbox{\#4}%
1249 % \tempdima=\wd\@tempboxa
1250 % \vbox
1251 \bgroup%
1252 \mem@step@subcounter%
1253 % \vbox
1254 \LWR@stoppars%
1255 \minipagefullwidth% l warp
1256 \begin{minipage}{\linewidth}% l warp
1257 \bgroup%
1258 \ifcase\@tempcpta
1259 \atminipagefalse
1260 \or
1261 \vspace{\subfig@top}
1262 \or
1263 \ifdim \lastskip=\z@ \else
1264 \tempskip\subfig@top\addvskip
1265 \fi
1266 \fi
1267 \if@contbotsub
1268 #4\box\@tempboxa
1269 \egroup
1270 \ifx \empty\relax \else
1271 \vskip\subfloatcapskip
1272 \memsubcaption{\#1}{\#2}{\#3}%
1273 \fi
1274 \else
1275 \ifx \empty\relax \else
1276 \memsubcaption{\#1}{\#2}{\#3}%
1277 \vskip\subfloatcapskip
1278 \vskip\subfloatcaptopadj
1279 \fi\egroup
1280 #4\box\@tempboxa
1281 \fi
1282 % \vspace{\subfig@bottom}
1283 \end{minipage}% l warp
1284 \LWR@startpars% l warp
1285 \egroup
1286 \egroup
1287 }

```

### § 676.20 Final patchwork

```

1288 \newlistof{tableofcontents}{toc}{\contentsname}
1289 \newlistof{listoffigures}{lof}{\listfigurename}
1290 \newlistof{listoftables}{lot}{\listtablename}

```

File 569 **l warp-common-multimedia.sty**

§ 677 Package **common-multimedia**

Pkg l warp-common-multimedia Common code for **multimedia**, **movie15**, and **media9**.

The packages **multimedia**, **movie15**, and **media9** are supported.

**HTML5** `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

**HTML5** `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by **HTML5**.)

For **media9**, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each **HTML** multimedia object includes the poster text, except for `<embed>` objects. For **movie15**, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The **HTML** object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

**media9** `\addmediopath` is supported. It is assumed that the same path structure will exist for the **HTML** document.

**HTML5** media controls are always specified for each `<audio>` and `<video>` object.

**media9** slideshows are not supported.

`\hyperlink{movie}`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

**for HTML output:**

```
1 \ProvidesPackage{lwarp-common-multimedia}[2019/04/22]

2 \RequirePackage{xkeyval}
3
4 \define@key{LWR@multimedia}{width}{\setlength{\LWR@multimedia@width}{#1}}
5 \define@key{LWR@multimedia}{height}{\setlength{\LWR@multimedia@height}{#1}}
6 \define@key{LWR@multimedia}{totalheight}{\setlength{\LWR@multimedia@height}{#1}}

7 \newlength{\LWR@multimedia@width}
8 \newlength{\LWR@multimedia@height}
9 \newlength{\LWR@multimedia@maxdimension}
```

`\LWR@multimedia@printsize` Proportional to `\linewidth` and the viewport’s smaller dimension. This scales each object such that it will always fit on the screen, even if a tall or wide object inside a tall or wide viewport.

```
10 \newcommand*{\LWR@multimedia@printsize}{%
11 \setlength{\LWR@multimedia@maxdimension}{%
12 \maxof{%
13 \linewidth}}%
```

```

14 {\maxof{\LWR@multimedia@width}{\LWR@multimedia@height}}%
15 }%
16 \setlength{\LWR@multimedia@maxdimension}{1.1\LWR@multimedia@maxdimension}%
17 \ifdimgreater{\LWR@multimedia@width}{0pt}{%
18 width:%
19 \LWR@printpercentlength%
20 {\LWR@multimedia@width}%
21 {\LWR@multimedia@maxdimension}vmin ; % space
22 }{%
23 \ifdimgreater{\LWR@multimedia@height}{0pt}{%
24 height:%
25 \LWR@printpercentlength%
26 {\LWR@multimedia@height}%
27 {\LWR@multimedia@maxdimension}vmin ; % space
28 }{%
29 }

```

\LWR@multimedia@fileAV {⟨poster text⟩} {⟨filename⟩} {⟨audio/video⟩} {⟨mimetype⟩}

Creates a video or audio from a file. The 2019/10 update of the L<sup>A</sup>T<sub>E</sub>X kernel may cause extra quotes to be added in the filenames. They are removed here.

```

30 \newcommand*{\LWR@multimedia@fileAV}[4]{%
31 \IfFileExists{#2}{% also sets \@filef@und
32 \StrSubstitute[100]{\@filef@und}{""}[\LWR@parsedfilename]%

```

The container <div> is sized as desired.

```

33 \ifstreq{\#3}{audio}{%
34 \begin{BlockClass}{AVviewport}
35 }{%
36 \begin{BlockClass}[\LWR@multimedia@printsize\ margin:auto]{AVviewport}
37 }

```

Paragraph tags are unnecessary for the A/v tags.

```
38 \LWR@stoppars
```

The A/v element is 100% of the container.

```

39 \LWR@htmltag{%
40 #3\ % space
41 \ifstreq{\#3}{audio}{%
42 width=\textquotedbl{}100\%\textquotedbl\ % space
43 height=\textquotedbl{}100\%\textquotedbl\ % space
44 }%
45 controls%
46 }\LWR@newline

```

The file source and type:

```

47 \LWR@htmltag{%
48 source % space
49 src=\textquotedbl%
50 \LWR@parsedfilename\unskip\textquotedbl\ % space
51 type=\textquotedbl{}\#4\textquotedbl}

```

The poster text inside paragraph tags, along with a reference to the file.

```
52 \LWR@startpars
```

```
53 \LWR@href{\LWR@parsedfilename}{#1}
54 \LWR@stopars
```

Finish.

```
55 \LWR@htmltag{/#3}\LWR@orignewline
56 \end{BlockClass}
57 }{%
58 \PackageError{lwarp-common-multimedia}
59 {File '#2' not found}
60 {Perhaps an incorrect path?}
61 }%
62 }
```

\LWR@multimedia@httpAV {⟨poster text⟩} {⟨filename⟩} {⟨audio/video⟩} {⟨mimetype⟩}

Creates a video or audio from a URL link.

```
63 \newcommand*{\LWR@multimedia@httpAV}[4]{%
```

The container <div> is sized as desired.

```
64 \ifstrequal{#3}{audio}{%
65 \begin{BlockClass}{AVviewport}
66 }{%
67 \begin{BlockClass}[\LWR@multimedia@printsize\ margin:auto]{AVviewport}
68 }
```

Paragraph tags are unnecessary for the A/v tags.

```
69 \LWR@stopars
```

The A/v element is 100% of the container.

```
70 \LWR@htmltag{%
71 #3\ % space
72 \ifstrequal{#3}{audio}{%
73 width=\textquotedbl{}100\%\textquotedbl\ % space
74 height=\textquotedbl{}100\%\textquotedbl\ controls%
75 }%
76 }\LWR@orignewline
```

The file source and type:

```
77 \LWR@htmltag{%
78 source % space
79 src=\textquotedbl#2\textquotedbl\ % space
80 type=\textquotedbl#4\textquotedbl}
```

The poster text inside paragraph tags, along with a reference to the URL.

```
81 \LWR@startpars
82 \LWR@href{#2}{#1}
83 \LWR@stopars
```

Finish.

```
84 \LWR@htmltag{/#3}\LWR@orignewline
85 \end{BlockClass}
86 }
```

\LWR@multimedia@AV {⟨poster text⟩} {⟨filename⟩} {⟨audio/video⟩} {⟨mimetype⟩}

Creates an audio or video from a file or a URL.

```
87 \newcommand*{\LWR@multimedia@AV}[4]{%
88 \IfBeginWith{#2}{http}%
89 {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
90 {%
91 \IfBeginWith{#2}{HTTP}%
92 {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
93 {\LWR@multimedia@fileAV{#1}{#2}{#3}{#4}}%
94 }%
95 }
```

\LWR@multimedia@embed {⟨poster text⟩} {⟨URL or filename⟩} {⟨mime type⟩}

Embeds multimedia of an arbitrary type. The poster text is not used, as it would appear along with the video if the <embed> element is supported.

```
96 \newcommand*{\LWR@multimedia@embed}[3]{%
97 \begin{BlockClass}[width:100\%]{AVviewport}%
98 \LWR@stoppars
99 \LWR@htmltag{%
100 embed % space
101 \ifblank{#3}{\type=\textquotedbl#3\textquotedbl\ }%
102 style=\textquotedbl\LWR@multimedia@printsize\ margin:auto\textquotedbl\ % space
103 src=\textquotedbl#2\textquotedbl\ % space
104 }%
105 \LWR@startpars
106 \end{BlockClass}
107 }
```

Error message if the comment character is used among the arguments of \LWR@multimediacb.

\LWR@multimedia@percenterrror

```
108 \newcommand*{\LWR@multimedia@percenterrror}{}%
109 \PackageError{lwarp-media9}%
110 {%
111 Do not use a percent comment between\MessageBreak
112 \protect\includemedia\space arguments%
113 }%
114 {%
115 Percent is changed to a regular character\MessageBreak
116 to allow its use inside a URL.%
117 }%
118 }
```

\LWR@multimediacb [⟨options⟩] {⟨poster text⟩} {⟨filename⟩}

Creates multimedia. Examines the file extension to determine the type. If not a supported type, creates an embedded object if it has a URL. If neither, create a link to the unsupported object.

```
119 \newcommand*{\LWR@multimediacb}[3][]{%
```

Error if the percent character appears among the arguments. This could happen since the comment character has been temporarily disabled, for use in a URL.

```
120 \if#1@percentchar\LWR@multimedia@percenterror\fi%
121 \if#2@percentchar\LWR@multimedia@percenterror\fi%
122 \if#3@percentchar\LWR@multimedia@percenterror\fi%
```

Paragraph handling:

123 \LWR@stopars%

```
Record the desired size.
124 \setlength{\LWR@multimedia@width}{0pt}%
125 \setlength{\LWR@multimedia@height}{0pt}%
126 \setkeys{!}{\LWR@multimedia}\f#1\f
```

If a known A/v type, create an HTML5 <video> or <audio>.

```
127 \IfEndWith{#3}{.mp4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
128 \IfEndWith{#3}{.MP4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
129 \IfEndWith{#3}{.mp3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%
130 \IfEndWith{#3}{.MP3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%
```

If an arbitrary URL, embed it.

```
131 \IfBeginWith{#3}{http}{\LWR@multimedia@embed{#2}{#3}{}}{%
132 \IfBeginWith{#3}{HTTP}{\LWR@multimedia@embed{#2}{#3}{}}{%
133 \IfBeginWith{#3}{ftp}{\LWR@multimedia@embed{#2}{#3}{}}{%
134 \IfBeginWith{#3}{FTP}{\LWR@multimedia@embed{#2}{#3}{}}{%
```

If unknown, create a link to it.

```
135 \LWR@href{\#3}{\#2}%
136 }}}} }}}}}%
```

Paragraph handling:

```
137 \LWR@startpars%
138 \endgroup%
139 }
```

Catcodes which may appear in a URL.

```
140 \newrobustcmd*{\LWR@multimedia}{%
141 \begingroup%
142 \LWR@linkmediacatcodes%
143 \LWR@multimediacatcodes%
144 }
```

File 570 **l warp-common-mathjax-letters.sty**

§ 678 Package **common-mathjax-letters**

Pkg: Common code used by a number of packages to generate Greek math characters for  
lwarpmathjax-letters MATHJAX.

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-letters}[2020/08/10]

\* { $\langle 2: \text{capitalize name?} \rangle$ } { $\langle 3: \text{prefix} \rangle$ } { $\langle 4: \text{postfix} \rangle$ } { $\langle 5: \text{name} \rangle$ } { $\langle 6: \text{unicode} \rangle$ }

Star to italicize the result, used when the unicode character does not exist.

```

2 \begin{warpMathJax}
3
4 \NewDocumentCommand{\LWR@mathjax@addletter}{s m m m m m}{
5 \IfBooleanTF{#2}{%
6 \edef\tempone{\LWRtexttitlecase{#5}}%
7 \edef\tempone{\tempone}%
8 \xdef\customizedMathJax{%
9 \LWR@customizedMathJax%
10 \LWRbackslash%
11 \LWRbackslash def\LWRbackslash%
12 #3% prefix
13 \LWR@tempone%name
14 #4% postfix
15 \LWRleftbrace%
16 }%
17 }%
18 \IfBooleanTF{#1}{%
19 \xdef\customizedMathJax{%
20 \LWR@customizedMathJax%
21 \LWRbackslash mathit\LWRleftbrace%
22 \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
23 \LWRrightbrace%
24 }%
25 }{%
26 \xdef\customizedMathJax{%
27 \LWR@customizedMathJax%
28 \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
29 }%
30 }%
31 \xdef\customizedMathJax{%
32 \LWR@customizedMathJax%
33 \LWRrightbrace\LWRbackslash\par%
34 }

```

\* {<2: prefix>} {<3: postfix>}

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase upright.

```

35 \NewDocumentCommand{\LWR@mathjax@addgreek@l@up}{s m m} {
36 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{03B1}
37 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{03B2}
38 \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}
39 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{03B3}
40 \LWR@mathjax@addletter{#1}{#2}{#3}{digamma}{03DD}
41 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{03B4}
42 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{03F5}
43 \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{03B5}
44 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{03B6}
45 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{03B7}
46 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{03B8}
47 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{03D1}
48 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{03B9}

```

\LWR@mathjax@addgreek@l@up

```

49 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{03BA}
50 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varkappa}{03F0}
51 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{03BB}
52 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{03BC}
53 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{03BD}
54 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{03BE}
55 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{03BF}
56 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{03C0}
57 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varpi}{03D6}
58 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{03C1}
59 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varrho}{03F1}
60 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{03C3}
61 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varsigma}{03C2}
62 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{03C4}
63 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{03C5}
64 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{03D5}
65 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varphi}{03C6}
66 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{03C7}
67 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{03C8}
68 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{03C9}
69 }

```

\* { $\langle 2: prefix \rangle$ } { $\langle 3: postfix \rangle$ }

Start to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase upright.

```

70 \NewDocumentCommand{\LWR@mathjax@addgreek@u@up}{s m m}{
71 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{0391}
72 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{0392}
73 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{0393}
74 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{digamma}{03DC}
75 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{0394}
76 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{0395}
77 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{0396}
78 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{0397}
79 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{0398}
80 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{03F4}
81 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{0399}
82 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{039A}
83 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{039B}
84 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{039C}
85 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{039D}
86 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{039E}
87 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{039F}
88 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{03A0}
89 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varpi}{03D6}
90 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{03A1}
91 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{03A3}
92 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{03A4}
93 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{03A5}
94 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{03A6}
95 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{03A7}
96 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{03A8}

```

```

97 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{03A9}
98 }

```

\* {〈2: prefix〉} {〈3: postfix〉}

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase italic.

```

99 \NewDocumentCommand{\LWR@mathjax@addgreek@l@it}{s m m}{
100 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{1D6FC}
101 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{1D6FD}
102 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varbeta}{03D0}
103 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{1D6FE}
104 \LWR@mathjax@addletter*{\#1}{\#2}{\#3}{digamma}{03DD}
105 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{1D6FF}
106 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{1D716}
107 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varepsilon}{1D700}
108 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{1D701}
109 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{1D702}
110 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{1D703}
111 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{1D717}
112 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{1D704}
113 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{1D705}
114 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varkappa}{1D718}
115 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{1D706}
116 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{1D707}
117 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{1D708}
118 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{1D709}
119 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{1D70A}
120 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{1D70B}
121 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varpi}{1D71B}
122 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{1D70C}
123 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varrho}{1D71A}
124 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{1D70E}
125 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varsigma}{1D70D}
126 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{1D70F}
127 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{1D710}
128 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{1D719}
129 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varphi}{1D711}
130 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{1D712}
131 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{1D713}
132 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{1D714}
133 }

```

\* {〈2: prefix〉} {〈3: postfix〉}

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase italic.

```

134 \NewDocumentCommand{\LWR@mathjax@addgreek@u@it}{s m m}{
135 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{1D6E2}
136 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{1D6E3}
137 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{1D6E4}

```

```

138 \LWR@mathjax@addletter*{\#1}{\#2}{\#3}{digamma}{03DC}
139 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{1D6E5}
140 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{1D6E6}
141 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{1D6E7}
142 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{1D6E8}
143 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{1D6E9}
144 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{1D6F3}
145 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{1D6EA}
146 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{1D6EB}
147 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{1D6EC}
148 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{1D6ED}
149 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{1D6EE}
150 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{1D6EF}
151 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{1D6F0}
152 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{1D6F1}
153 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{1D6F2}
154 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{1D6F4}
155 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{1D6F5}
156 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{1D6F6}
157 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{1D6F7}
158 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{1D6F8}
159 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{1D6F9}
160 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{1D6FA}
161 }

```

\* {*<2: prefix>*} {*<3: postfix>*}

Star to capitalize the macro names.

Adds `\CustomizeMathjax` expressions to define a set of macros for Greek letters, lowercase boldface italic.

```

162 \NewDocumentCommand{\LWR@mathjax@addgreek@l@bfit}{s m m}{
163 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{1D736}
164 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{1D737}
165 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varbeta}{03D0}
166 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{1D738}
167 \LWR@mathjax@addletter*{\#1}{\#2}{\#3}{digamma}{03DD}
168 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{1D739}
169 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{1D750}
170 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varepsilon}{1D73A}
171 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{1D73B}
172 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{1D73C}
173 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{1D73D}
174 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{1D751}
175 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{1D73E}
176 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{1D73F}
177 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varkappa}{1D752}
178 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{1D740}
179 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{1D741}
180 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{1D742}
181 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{1D743}
182 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{1D744}
183 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{1D745}
184 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varpi}{1D755}
185 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{1D746}

```

```

186 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varrho}{1D754}
187 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{1D748}
188 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varsigma}{1D747}
189 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{1D749}
190 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{1D74A}
191 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{1D753}
192 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varphi}{1D74B}
193 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{1D74C}
194 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{1D74D}
195 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{1D74E}
196 }

```

\* {<2: prefix>} {<3: postfix>}

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase boldface italic.

```

197 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bf}{s m m}{
198 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{1D71C}
199 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{1D71D}
200 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{1D71E}
201 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{digamma}{03DC}
202 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{1D71F}
203 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{1D720}
204 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{1D721}
205 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{1D722}
206 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{1D723}
207 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{1D72D}
208 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{1D724}
209 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{1D725}
210 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{1D726}
211 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{1D727}
212 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{1D728}
213 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{1D729}
214 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{1D72A}
215 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{1D72B}
216 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{1D72C}
217 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{1D72E}
218 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{1D72F}
219 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{1D730}
220 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{1D731}
221 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{1D732}
222 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{1D733}
223 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{1D734}
224 }

```

\LWR@mathjax@addgreek@u@bfup is not needed.

\* {<2: prefix>} {<3: postfix>}

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase boldface upright.

```

225 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfup}{s m m}{


```

```

226 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{1D6A8}
227 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{1D6A9}
228 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{1D6AA}
229 \LWR@mathjax@addletter*\{\#1\}{\#2\}{\#3\}{digamma}{03DC}
230 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{1D6AB}
231 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{1D6AC}
232 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{1D6AD}
233 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{1D6AE}
234 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{1D6AF}
235 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{1D6B9}
236 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{1D6B0}
237 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{1D6B1}
238 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{1D6B2}
239 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{1D6B3}
240 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{1D6B4}
241 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{1D6B5}
242 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{1D6B6}
243 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{1D6B7}
244 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{1D6B8}
245 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{1D6BA}
246 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{1D6BB}
247 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{1D6BC}
248 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{1D6BD}
249 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{1D6BE}
250 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{1D6BF}
251 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{1D6C0}
252 }

```

{<prefix>}

Adds \CustomizeMathjax expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

253 \NewDocumentCommand{\LWR@mathjax@addlatin@u@bfit}{m}{
254 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{A\}}{1D468}
255 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{B\}}{1D469}
256 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{C\}}{1D46A}
257 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{D\}}{1D46B}
258 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{E\}}{1D46C}
259 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{F\}}{1D46D}
260 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{G\}}{1D46E}
261 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{H\}}{1D46F}
262 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{I\}}{1D470}
263 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{J\}}{1D471}
264 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{K\}}{1D472}
265 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{L\}}{1D473}
266 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{M\}}{1D474}
267 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{N\}}{1D475}
268 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{O\}}{1D476}
269 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{P\}}{1D477}
270 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{Q\}}{1D478}
271 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{R\}}{1D479}
272 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{S\}}{1D47A}
273 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{T\}}{1D47B}
274 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{U\}}{1D47C}
275 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{V\}}{1D47D}

```

```

276 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{W}{1D47E}
277 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{X}{1D47F}
278 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{Y}{1D480}
279 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{Z}{1D481}
280 }

```

{*prefix*}

Adds `\CustomizeMathjax` expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

281 \NewDocumentCommand{\LWR@mathjax@addlatin@l@bfit}{m}{
282 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{a}{1D482}
283 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{b}{1D483}
284 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{c}{1D484}
285 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{d}{1D485}
286 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{e}{1D486}
287 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{f}{1D487}
288 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{g}{1D488}
289 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{h}{1D489}
290 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{i}{1D48A}
291 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{j}{1D48B}
292 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{k}{1D48C}
293 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{l}{1D48D}
294 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{m}{1D48E}
295 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{n}{1D48F}
296 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{o}{1D490}
297 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{p}{1D491}
298 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{q}{1D492}
299 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{r}{1D493}
300 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{s}{1D494}
301 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{t}{1D495}
302 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{u}{1D496}
303 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{v}{1D497}
304 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{w}{1D498}
305 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{x}{1D499}
306 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{y}{1D49A}
307 \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{z}{1D49B}
308 }

```

309 `\end{warpMathJax}`

### File 571 **lwarp-common-mathjax-newpxtxmath.sty**

## § 679 Package **common-mathjax-newpxtxmath**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg Common code used by `newpxmath`, `newtxmath`, and `newtxsf` for MATHJAX.

**lwarp-common-mathjax-newpxtxmath**  
for HTML output: 1 `\ProvidesPackage{lwarp-common-mathjax-newpxtxmath}[2020/09/20]`

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
3 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
4
5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\fAlt}{f}}
7 \CustomizeMathJax{\newcommand{\rhoAlt}{\rho}}
8
9 \CustomizeMathJax{\newcommand{\imathscr}{\mathord{\mathscr{i}}}}
10 \CustomizeMathJax{\newcommand{\jmathscr}{\mathord{\mathscr{j}}}}

```

`lwarp_mathjax.txt` adds `\left/\right` support for delimiters.

```

11 \CustomizeMathJax{\let\llbracket\lBrack}
12 \CustomizeMathJax{\let\rrbracket\rBrack}
13
14 \CustomizeMathJax{\let\smlbrace{}}
15 \CustomizeMathJax{\let\smrbrace{}}
16 \CustomizeMathJax{\newcommand{\PPerp}{\mathrel{\text{\scriptsize\texttt{\{}}}}}
17 \CustomizeMathJax{\newcommand{\nPerp}{\mathrel{\text{\scriptsize\texttt{\{}}}\!\not\!\text{\scriptsize\texttt{\{}}}}}
18 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\text{\scriptsize\texttt{\{}}}}}
19 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}}
20 \CustomizeMathJax{\newcommand{\Euler}{\mathord{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}}
21 \CustomizeMathJax{\newcommand{\transp}{\mathord{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}}
22 \CustomizeMathJax{\newcommand{\hermtransp}{\mathord{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}}
23 \CustomizeMathJax{\let\htransp=\hermtransp}
24 \CustomizeMathJax{\newcommand{\circledplus}{\mathbin{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}}
25 \CustomizeMathJax{\newcommand{\circledminus}{\mathbin{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}}
26 \CustomizeMathJax{\newcommand{\circledtimes}{\mathbin{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}}

```

  

```

27 \CustomizeMathJax{\newcommand{\circledslash}{\mathbin{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}}
28 %
29 \CustomizeMathJax{\newcommand{\circleddot}{\mathbin{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}}
30 \CustomizeMathJax{\let\overgroup\overparen}
31 \CustomizeMathJax{\let\overgroupupra\overrightarrow}
32 \CustomizeMathJax{\let\undergroup\underparen}
33 \CustomizeMathJax{\let\undergroupupla\overleftarrow}
34 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}{\overgroup{\#1}}}}
35 \CustomizeMathJax{\let\widearc\overparen}
36 \CustomizeMathJax{\let\wideOarc\overrightarrow}
37 \CustomizeMathJax{\newcommand{\LWRvstar}[2]{\overrightarrow{\#1}_{\#2}}}
38 \CustomizeMathJax{\newcommand{\vv}{\ifstar{\LWRvstar}{\overrightarrow{}}}}
39 %
40 \CustomizeMathJax{\let\smallintsl\smallint}
41 \CustomizeMathJax{\newcommand{\smalliintsl}{\mathop{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}\limits}
42 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}\limits}
43 \CustomizeMathJax{\newcommand{\smalliiiintsl}{\mathop{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}\limits}
44 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}\limits}
45 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}\limits}
46 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}\limits}
47 \CustomizeMathJax{\newcommand{\smallvarointclockwisesl}{\mathop{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}\limits}
48 \CustomizeMathJax{\newcommand{\smallointctr-clockwisesl}{\mathop{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}\limits}
49 \CustomizeMathJax{\newcommand{\smallsumintsl}{\mathop{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}\limits}
50 \CustomizeMathJax{\newcommand{\smallfintsl}{\mathop{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}\limits}
51 \CustomizeMathJax{\newcommand{\smallsqintsl}{\mathop{\text{\scriptsize\texttt{\{}}}\text{\scriptsize\texttt{\{}}}}\limits}
52 %

```

```
53 \CustomizeMathJax{\let\smallintup\smallint}
54 \CustomizeMathJax{\newcommand{\smallintup}{\mathop{\text{\scriptsize\texttt{unicode[x222C]}}}\limits}}
55 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\text{\scriptsize\texttt{unicode[x222D]}}}\limits}}
56 \CustomizeMathJax{\newcommand{\smalliiiintup}{\mathop{\text{\scriptsize\texttt{unicode[x2A0C]}}}\limits}}
57 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\text{\scriptsize\texttt{unicode[x222E]}}}\limits}}
58 \CustomizeMathJax{\newcommand{\smalllointup}{\mathop{\text{\scriptsize\texttt{unicode[x222F]}}}\limits}}
59 \CustomizeMathJax{\newcommand{\smallloiiintup}{\mathop{\text{\scriptsize\texttt{unicode[x2230]}}}\limits}}
60 \CustomizeMathJax{\newcommand{\smallvarointclockwiseup}{\mathop{\text{\scriptsize\texttt{unicode[x2232]}}}\limits}}
61 \CustomizeMathJax{\newcommand{\smallointctr-clockwiseup}{\mathop{\text{\scriptsize\texttt{unicode[x2233]}}}\limits}}
62 \CustomizeMathJax{\newcommand{\smallsumintup}{\mathop{\text{\scriptsize\texttt{unicode[x2A0B]}}}\limits}}
63 \CustomizeMathJax{\newcommand{\smallfintup}{\mathop{\text{\scriptsize\texttt{unicode[x2A0F]}}}\limits}}
64 \CustomizeMathJax{\newcommand{\smallsqintup}{\mathop{\text{\scriptsize\texttt{unicode[x2A16]}}}\limits}}
65 %
66 \CustomizeMathJax{\newcommand{\iint}{\mathop{\text{\scriptsize\texttt{unicode[x222C]}}}\limits}}
67 \CustomizeMathJax{\newcommand{\iiint}{\mathop{\text{\scriptsize\texttt{unicode[x222D]}}}\limits}}
68 \CustomizeMathJax{\newcommand{\iiiint}{\mathop{\text{\scriptsize\texttt{unicode[x2A0C]}}}\limits}}
69 \CustomizeMathJax{\newcommand{\oint}{\mathop{\text{\scriptsize\texttt{unicode[x222F]}}}\limits}}
70 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\text{\scriptsize\texttt{unicode[x2230]}}}\limits}}
71 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\text{\scriptsize\texttt{unicode[x2232]}}}\limits}}
72 \CustomizeMathJax{\newcommand{\ointctr-clockwise}{\mathop{\text{\scriptsize\texttt{unicode[x2233]}}}\limits}}
73 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\text{\scriptsize\texttt{unicode[x2A0B]}}}\limits}}
74 \CustomizeMathJax{\newcommand{\fint}{\mathop{\text{\scriptsize\texttt{unicode[x2A0F]}}}\limits}}
75 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\text{\scriptsize\texttt{unicode[x2A16]}}}\limits}}
76 %
77 \CustomizeMathJax{\let\intsl\int}
78 \CustomizeMathJax{\newcommand{\iintsl}{\mathop{\text{\scriptsize\texttt{unicode[x222C]}}}\limits}}
79 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\text{\scriptsize\texttt{unicode[x222D]}}}\limits}}
80 \CustomizeMathJax{\newcommand{\iiiintsl}{\mathop{\text{\scriptsize\texttt{unicode[x2A0C]}}}\limits}}
81 \CustomizeMathJax{\let\ointsl\oint}
82 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\text{\scriptsize\texttt{unicode[x222F]}}}\limits}}
83 \CustomizeMathJax{\newcommand{\oiinttsl}{\mathop{\text{\scriptsize\texttt{unicode[x2230]}}}\limits}}
84 \CustomizeMathJax{\newcommand{\varointclockwisesl}{\mathop{\text{\scriptsize\texttt{unicode[x2232]}}}\limits}}
85 \CustomizeMathJax{\newcommand{\ointctr-clockwisesl}{\mathop{\text{\scriptsize\texttt{unicode[x2233]}}}\limits}}
86 \CustomizeMathJax{\newcommand{\sumintsl}{\mathop{\text{\scriptsize\texttt{unicode[x2A0B]}}}\limits}}
87 \CustomizeMathJax{\newcommand{\fintsl}{\mathop{\text{\scriptsize\texttt{unicode[x2A0F]}}}\limits}}
88 \CustomizeMathJax{\newcommand{\sqintsl}{\mathop{\text{\scriptsize\texttt{unicode[x2A16]}}}\limits}}
89 %
90 \CustomizeMathJax{\let\intup\int}
91 \CustomizeMathJax{\newcommand{\iintup}{\mathop{\text{\scriptsize\texttt{unicode[x222C]}}}\limits}}
92 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\text{\scriptsize\texttt{unicode[x222D]}}}\limits}}
93 \CustomizeMathJax{\newcommand{\iiiintup}{\mathop{\text{\scriptsize\texttt{unicode[x2A0C]}}}\limits}}
94 \CustomizeMathJax{\let\ointup\oint}
95 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\text{\scriptsize\texttt{unicode[x222F]}}}\limits}}
96 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\text{\scriptsize\texttt{unicode[x2230]}}}\limits}}
97 \CustomizeMathJax{\newcommand{\varointclockwiseup}{\mathop{\text{\scriptsize\texttt{unicode[x2232]}}}\limits}}
98 \CustomizeMathJax{\newcommand{\ointctr-clockwiseup}{\mathop{\text{\scriptsize\texttt{unicode[x2233]}}}\limits}}
99 \CustomizeMathJax{\newcommand{\sumintup}{\mathop{\text{\scriptsize\texttt{unicode[x2A0B]}}}\limits}}
100 \CustomizeMathJax{\newcommand{\fintup}{\mathop{\text{\scriptsize\texttt{unicode[x2A0F]}}}\limits}}
101 \CustomizeMathJax{\newcommand{\sqintup}{\mathop{\text{\scriptsize\texttt{unicode[x2A16]}}}\limits}}
102 %
103 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\text{\scriptsize\texttt{unicode[x2A03]}}}\limits}}
104 \CustomizeMathJax{\newcommand{\bigcupplus}{\mathop{\text{\scriptsize\texttt{unicode[x2A04]}}}\limits}}
105 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\text{\scriptsize\texttt{unicode[x2A05]}}}\limits}}
106 %
```

```
107 %
108 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\backslash unicode{x2A09}}}}
109 \CustomizeMathJax{\let\varprod\bigtimes}
110 %

111 \CustomizeMathJax{\newcommand{\mappedfrom}{\mathrel{\backslash unicode{x021A4}}}}
112 \CustomizeMathJax{\let\mappedfromchar\mappedfrom}
113 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\backslash unicode{x021A4}}}}
114 \CustomizeMathJax{\newcommand{\longmappedfrom}{\mathrel{\backslash unicode{x027FB}}}}
115 %

116 \CustomizeMathJax{\newcommand{\Mapsto}{\mathrel{\backslash unicode{x02907}}}}
117 \CustomizeMathJax{\let\Mapstochar\Mapsto}
118 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\backslash unicode{x027FE}}}}
119 \CustomizeMathJax{\newcommand{\Mappedfrom}{\mathrel{\backslash unicode{x02906}}}}
120 \CustomizeMathJax{\let\Mappedfromchar\Mappedfrom}
121 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathrel{\backslash unicode{x02906}}}}
122 \CustomizeMathJax{\newcommand{\Longmappedfrom}{\mathrel{\backslash unicode{x27FD}}}}
123 %

124 \CustomizeMathJax{\newcommand{\medcirc}{\mathbin{\backslash unicode{x025CB}}}}
125 \CustomizeMathJax{\newcommand{\medbullet}{\mathbin{\backslash unicode{x025CF}}}}
126 \CustomizeMathJax{\newcommand{\varparallel}{\mathrel{\backslash unicode{x02AFD}}}}
127 \CustomizeMathJax{\newcommand{\varparallelinv}{\mathrel{\backslash unicode{x244A}}}}
128 \CustomizeMathJax{\newcommand{\nvarparallel}{\mathrel{\backslash LWOverlaysymbols{-}\backslash unicode{x02AFD}}}}
129 \CustomizeMathJax{\newcommand{\nvarparallelinv}{\mathrel{\backslash LWOverlaysymbols{-}\backslash unicode{x244A}}}}
130 %

131 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\backslash unicode{x02254}}}}
132 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\backslash unicode{x02255}}}}
133 %
134 \CustomizeMathJax{\newcommand{\Vdash}{\mathrel{\backslash unicode{x22AB}}}}

135 %
136 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\backslash unicode{x02AB3}}}}
137 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\backslash unicode{x02AB4}}}}
138 %
139 \CustomizeMathJax{\newcommand{\npresim}{\mathrel{\backslash LWOverlaysymbols{/}\backslash unicode{x0227E}}}}
140 \CustomizeMathJax{\newcommand{\nsuccsim}{\mathrel{\backslash LWOverlaysymbols{/}\backslash unicode{x0227F}}}}
141 \CustomizeMathJax{\newcommand{\nlesssim}{\mathrel{\backslash unicode{x02274}}}}
142 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\backslash unicode{x02275}}}}
143 %
144 %

145 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\backslash unicode{x02284}}}}
146 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\backslash unicode{x02285}}}}
147 \CustomizeMathJax{\newcommand{\notni}{\mathrel{\backslash unicode{x220C}}}}
148 \CustomizeMathJax{\let\notowns\notni}
149 %
150 \CustomizeMathJax{\newcommand{\nlessapprox}{\mathrel{\backslash LWOverlaysymbols{/}\backslash unicode{x02A85}}}}
151 \CustomizeMathJax{\newcommand{\ngtrapprox}{\mathrel{\backslash LWOverlaysymbols{/}\backslash unicode{x02A86}}}}
152 %
153 \CustomizeMathJax{\newcommand{\preccurlyeq}{\mathrel{\backslash LWOverlaysymbols{/}\backslash unicode{x0227C}}}}
```

```
154 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0227D}}}}}
155 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
156 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x2278}}}}
157 \CustomizeMathJax{\newcommand{\nbumpeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0224F}}}}}
158 \CustomizeMathJax{\newcommand{\nBumpeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0224E}}}}}
159 %
160 \CustomizeMathJax{\newcommand{\nbacksim}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0223D}}}}}
161 \CustomizeMathJax{\newcommand{\nbacksimeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x022CD}}}}}
162 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x226D}}}}
163 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x2262}}}}
164 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x2249}}}}
165 %
166 \CustomizeMathJax{\newcommand{\nll}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0226A}}}}}
167 \CustomizeMathJax{\newcommand{\ngg}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0226B}}}}}
168 \CustomizeMathJax{\newcommand{\nthickapprox}{%
169 \mathrel{\LWRoverlaysymbols{/}{\mathbf{\unicode{x02248}}}}}}
170 }
171 \CustomizeMathJax{\newcommand{\napproxeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0224A}}}}}
172 \CustomizeMathJax{\newcommand{\nprecapprox}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x02AB7}}}}}
173 \CustomizeMathJax{\newcommand{\nsuccapprox}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x02AB8}}}}}
174 \CustomizeMathJax{\newcommand{\npreceqq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x02AB3}}}}}
175 \CustomizeMathJax{\newcommand{\nsuccceqq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x02AB4}}}}}
176 \CustomizeMathJax{\newcommand{\nsimeq}{\mathrel{\unicode{x02244}}}}
177 %
178 \CustomizeMathJax{\newcommand{\nSubset}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x022D0}}}}}
179 \CustomizeMathJax{\newcommand{\nSupset}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x022D1}}}}}
180 \CustomizeMathJax{\newcommand{\nsqsubseteq}{\mathrel{\unicode{x022E2}}}}
181 \CustomizeMathJax{\newcommand{\nsqsupseteq}{\mathrel{\unicode{x022E3}}}}
182 %
183 \CustomizeMathJax{\newcommand{\coloneqq}{\mathrel{\unicode{x02254}}}}
184 \CustomizeMathJax{\newcommand{\eqqcolon}{\mathrel{\unicode{x02255}}}}
185 \CustomizeMathJax{\newcommand{\Coloneqq}{\mathrel{\unicode{x02A74}}}}
186 \CustomizeMathJax{\newcommand{\Coloneq}{\mathrel{\unicode{x2237}-}}}
187 \CustomizeMathJax{\newcommand{\Eqcolon}{\mathrel{-\unicode{x2237}}}}
188 %
189 \CustomizeMathJax{\newcommand{\lvec}[1]{\mathord{\overset{\unicode{x02190}}{\#1}}}}
190 \CustomizeMathJax{\newcommand{\lrvec}[1]{\mathord{\overset{\unicode{x2194}}{\#1}}}}
191 \CustomizeMathJax{\newcommand{\harpoonacc}[1]{\mathord{\overset{\unicode{x021C0}}{\#1}}}}
192 \CustomizeMathJax{\newcommand{\lharpoonacc}[1]{\mathord{\overset{\unicode{x021BC}}{\#1}}}}
193 \CustomizeMathJax{\newcommand{\lrharpoonacc}[1]{\mathord{\overset{\unicode{x0294E}}{\#1}}}}
194 \CustomizeMathJax{\newcommand{\barbar}[1]{\mathord{\overset{=}{\#1}}}}
195 \CustomizeMathJax{\newcommand{\bartilde}[1]{\mathord{\overset{\simeq}{\#1}}}}
196 \CustomizeMathJax{\newcommand{\barhat}[1]{\mathord{\hat{\bar{\#1}}}}}
197 \CustomizeMathJax{\newcommand{\tildebar}[1]{\mathord{\overset{\eqsim}{\#1}}}}
198 \CustomizeMathJax{\newcommand{\tilde tilde}[1]{\mathord{\overset{\approx}{\#1}}}}
199 \CustomizeMathJax{\newcommand{\tildehat}[1]{\mathord{\hat{\tilde{\#1}}}}}
200 \CustomizeMathJax{\newcommand{\hatbar}[1]{\mathord{\bar{\hat{\#1}}}}}
201 \CustomizeMathJax{\newcommand{\hattilde}[1]{\mathord{\tilde{\hat{\#1}}}}}
202 \CustomizeMathJax{\newcommand{\hathat}[1]{\mathord{\hat{\bar{\#1}}}}}
203 %
204 \CustomizeMathJax{\newcommand{\cdotB}{\mathord{\boldsymbol{\cdot}}}}
205 \CustomizeMathJax{\newcommand{\cdotBB}{\mathord{\mathbf{\cdot}}}}
206 \CustomizeMathJax{\newcommand{\circS}{\mathord{\boldsymbol{\circ}}}}
207 \CustomizeMathJax{\newcommand{\bulletSSS}{\mathord{\bullet}}}
208 \CustomizeMathJax{\newcommand{\bulletSS}{\mathord{\mathbf{\bullet}}}}
```

```
209 \CustomizeMathJax{\newcommand{\bulletS}{\mathord{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{2B24}}}}}}
210 \CustomizeMathJax{\newcommand{\primeS}{\prime}}
211
212 \CustomizeMathJax{\newcommand{\invamp}{\mathbin{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{214B}}}}}}
```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```
213 \CustomizeMathJax{\newcommand{\Lbag}{\mathopen{\large\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{27C5}}}}}}
214 \CustomizeMathJax{\newcommand{\Rbag}{\mathclose{\large\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{27C6}}}}}}
215 \CustomizeMathJax{\newcommand{\circledless}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{29C0}}}}}}
216 \CustomizeMathJax{\newcommand{\circledgtr}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{29C1}}}}}}
217 \CustomizeMathJax{\newcommand{\circledbslash}{\mathbin{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{29B8}}}}}}
```

  

```
218 \CustomizeMathJax{\newcommand{\lJoin}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{22C9}}}}}}
219 \CustomizeMathJax{\newcommand{\rJoin}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{22CA}}}}}}
220 \CustomizeMathJax{\newcommand{\lrJoin}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{2A1D}}}}}}
221
222 \CustomizeMathJax{\newcommand{\lrtimes}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{2A1D}}}}}}
223 \CustomizeMathJax{\newcommand{\Diamondblack}{\mathord{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{25C6}}}}}}
224 \CustomizeMathJax{\newcommand{\nplus}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{LWRoverlaysymbols}}}\{+\}\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{2229}}}}}}
225 \CustomizeMathJax{\newcommand{\nsqsubset}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{LWRoverlaysymbols}}}\{/}\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{222F}}}}}}
226 \CustomizeMathJax{\newcommand{\nsqsupset}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{LWRoverlaysymbols}}}\{/}\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{2229}}}}}}
227 \CustomizeMathJax{\newcommand{\dasharrow}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{21E2}}}}}}
228 \CustomizeMathJax{\newcommand{\Leftsquigarrow}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{21DC}}}}}}
229 \CustomizeMathJax{\newcommand{\ntwoheadrightarrow}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{2900}}}}}}
230 \CustomizeMathJax{\newcommand{\ntwoheadleftarrow}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{2B34}}}}}}
231 \CustomizeMathJax{\newcommand{\boxast}{\mathbin{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{29C6}}}}}}
232 \CustomizeMathJax{\newcommand{\boxbslash}{\mathbin{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{29C5}}}}}}
233 \CustomizeMathJax{\newcommand{\boxbar}{\mathbin{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{25EB}}}}}}
234 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{29C4}}}}}}
235
236 \CustomizeMathJax{\newcommand{\varclubsuit}{\mathord{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{2667}}}}}}
237 \CustomizeMathJax{\newcommand{\vardiamondsuit}{\mathord{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{2666}}}}}}
238 \CustomizeMathJax{\newcommand{\varheartsuit}{\mathord{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{2665}}}}}}
239 \CustomizeMathJax{\newcommand{\varspadesuit}{\mathord{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{2664}}}}}}
240
241 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{21D7}}}}}}
242 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{21D8}}}}}}
243 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{21D6}}}}}}
244 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{21D9}}}}}}
245 \CustomizeMathJax{\newcommand{\Top}{\mathord{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{2AEA}}}}}}
246 \CustomizeMathJax{\newcommand{\Bot}{\mathord{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{2AEB}}}}}}
247
248 \CustomizeMathJax{\newcommand{\leadstoext}{\mathrel{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{FF5E}}}}}}
249
250 \CustomizeMathJax{\newcommand{\sqcupplus}{\mathbin{\text{\kern-.1em\text{\tiny\texttt{LWRoverlaysymbols}}}\{+\}\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{2294}}}}}}
251 \CustomizeMathJax{\newcommand{\sqcapplus}{\mathbin{\text{\kern-.1em\text{\tiny\texttt{LWRoverlaysymbols}}}\{+\}\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{2293}}}}}}
252
253 \CustomizeMathJax{\newcommand{\dlb}{\mathopen{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{27E6}}}}}}
254 \CustomizeMathJax{\newcommand{\drb}{\mathopen{\text{\kern-.1em\text{\tiny\texttt{U}}}\kern-.1em\text{\kern-.1em\text{\tiny\texttt{27E7}}}}}}
255
256 \CustomizeMathJax{\newcommand{\varg}{\text{\kern-.1em\text{\tiny\texttt{g}}}}}
257 \CustomizeMathJax{\newcommand{\vary}{\text{\kern-.1em\text{\tiny\texttt{y}}}}}
258 \CustomizeMathJax{\newcommand{\varv}{\text{\kern-.1em\text{\tiny\texttt{v}}}}}
259 \CustomizeMathJax{\newcommand{\varw}{\text{\kern-.1em\text{\tiny\texttt{w}}}}}
```

```
260
261 \CustomizeMathJax{\newcommand{\nexistsAlt}{\mathord{\text{\!}\!\!\exists}}}
262 \CustomizeMathJax{\newcommand{\existsAlt}{\mathord{\text{\!}\!\!\exists}}}
263 \CustomizeMathJax{\newcommand{\forallAlt}{\mathord{\text{\!}\!\!\forall}}}
264 \CustomizeMathJax{\newcommand{\emptysetAlt}{\mathord{\text{\!}\!\!\emptyset}}}
265
266 \CustomizeMathJax{\newcommand{\uppartial}{\mathord{\text{\!}\!\!\partial}}}% not upright
267
268 \CustomizeMathJax{\let\vrmathbb\mathbb}
269 \CustomizeMathJax{\let\vmathbb\mathbb}
270 \CustomizeMathJax{\let\vvmathbb\mathbb}
271
272 \CustomizeMathJax{\let\smallprod\prod}
273 \CustomizeMathJax{\let\smallsum\sum}
274 \CustomizeMathJax{\let\smallcoprod\coprod}
275
276 \CustomizeMathJax{\newcommand{\openbox}{\mathord{\text{\!}\!\!\Box}}}
277 \CustomizeMathJax{\let\textsquare\openbox}

278 \CustomizeMathJax{\let\varemptyset\emptyset}
279 %
280 % for newpxmath:
281 \CustomizeMathJax{\newcommand{\mathsterling}{\mathord{\text{\!}\!\!\mathcal{L}}}}
282 \CustomizeMathJax{\newcommand{\mathcent}{\mathord{\text{\!}\!\!\mathcal{C}}}}
283
284 \end{warpMathJax}
```

File 572 **l warp-common-mathjax-nonunicode.sty**

§ 680 Package **common-mathjax-nonunicode**

*(Emulates or patches code by DANIEL FLIPO, MICHAEL SHARPE.)*

Pkg Common code used by `newpxmath`, `newtxmath`, `newtxsf`, `kpfonts-otf` for MATHJAX.  
nicode These are symbols not found in UNICODE.

Factored from `lwarp-common-mathjax-newptxmath`.

**for HTML output:** \ProvidesPackage{warp-common-mathjax-nonunicode}[2020/09/20]

For MATHJAX:



```
67 }}
68 \CustomizeMathJax{\newcommand{\multimapdotbothAvert}{%
69 \mathrel{\overset{\text{\scriptsize\texttt{unicode{x025CB}}}}{\underset{\text{\scriptsize\texttt{unicode{x025CF}}}}{|}}}}%
70 }}

71 \CustomizeMathJax{\newcommand{\bignplus}{%
72 \mathop{\text{\LWRoverlaysymbols{\scriptsize\texttt{FF0B}}}\text{\scriptsize\texttt{x22C2}}}}%
73 }}

74 \CustomizeMathJax{\let\bigcapplus\bignplus}
75 \CustomizeMathJax{\let\capplus\bignplus}%
76 \CustomizeMathJax{\let\capplus\bignplus}%
77 from kpfonts-otf

78 \CustomizeMathJax{\newcommand{\bigsqcapplus}{%
79 \mathop{\text{\LWRoverlaysymbols{\scriptsize\texttt{FF0B}}}\text{\scriptsize\texttt{x2A05}}}}%
80 }}

81 \CustomizeMathJax{\let\sqcupplus\bigsqcapplus}%
82 from kpfonts-otf

83 \CustomizeMathJax{\newcommand{\bigsqcupplus}{%
84 \mathop{\text{\LWRoverlaysymbols{\scriptsize\texttt{FF0B}}}\text{\scriptsize\texttt{x2A06}}}}%
85 }}

86 \CustomizeMathJax{\let\sqcupplus\bigsqcupplus}%
87 from kpfonts-otf

88 \CustomizeMathJax{\newcommand{\parallellslant}{\mathrel{\text{\scriptsize\texttt{unicode{x02AFD}}}}}}
89 \CustomizeMathJax{\newcommand{\parallelbackslant}{%
90 \mathrel{\text{\scriptsize\texttt{unicode{x0005C}}}\text{\scriptsize\texttt{!}}\text{\scriptsize\texttt{!}}\text{\scriptsize\texttt{unicode{x0005C}}}}}}%
91 }}

92 \CustomizeMathJax{\newcommand{\Eqqcolon}{\mathrel{=\!\text{\scriptsize\texttt{unicode{x2237}}}}}}
93 \CustomizeMathJax{\let\eqqColon\Eqqcolon}%
94 for kpfonts-otf

95 \CustomizeMathJax{\newcommand{\dashColon}{\mathrel{-\text{\scriptsize\texttt{unicode{x2237}}}}}}
96 \CustomizeMathJax{\newcommand{\Colondash}{\mathrel{\text{\scriptsize\texttt{unicode{x2237}}}-}}}

97 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{:\!\text{\scriptsize\texttt{approx}}}}}
98 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{:\!\text{\scriptsize\texttt{sim}}}}}
99 \CustomizeMathJax{\newcommand{\Colonapprox}{\mathrel{\text{\scriptsize\texttt{unicode{x2237}}}\text{\scriptsize\texttt{!}}\text{\scriptsize\texttt{approx}}}}}
100 \CustomizeMathJax{\newcommand{\Colonsim}{\mathrel{\text{\scriptsize\texttt{unicode{x2237}}}\text{\scriptsize\texttt{!}}\text{\scriptsize\texttt{sim}}}}}

102 \CustomizeMathJax{\newcommand{\strictif}{\mathrel{\text{\scriptsize\texttt{unicode{x0297D}}}}}}%
103 right fish tail
104 \CustomizeMathJax{\newcommand{\strictfi}{\mathrel{\text{\scriptsize\texttt{unicode{x0297C}}}}}}%
105 left fish tail
106 \CustomizeMathJax{\newcommand{\strictiff}{%
107 \mathrel{\text{\scriptsize\texttt{unicode{x0297C}}}\text{\scriptsize\texttt{!}}\text{\scriptsize\texttt{!}}\text{\scriptsize\texttt{unicode{x0297D}}}}}}%
108 left/right fish tails

109 \CustomizeMathJax{\newcommand{\circledwedge}{%
110 \mathbin{\text{\LWRoverlaysymbols{\scriptsize\texttt{025EF}}}\text{\scriptsize\texttt{x02227}}}}}
111 }}

112 \CustomizeMathJax{\newcommand{\circledvee}{%
113 \mathbin{\text{\LWRoverlaysymbols{\scriptsize\texttt{025EF}}}\text{\scriptsize\texttt{x02228}}}}}
114 }}

115 \CustomizeMathJax{\newcommand{\circledbar}{\mathbin{\text{\scriptsize\texttt{unicode{x029B6}}}}}

116 \CustomizeMathJax{\newcommand{\openJoin}{\mathrel{\text{\scriptsize\texttt{unicode{x2AA4}}}}}}%
117 overlapping >%
118 \CustomizeMathJax{\newcommand{\opentimes}{\mathrel{\text{\scriptsize\texttt{unicode{x2AA4}}}}}}%
119 overlapping >%
120 \CustomizeMathJax{\newcommand{\VvDash}{\mathrel{\text{\scriptsize\texttt{unicode{x22AA}}}}}}}

121
```

```
122 \CustomizeMathJax{\newcommand{\lambdabar}{%
123 \mathord{\LWRoverlaysymbols{\raise{.5ex}{-}}{\lambda}}%
124 }}
```

125

```
126 \CustomizeMathJax{\newcommand{\lambdaslash}{\mathord{\unicode{x019B}}}}
```

127

```
128 \CustomizeMathJax{\newcommand{\Wr}{\mathbin{\unicode{x02240}\!\unicode{x02240}}}}
```

129

```
130 \CustomizeMathJax{\newcommand{\dashleftrightarrow}{%
131 \mathrel{\unicode{x21E0}\!\unicode{x21E2}}%
132 }}
```

133 \CustomizeMathJax{\let\leftrighthasharrow\dashleftrightarrow% for kpfonts-otf

134

```
135 \end{warpMathJax}
```

File 573 **lwarp-common-mathjax-overlaysymbols.sty**

§ 681 Package **common-mathjax-overlaysymbols**

Pkg Common code used by a number of packages to overlay two symbols for MATHJAX.

## lwarp-common-mathjax-overlaysymbols

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-overlaysymbols}[2020/08/17]

`\LWRoverlaysymbols`     $\{symbol\}$   $\{symbol\}$   
Overlays one symbol over another.

```
2 \begin{warpMathJax}
3
4 \CustomizeMathJax{\newcommand{\LWRoverlaysymbols}{[2]{%
5 \mathord{%
6 \smash{%
7 \mathop{\#2\strut}%
8 \limits^{\smash{\lower3ex{\#1}}}}%
9 }%
10 \strut%
11 }%
12 }}%
13
14 \end{warpMathJax}
```

# Change History

## § 682 Chg Hist

---

For the most recent changes, see page [1339](#).

|          |                                                               |      |                                                                                      |          |
|----------|---------------------------------------------------------------|------|--------------------------------------------------------------------------------------|----------|
| v0.0.895 | General: <b>maybemath</b> : Added . . . . .                   | 947  | Test Suite: Assigned cleveref name<br>for Test Float. . . . .                        | 1        |
| v0.10    | General: 2016/03/08 Initial version . . . . .                 | 1    | Test Suite: Floatrow . . . . .                                                       | 1        |
| v0.11    | General: 2016/03/11 . . . . .                                 | 1    | General: 2016/04/06 . . . . .                                                        | 1        |
|          | Added section: Operating-System<br>portability. . . . .       | 224  | Added. . . . .                                                                       | 813      |
|          | Added section: Selecting the<br>operating system. . . . .     | 117  | Ampersand (&): Fixed handling when<br>passed as an argument. . . . .                 | 447      |
|          | Test Suite: MS-WINDOWS in<br>README.txt . . . . .             | 1    | Docs: Added warning icons for items<br>needing special attention. . . . .            | 201      |
|          | Test Suite: images and index in<br>README.txt . . . . .       | 1    | Docs: Clarify print/HTML output. .                                                   | 117      |
| v0.12    | \LWR@newhtmlfile: Bugfix: toc with<br>numbered files. . . . . | 391  | Docs: Moved the supported features<br>table to the introduction. . . . .             | 66       |
|          | General: 2016/03/14 . . . . .                                 | 1    | Files: l warp_formal.css added. . . . .                                              | 1        |
|          | Global: Uses \p@{type} in float<br>captions. . . . .          | 1    | Fix: steps counter . . . . .                                                         | 813      |
|          | Test Suite: Sub-figures . . . . .                             | 1    | Fixed & handling. . . . .                                                            | 811      |
| v0.13    | \CaptionSeparator: Fix for newer<br>babel package. . . . .    | 517  | Test Suite: test_suite_formal.css file<br>added. . . . .                             | 1        |
|          | \LWR@LwarpStart: \up and \fup . . .                           | 410  | v0.16                                                                                |          |
|          | General: 2016/03/24 . . . . .                                 | 1    | General: 2016/04/11 . . . . .                                                        | 1        |
|          | Fix dollar-redefined bug for newer<br>package. . . . .        | 1173 | \titlingpage: Improved<br>print-output spacing. . . . .                              | 419      |
|          | Removed package: subfig . . . . .                             | 1    | xfrac: Adjusted for the use of any<br>font. . . . .                                  | 1238     |
|          | Test Suite: Ordinals, Subcaption . . . . .                    | 1    | Added XeLaTeX, LuaLaTeX support. .                                                   | 202      |
| v0.14    | \LWR@htmlsectionfilename: Fix:<br>Links to home page. . . . . | 343  | Docs: Font and UTF-8 support. .                                                      | 101      |
|          | General: 2016/03/31 . . . . .                                 | 1    | Docs: Moved location of<br>\usepackage{l warp}. . . . .                              | 104      |
|          | \floatrow: Added. . . . .                                     | 809  | Docs: Text not converting. . . . .                                                   | 193      |
|          | Docs: Commands for a successful<br>HTML conversion. . . . .   | 121  | Lwarp no longer selects fonts. .                                                     | 101, 235 |
|          | Docs: Commands into a warpprint<br>environment. . . . .       | 118  | Removed package: suffix . . . . .                                                    | 1        |
|          | Docs: Newclude limitations. . . . .                           | 172  | Test Suite: Improved titlingpage. .                                                  | 419      |
|          | Docs: Table: Cross-referencing data<br>structures. . . . .    | 500  | Test Suite: Lwarp no longer selects<br>fonts. . . . .                                | 1        |
|          | Docs: Table: Float data structures. .                         | 513  | Test Suite: Supports XeLaTeX,<br>LuaLaTeX. . . . .                                   | 1        |
|          | Docs: Trademarks section. . . . .                             | 198  | v0.17                                                                                |          |
|          | Docs: Troubleshooting<br>cross-references. . . . .            | 193  | \LWR@htmlsectionfilename: Fix:<br>Links when entire doc is one HTML<br>page. . . . . | 343      |
|          |                                                               |      | General: 2016/04/14 . . . . .                                                        | 1        |
|          |                                                               |      | \mdframed: Added. . . . .                                                            | 947      |
|          |                                                               |      | Test Suite: Fix: Print-version<br>front-matter page numbers. . . . .                 | 1        |
|          |                                                               |      | Test Suite: Mdframed . . . . .                                                       | 1        |

|       |                                                                                              |
|-------|----------------------------------------------------------------------------------------------|
| v0.18 | \LWR@myshorttoc: Reorganize<br>\HomeHTMLfilename logic. . . . . 522                          |
|       | \LWR@newhtmlfile: sidetoc after title,<br>improving responsive design. . . . . 390           |
|       | \LWR@requeststoc: Reorganize<br>\HomeHTMLfilename logic. . . . . 412                         |
|       | \LWR@subhyperref: Improved HTML<br>output linebreaks. . . . . 510                            |
|       | \LWR@subhyperrefclass: Improved<br>HTML output linebreaks. . . . . 510                       |
|       | \LWR@subinlineimage: Suppress extra<br>space. . . . . 512                                    |
|       | \hspace: \hspace supported. . . . . 615                                                      |
|       | General: 2016/05/19 . . . . . 1                                                              |
|       | graphics: Add: svg file extension. . . 845                                                   |
|       | graphics: Fix: \linewidth,<br>\textwidth, \textheight inside a<br>minipage. . . . . 845      |
|       | graphics: Improved HTML output<br>linebreaks. . . . . 845                                    |
|       | graphics: em, ex, %, px dimensions<br>preserved. . . . . 845                                 |
|       | File: l warp.css: Improved toc outline<br>display. . . . . 1                                 |
|       | Files: l warp.css and l warp_formal.css:<br>Improved responsive design. . . . . 1            |
|       | Microtype disabled during HTML<br>generation . . . . . 236                                   |
|       | PDF Unicode input characters. . . . . 218                                                    |
|       | Test Suite: Verse package . . . . . 1                                                        |
|       | \textheight: pdfcrop: --hires added. . . 574                                                 |
|       | Reorganize \HomeHTMLfilename<br>logic. . . . . 574                                           |
|       | Suppress extra space. . . . . 574                                                            |
|       | verse: Supports verse, memoir<br>packages. . . . . 1215                                      |
|       | minipage: Fix: \linewidth,<br>\textwidth, \textheight inside a<br>minipage. . . . . 594      |
| v0.19 | \HTMLfilename: Docs: Escape filename<br>underscores. . . . . 342                             |
|       | \HomeHTMLfilename: Docs: Escape<br>filename underscores. . . . . 342                         |
|       | \LWR@LwarpStart: Enabled \\ equal to<br>\newline. . . . . 409                                |
|       | \LWR@doequation: MATHJAX support. 562                                                        |
|       | \LWR@doubledollar: MATHJAX<br>support. . . . . 555                                           |
|       | \LWR@filestart: l warp_mathjax.txt<br>loaded. . . . . 406                                    |
|       | \LWR@minipagestartpars: Suppresses<br>paragraph tags between minipages. 614                  |
|       | \LWR@subsingle dollar: MATHJAX<br>support. . . . . 553                                       |
|       | \LateximageFontSizeName: Add:<br>User-adjustable math/latexitimage<br>font size. . . . . 571 |
|       | \hspace: Fix: \hspace length<br>computations. . . . . 615                                    |
|       | \minipagewidth: Added: No<br>width tag for the next minipage in<br>HTML. . . . . 593         |
|       | \warpHTMLonly: Added. . . . . 233                                                            |
|       | \warpprintonly: Replaces<br>\rowprintedonly. . . . . 233                                     |
|       | \xfracHTMLfontsize: Added. . . . . 1237                                                      |
|       | General: 2016/06/08 . . . . . 1                                                              |
|       | css for table note item. . . . . 1170                                                        |
|       | MATHJAX support added. . . . . 559, 566, 567                                                 |
|       | multirow: Added optional args. . . . . 979                                                   |
|       | xcolor: Supports colored \rule. . . . . 1228                                                 |
|       | Adapts to tikz version. . . . . 1173                                                         |
|       | Avoids MATHJAX. . . . . 546                                                                  |
|       | cleveref: Loaded \AtEndPreamble. 590                                                         |
|       | Docs: Math options. . . . . 104                                                              |
|       | Docs: Table: Cross-referencing data<br>structures, updated. . . . . 500                      |
|       | File: l warp.css: tnoteitemheader<br>added. . . . . 1                                        |
|       | File: l warp_mathjax.txt added. . . . . 1                                                    |
|       | Introduction: MATHJAX support<br>mentioned. . . . . 63                                       |
|       | Options: mathsvg and mathjax . . . . . 227                                                   |
|       | titles: null \pagestyle and<br>\thispagestyle for HTML. . . . . 1174                         |
|       | v0.20                                                                                        |
|       | \BlockClassSingle: Renamed from<br>"\LWR@htmldivclassname". . . . . 358                      |
|       | \HTMLDescription: Added<br>\NewHTMLdescription. (Renamed<br>in v0.30.) . . . . . 369         |
|       | \HTMLfilename: No longer escape<br>underscores. . . . . 342                                  |
|       | \HomeHTMLfilename: No longer escape<br>underscores. . . . . 342                              |
|       | \InlineClass: Renamed from<br>"inlineclass". . . . . 359                                     |
|       | \LWR@closeparagraph: \unskip extra<br>spaces. . . . . 363                                    |
|       | No break tags in the start/end of a<br>tabular. . . . . 363                                  |
|       | \LWR@endofline: Fix: \\ . . . . . 614                                                        |
|       | \LWR@filestart: Adds meta<br>description. . . . . 406                                        |
|       | \LWR@htmldivclass: Added optional<br>style. . . . . 357                                      |

|                                                                                                  |      |
|--------------------------------------------------------------------------------------------------|------|
| \LWR@htmlelementclass: Added optional style.                                                     | 356  |
| \LWR@htmlsectionfilename: HTMLfilename: removed additional trailing ‘-’, and may be empty.       | 343  |
| Sections called “Index” or “index” have an underscore prepended to their filenames if no prefix. | 343  |
| \LWR@hyperindexrefsubtwo: Print mode provided in case <code>hyperref</code> not used.            | 537  |
| \LWR@longtabledatacaptiontag: Fix: Pars in captions.                                             | 484  |
| \LWR@section: Combined higher-level sections together into files.                                | 397  |
| \LWR@setOSWindows: Auto-detects operating system.                                                | 226  |
| \LWR@subhtmlelementclass: Factored code.                                                         | 356  |
| \SetHTMLFileNumber: Add: Control file numbers.                                                   | 342  |
| \cpagerefFor: User-redefinable word for page references.                                         | 741  |
| \dotfill: Inserts an ellipsis.                                                                   | 614  |
| \hfill: Inserts a \quad.                                                                         | 613  |
| \hrulefill: Inserts a short rule.                                                                | 613  |
| \hspace: Add: Supports HTML thin breakable space.                                                | 615  |
| \pageref: Added.                                                                                 | 508  |
| \tracingl warp: Added.                                                                           | 250  |
| General: 2017/02/09                                                                              | 1    |
| afterpage: Added.                                                                                | 644  |
| alltt: Added.                                                                                    | 649  |
| bookmark: Added.                                                                                 | 689  |
| caption and subcaption supported.                                                                | 1    |
| cleveref and referencing patches: Applied \AfterEndPreamble.                                     | 740  |
| draftwatermark: Added.                                                                           | 757  |
| eso-pic: Added.                                                                                  | 779  |
| everypage: Added.                                                                                | 783  |
| extramarks: Added.                                                                               | 784  |
| fancyhdr: Added.                                                                                 | 790  |
| float: Improved float caption type handling.                                                     | 806  |
| graphics: Fix: Expands filename.                                                                 | 845  |
| graphics: Fix: \linewidth in a floatrow.                                                         | 845  |
| hyperref: Additional user macros.                                                                | 857  |
| keyfloat: Added.                                                                                 | 883  |
| letterspace: User-interface emulated.                                                            | 896  |
| listings: Added.                                                                                 | 907  |
| ltcaption: Added.                                                                                | 918  |
| l warp-newproject: Added.                                                                        | 262  |
| v0.21                                                                                            |      |
| \LWR@L warpStart: Changed lateximages to a .txt file.                                            | 409  |
| \LWR@filestart: Skip title if not given.                                                         | 406  |
| \LWR@newhtmlfile: Skip title if not given.                                                       | 390  |
| \marginpar: Fixed source listing.                                                                | 376  |
| \marginparBlock: Fixed source listing.                                                           | 377  |
| General: 2017/02/23                                                                              | 1    |
| fontenc: Added.                                                                                  | 818  |
| l warpmk: Fix: <code>l warpmk again</code> for WINDOWS.                                          | 316  |
| microtype: User-interface emulated.                                                              | 964  |
| needspace: Added.                                                                                | 990  |
| nowidow: Added.                                                                                  | 1007 |
| placeins: Added.                                                                                 | 1043 |
| ragged2e: Added.                                                                                 | 1052 |
| setspace: Improved support.                                                                      | 1077 |
| textpos: Added.                                                                                  | 1162 |
| titleps: Added.                                                                                  | 1174 |
| titlesec: Added.                                                                                 | 1177 |
| titletoc: Added.                                                                                 | 1179 |
| titling: Improved compatibility.                                                                 | 1181 |
| tocloft: Added.                                                                                  | 1189 |
| wallpaper: Added.                                                                                | 1220 |
| wrapfig: Added.                                                                                  | 1223 |
| xetexko: Added.                                                                                  | 1236 |
| Added @, <, > columns.                                                                           | 440  |
| Added single-expansion data arrays.                                                              | 338  |
| Code factored into independent l warp_html files.                                                | 632  |
| Docs: Examples for generating HTML file names.                                                   | 115  |
| Docs: Improved index.                                                                            | 1    |
| Enhanced titling support.                                                                        | 417  |
| File: l warp.css: Minor fixes for validation.                                                    | 1    |
| File: l warpmk used to compile print, HTML, indexes, and lateximages.                            | 1    |
| Fix: \linewidth in a floatrow.                                                                   | 811  |
| Moved sidebar and example code to test suite.                                                    | 1    |
| Page geometry set to 6in wide with large margins.                                                | 236  |
| Parallel versions of aux files for print/HTML.                                                   | 1    |
| Removed reliance on make, grep, gawk.                                                            | 1    |
| Tabular: \unskip extra spaces.                                                                   | 440  |
| Test Suite: HTML meta descriptions.                                                              | 1    |
| verbatim: Added.                                                                                 | 429  |
| BlockClass: Added optional style.                                                                | 358  |
| Renamed from “blockclass”.                                                                       | 358  |
| LWR@nestspan: Fix: Minipages inside a span.                                                      | 353  |

|                                                                                                                 |          |                                                                                                                                 |          |
|-----------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------|----------|
| <i>lwarpmk</i> : Fix: <b>lwarpmk</b> <b>limages</b> for<br>WINDOWS. . . . .                                     | 316      | tikz: For tikz v3.0.0 or later,<br>auto-loads tikz babel library if<br>necessary. . . . .                                       | 1172     |
| <i>lwarpmk</i> : Fix: <i>lwarpmk</i> uses<br><i>latexitimages</i> text file instead of<br>shell script. . . . . | 316      | Docs: Filename underscore. . . . .                                                                                              | 104, 124 |
| Add: Errors for misplaced packages. . . . .                                                                     | 202      | Fix for inline images. . . . .                                                                                                  | 1173     |
| Docs: Added <i>internet</i> class. . . . .                                                                      | 73       | No longer preloads <i>subcaption</i> ;<br>conflicted with <i>subfig</i> . . . . .                                               | 240      |
| Docs: Added TeX2page, GladTeX. . . . .                                                                          | 73       | picture: Fix for inline images. . . . .                                                                                         | 591      |
| Docs: Installing on WINDOWS. . . . .                                                                            | 79       |                                                                                                                                 |          |
| File: <i>l warp_tutorial.txt</i> added. . .                                                                     | 83       |                                                                                                                                 |          |
| v0.22                                                                                                           |          |                                                                                                                                 |          |
| \LWR@parseDcolumn: Added tabular D<br>column. . . . .                                                           | 456      | \LWR@loadnever: Added the ability to<br>prevent conflicting packages. . . . .                                                   | 204      |
| \LWR@parsebangcolumn: Added tabular<br>! column. . . . .                                                        | 452      | \addcontentsline: Handles theorems. . . . .                                                                                     | 520      |
| \LWR@parsetablecols: Unknown table<br>column types become l. Added<br>tabular D, !, X columns. . . . .          | 460      | General: 2016/03/22 . . . . .                                                                                                   | 1        |
| \LWR@printmccoldata: Added tabular<br>D, !, and X columns. . . . .                                              | 479      | amsthm: Added. . . . .                                                                                                          | 654      |
| General: 2017/03/02 . . . . .                                                                                   | 1        | ellipsis: Added. . . . .                                                                                                        | 763      |
| abstract: Added. . . . .                                                                                        | 634      | emptytype: Added. . . . .                                                                                                       | 764      |
| changepage: Added. . . . .                                                                                      | 704      | framed: Added. . . . .                                                                                                          | 824      |
| dcolumn: Added. . . . .                                                                                         | 752      | lips: Added. . . . .                                                                                                            | 906      |
| ftnright: Added. . . . .                                                                                        | 827      | mdframed: Help avoid hyphenation. . . . .                                                                                       | 949      |
| geometry: Nullified commands. . . . .                                                                           | 832      | ntheorem: Added. . . . .                                                                                                        | 1007     |
| layout: Added. . . . .                                                                                          | 892      | showidx: Added. . . . .                                                                                                         | 1079     |
| lscape: Added. . . . .                                                                                          | 917      | theorem: Added. . . . .                                                                                                         | 1163     |
| mcaption: Added. . . . .                                                                                        | 947      | Basic L <sup>A</sup> T <sub>E</sub> X theorems: improved css. . . . .                                                           | 429      |
| nameref: Added. . . . .                                                                                         | 986      | Docs: Adds credits for patched code. . . . .                                                                                    | 1        |
| nextpage: Added. . . . .                                                                                        | 993      | Docs: Testing <i>l warp</i> . . . . .                                                                                           | 189      |
| parskip: Added. . . . .                                                                                         | 1028     | Fix: Allows XE <sup>A</sup> L <sub>E</sub> X and Lua <sup>A</sup> L <sub>E</sub> X to<br>preload graphics and graphicx. . . . . | 206      |
| showkeys: Added. . . . .                                                                                        | 1080     |                                                                                                                                 |          |
| sidecap: Added. . . . .                                                                                         | 1081     |                                                                                                                                 |          |
| tabularx: Added. . . . .                                                                                        | 1145     |                                                                                                                                 |          |
| varioref: Supported. . . . .                                                                                    | 130      |                                                                                                                                 |          |
| verse: Added. . . . .                                                                                           | 1214     |                                                                                                                                 |          |
| v0.23                                                                                                           |          |                                                                                                                                 |          |
| \LWR@parsetablecols: Fix for vert bar<br>column type. . . . .                                                   | 460      | General: 2017/03/31 . . . . .                                                                                                   | 1        |
| \LWR@printmccoldata: Fix for vert bar<br>column type. . . . .                                                   | 479      | \l warp.css: Improved responsive<br>marginpar and marginblock. . . . .                                                          | 269      |
| General: 2017/03/02 . . . . .                                                                                   | 1        | cutwin: Added. . . . .                                                                                                          | 751      |
| v0.24                                                                                                           |          |                                                                                                                                 |          |
| \LWR@htmlfileref: Fix: Index links<br>while \tracingl warp. . . . .                                             | 503      | endnotes: Added. . . . .                                                                                                        | 765      |
| \hspace: Add: \hspace \fill converts<br>to 2em . . . . .                                                        | 615      | floatflt: Added. . . . .                                                                                                        | 807      |
| \hypertocfloat: List of floats<br>responds to lofdepth, lotdepth. . . . .                                       | 528      | footmisc: Added. . . . .                                                                                                        | 819      |
| General: 2017/03/15 . . . . .                                                                                   | 1        | footnotehyper: Added. . . . .                                                                                                   | 821      |
| floatrow: Support for <i>subfig</i> . . . . .                                                                   | 809      | footnote: Added. . . . .                                                                                                        | 820      |
| subfig: Added. . . . .                                                                                          | 1135     | marginfix: Added. . . . .                                                                                                       | 930      |
| v0.25                                                                                                           |          |                                                                                                                                 |          |
| tikz: For tikz v3.0.0 or later,<br>auto-loads tikz babel library if<br>necessary. . . . .                       | 1172     | marginnote: Added. . . . .                                                                                                      | 930      |
| Docs: Filename underscore. . . . .                                                                              | 104, 124 | mparhack: Added. . . . .                                                                                                        | 974      |
| Fix for inline images. . . . .                                                                                  | 1173     | pagenote: Supported as-is. . . . .                                                                                              | 1022     |
| No longer preloads <i>subcaption</i> ;<br>conflicted with <i>subfig</i> . . . . .                               | 240      | sidenotes: Added. . . . .                                                                                                       | 1082     |
| picture: Fix for inline images. . . . .                                                                         | 591      | Docs: Improved MiK <sup>T</sup> E <sub>X</sub> install<br>instructions. . . . .                                                 | 78, 80   |
| v0.26                                                                                                           |          |                                                                                                                                 |          |
| Dollar span avoided in a <i>latexitimage</i> . . . . .                                                          | 546      | Footnotes now are L <sup>A</sup> T <sub>E</sub> X boxes<br>instead of <i>pagenotes</i> . . . . .                                | 371      |
| Footnotes now are L <sup>A</sup> T <sub>E</sub> X boxes<br>instead of <i>pagenotes</i> . . . . .                | 371      | latexitimage: Labels track page numbers<br>of <i>latexitimages</i> . . . . .                                                    | 574      |
| General: 2017/03/31 . . . . .                                                                                   | 1        | Print mode now uses a <i>minipage</i> of<br>\ linewidth. . . . .                                                                | 574      |
| v0.27                                                                                                           |          |                                                                                                                                 |          |
| \lWR@footnotetext: Fix for table<br>footnote par tags. . . . .                                                  | 372      | picture: Fix for \makebox in <i>picture</i> . . . . .                                                                           | 591      |

|                                                                                                                                                                             |      |                                                        |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------|-----|
| General: 2017/04/04 . . . . .                                                                                                                                               | 1    | Forced oneside to maintain large right margin. . . . . | 236 |
| <code>letrine</code> : Added. . . . .                                                                                                                                       | 896  |                                                        |     |
| <code>microtype</code> : Fix with Xe <sup>L</sup> A <sub>T</sub> E <sub>X</sub> ,<br>Lua <sup>L</sup> A <sub>T</sub> E <sub>X</sub> . . . . .                               | 964  |                                                        |     |
| <code>soul</code> : Added. . . . .                                                                                                                                          | 1114 |                                                        |     |
| <code>ulem</code> : Added. . . . .                                                                                                                                          | 1204 |                                                        |     |
| Docs: Installing utilities for MACOS. .                                                                                                                                     | 81   |                                                        |     |
| Docs: Limitations of saveboxes. . .                                                                                                                                         | 124  |                                                        |     |
| Page geometry modified to reduce<br>line overflow. . . . .                                                                                                                  | 236  |                                                        |     |
| <b>v0.28</b>                                                                                                                                                                |      |                                                        |     |
| <code>\@wrindex</code> : Improved indexing. . . . .                                                                                                                         | 532  |                                                        |     |
| <code>\HTMLAuthor</code> : Added <code>\HTMLauthor</code> .<br>(Renamed in v0.30.) . . . . .                                                                                | 369  |                                                        |     |
| <code>\LWR@LwarpEnd</code> : If FormatEPUB or<br>FormatWP, no bottom nav. . . . .                                                                                           | 412  |                                                        |     |
| <code>\LWR@LwarpStart</code> :<br>FormatWordProcessor forces<br>single-file output. . . . .                                                                                 | 409  |                                                        |     |
| <code>\LWR@filestart</code> : Adds HTML meta<br>author. . . . .                                                                                                             | 406  |                                                        |     |
| <code>\LWR@forcenewpage</code> : Forces new PDF<br>page before major environments. .                                                                                        | 349  |                                                        |     |
| <code>\LWR@htmlcomment</code> : Breaks ligatures in<br>HTML comments. . . . .                                                                                               | 355  |                                                        |     |
| <code>\LWR@hyperindexrefsubtwo</code> :<br>Improved indexing. . . . .                                                                                                       | 537  |                                                        |     |
| <code>\LWR@newhtmlfile</code> : If FormatEPUB or<br>FormatWP, skips headers, footers,<br>nav. . . . .                                                                       | 390  |                                                        |     |
| <code>\LWR@parsetablecols</code> : Added L, C, R,<br>J column types. . . . .                                                                                                | 460  |                                                        |     |
| <code>\LWR@startref</code> : Removed space. . .                                                                                                                             | 506  |                                                        |     |
| <code>\chapter</code> : If EPUB, prints footnotes<br>before each section. . . . .                                                                                           | 404  |                                                        |     |
| <code>\textup</code> : Fixed span class. . . . .                                                                                                                            | 604  |                                                        |     |
| General: 2017/04/14 . . . . .                                                                                                                                               | 1    |                                                        |     |
| <code>glossaries</code> : Added. . . . .                                                                                                                                    | 836  |                                                        |     |
| <code>graphics</code> : Adapts to <code>graphics</code> syntax. .                                                                                                           | 845  |                                                        |     |
| <code>graphics</code> : Added. . . . .                                                                                                                                      | 837  |                                                        |     |
| <code>tabularx</code> : Fix for optional pos. . .                                                                                                                           | 1145 |                                                        |     |
| <code>tabulary</code> : Added. . . . .                                                                                                                                      | 1146 |                                                        |     |
| <code>lwarpmk</code> : Add: <b>printglossary</b> and<br><b>htmlglossary</b> commands. . . . .                                                                               | 316  |                                                        |     |
| Added boolean FormatEPUB. . . . .                                                                                                                                           | 255  |                                                        |     |
| Added boolean FormatWP. . . . .                                                                                                                                             | 256  |                                                        |     |
| Added boolean HTMLDebugComments. .                                                                                                                                          | 250  |                                                        |     |
| Added boolean HTMLMarkFloats,<br>changed to WPMarkFloats as of<br>v0.42. . . . .                                                                                            | 256  |                                                        |     |
| Docs: Modfying lwarpmk and index<br>processing. . . . .                                                                                                                     | 189  |                                                        |     |
| File: <code>lwarpmathjax.txt</code> : Updated<br>CDN repository. . . . .                                                                                                    | 312  |                                                        |     |
| <b>v0.29</b>                                                                                                                                                                |      |                                                        |     |
| General: 2017/04/15 . . . . .                                                                                                                                               | 1    |                                                        |     |
| <code>*.lwarpmkconf</code> : Add: language<br>option for config files. . . . .                                                                                              | 269  |                                                        |     |
| <code>lwarpmk.conf</code> : Add: language<br>option for config files. . . . .                                                                                               | 269  |                                                        |     |
| <code>graphics</code> : Fix: Error when no<br>optional arguments. . . . .                                                                                                   | 845  |                                                        |     |
| <code>lwarpmk</code> : Add: language option for<br>config files. . . . .                                                                                                    | 316  |                                                        |     |
| Add: <code>lwarpmklang</code> option for <code>l warp</code> . .                                                                                                            | 228  |                                                        |     |
| Docs: Using a glossary . . . . .                                                                                                                                            | 94   |                                                        |     |
| <b>v0.30</b>                                                                                                                                                                |      |                                                        |     |
| <code>\CSSFilename</code> : Renamed from<br><code>\NewCSS</code> . . . . .                                                                                                  | 368  |                                                        |     |
| <code>\HTMLAuthor</code> : Renamed from<br><code>\HTMLauthor</code> . . . . .                                                                                               | 369  |                                                        |     |
| <code>\HTMLDescription</code> : Renamed from<br><code>\NewHTMLdescription</code> . . . . .                                                                                  | 369  |                                                        |     |
| <code>\HTMLFirstPageTop</code> : Renamed from<br><code>\SetFirstPageTop</code> . . . . .                                                                                    | 367  |                                                        |     |
| <code>\HTMLLanguage</code> : Renamed from<br><code>\MetaLanguage</code> . . . . .                                                                                           | 405  |                                                        |     |
| <code>\HTMLPageBottom</code> : Renamed from<br><code>\SetPageBottom</code> . . . . .                                                                                        | 367  |                                                        |     |
| <code>\HTMLPageTop</code> : Renamed from<br><code>\SetPageTop</code> . . . . .                                                                                              | 367  |                                                        |     |
| General: 2017/04/29 . . . . .                                                                                                                                               | 1    |                                                        |     |
| <code>l warp-newproject</code> removed, and<br>combined with <code>l warp</code> . . . . .                                                                                  | 262  |                                                        |     |
| <code>lwarpmk</code> : Add: <code>xdyfile</code><br>configuration option. . . . .                                                                                           | 316  |                                                        |     |
| <code>lwarpmk</code> : Fix: <code>xindy</code> and <code>texindy</code><br>adjusted for <code>pdflatex</code> , <code>xelatex</code> and<br><code>lualatex</code> . . . . . | 316  |                                                        |     |
| <code>lwarpmk</code> : Fix: <code>xindy</code> now used for<br>print index generation with<br><code>latextmk</code> . . . . .                                               | 316  |                                                        |     |
| <code>lwarpmk</code> : language now used for<br>both index and glossary generation. .                                                                                       | 316  |                                                        |     |
| File: <code>lwarpm_html.xdy</code> renamed to<br><code>lwarpm.xdy</code> . . . . .                                                                                          | 311  |                                                        |     |
| Fix: <code>*.css</code> files only written in print<br>mode. . . . .                                                                                                        | 269  |                                                        |     |
| Fix: <code>lwarpm.xdy</code> only written in print<br>mode. . . . .                                                                                                         | 311  |                                                        |     |
| Fix: <code>lwarpm_mathjax.txt</code> : Only<br>written in print mode. . . . .                                                                                               | 312  |                                                        |     |
| Option <code>lwarpmklang</code> changed to<br><code>IndexLanguage</code> . . . . .                                                                                          | 228  |                                                        |     |
| Option <code>OSWindows</code> replaces macro<br><code>\warpOSwindows</code> . . . . .                                                                                       | 229  |                                                        |     |
| Option <code>xdyfilename</code> added. . . . .                                                                                                                              | 228  |                                                        |     |

|                                                                                                                |          |
|----------------------------------------------------------------------------------------------------------------|----------|
| Option <i>latexmk</i> replaces macro<br>\UseLatexmk. . . . .                                                   | 230      |
| Options HomeHTMLFilename and<br>HTMLFilename replace macros<br>\HomeHTMLFilename and<br>\HTMLFilename. . . . . | 229      |
| v0.31                                                                                                          |          |
| General: 2017/05/15 . . . . .                                                                                  | 1        |
| keyfloat: Improved compatibility.                                                                              | 883      |
| v0.32                                                                                                          |          |
| \RequirePackage: Fix: Ignores blanks<br>in package list. . . . .                                               | 244      |
| General: 2016/06/09 . . . . .                                                                                  | 1        |
| glossaries: Prevent error with<br>\glo@name not defined. . . . .                                               | 538      |
| lwarpmk: Fix: <b>io.lines()</b> changed<br>to <b>file:lines()</b> due to <i>luatex</i><br>changes. . . . .     | 316      |
| v0.33                                                                                                          |          |
| \HTMLAuthor: Fix: Provides empty<br>default author if none given. . . . .                                      | 369      |
| \LWR@loadbefore: Fix: No<br>\PackageError if already loaded. . . . .                                           | 204      |
| \LWR@parseatcolumn: Fix: Column<br>alignment with leftmost @. . . . .                                          | 451      |
| \LWR@tabledatasinglecolumntag:<br>Fix: Macros in tabular could cause<br>extra data cell. . . . .               | 466      |
| \LWR@vspace: Add: \vspace nullified. . . . .                                                                   | 617      |
| \StartDefiningTabulars: Add:<br>Avoids error: Misplaced<br>alignment tab character &. . . . .                  | 339      |
| General: 2017/07/10 . . . . .                                                                                  | 1        |
| amsmath: Removed fleqn option. . . . .                                                                         | 650      |
| fancyhdr: Fix: Optional args for<br>\lhead, etc. . . . .                                                       | 790      |
| Add: Tabular at and bang columns<br>now have their own HTML columns. . . . .                                   | 440      |
| cleveref: Fix: Loaded<br>\AtEndPreamble. . . . .                                                               | 590      |
| Fix: Incorrectly-inline math<br>environments. . . . .                                                          | 567      |
| New handling of & to localize catcode<br>changes. . . . .                                                      | 440      |
| v0.34                                                                                                          |          |
| @\fnssymbol: Text symbols instead of<br>math. . . . .                                                          | 420      |
| \InlineClass: Moved optional<br>argument in front of mandatory. . . . .                                        | 359      |
| \LWR@htmldivclass: Moved optional<br>argument in front of mandatory. . . . .                                   | 357      |
| \LWR@htmlelementclass: Moved<br>optional argument in front of<br>mandatory. . . . .                            | 356      |
| \LWR@htmlelementclassline: Moved<br>optional argument in front of<br>mandatory. . . . .                        | 357      |
| \LWR@htmlspanclass: Moved optional<br>argument in front of mandatory. . . . .                                  | 354      |
| \LWR@nullfonts: Improved font<br>control. . . . .                                                              | 541      |
| \LWR@restoreorigformatting:<br>booktabs: Works inside<br>lateimage. . . . .                                    | 539      |
| Improved font control. . . . .                                                                                 | 539      |
| \LWR@subhtmlelementclass: Moved<br>optional argument in front of<br>mandatory. . . . .                         | 356      |
| \LWR@tabledatacolumntag: booktabs:<br>Works inside lateimage. . . . .                                          | 490      |
| \fboxBlock: Added. . . . .                                                                                     | 600      |
| \makebox: Fix: Handles paren arg. . . . .                                                                      | 598      |
| General: 2017/08/08 . . . . .                                                                                  | 1        |
| babel-french: Adds fixed-width<br>HTML spaces to punctuation. . . . .                                          | 350      |
| balance: Added. . . . .                                                                                        | 675      |
| booktabs: Works inside<br>lateimage. . . . .                                                                   | 494, 689 |
| boxedminipage2e: Added. . . . .                                                                                | 692      |
| crop: Added. . . . .                                                                                           | 748      |
| enumerate: Added. . . . .                                                                                      | 773      |
| enumitem: Added, no longer<br>required. . . . .                                                                | 773      |
| everyshi: Added. . . . .                                                                                       | 783      |
| fancybox: Added. . . . .                                                                                       | 786      |
| fancyverb: Added, no longer required. . . . .                                                                  | 792      |
| figcaps: Added. . . . .                                                                                        | 801      |
| filecontents: Required. Patched for<br>morewrites. . . . .                                                     | 239      |
| floatpag: Added. . . . .                                                                                       | 808      |
| flushend: Added. . . . .                                                                                       | 814      |
| fullpage: Added. . . . .                                                                                       | 827      |
| hyperxmp: Added. . . . .                                                                                       | 867      |
| idxlayout: Added. . . . .                                                                                      | 869      |
| marginfit: Added. . . . .                                                                                      | 930      |
| mdframed: Improved mdtheorem<br>patch. . . . .                                                                 | 954      |
| moreverb: Added. . . . .                                                                                       | 971      |
| paralist: Added. . . . .                                                                                       | 1022     |
| pdflandscape: Added. . . . .                                                                                   | 1032     |
| pdfsync: Added. . . . .                                                                                        | 1035     |
| prelim2e: Added. . . . .                                                                                       | 1045     |
| rotfloat: Added. . . . .                                                                                       | 1062     |
| savetrees: Added. . . . .                                                                                      | 1063     |
| shadow: Added. . . . .                                                                                         | 1079     |
| syntonly: Added. . . . .                                                                                       | 1144     |
| titleps: No longer required. . . . .                                                                           | 1174     |
| titleref: Prevented. . . . .                                                                                   | 1177     |

|                                               |      |
|-----------------------------------------------|------|
| xcolor: Added                                 |      |
| \LWR@subfcollminipage. . . . .                | 1232 |
| xmpincl: Added. . . . .                       | 1240 |
| Docs: Horizontal space limitations. . . . .   | 1    |
| Docs: Misplaced alignment character. . . . .  | 193  |
| File: l warp_mathjax.txt: Version             |      |
| change. . . . .                               | 312  |
| File: README.txt: updated. . . . .            | 1    |
| Fix: Added the eqnarray                       |      |
| environments. . . . .                         | 567  |
| Improved font control. . . . .                | 603  |
| Lists refactored to remove enumitem           |      |
| requirement. . . . .                          | 431  |
| Verbatim refactored to remove                 |      |
| fancyvrb requirement. . . . .                 | 426  |
| tabular: booktabs: Works inside               |      |
| latextimage. . . . .                          | 495  |
| latextimage: Fix: latextimage with            |      |
| minipage, \parbox, \makebox,                  |      |
| \fbox, \framebox, \raisebox,                  |      |
| \scalebox, \reflectbox. . . . .               | 574  |
| BlockClass: Moved optional argument           |      |
| in front of mandatory. . . . .                | 358  |
| fminipage: Added. . . . .                     | 600  |
| \LWR@nestspan: Fix: Minipages,                |      |
| BlocksClass, and lists inside a span. . . . . | 353  |
| v0.35                                         |      |
| General: 2017/08/08 . . . . .                 | 1    |
| Fix: \textbf and related. . . . .             | 603  |
| v0.36                                         |      |
| \LWR@footnotetext: Extra HTML                 |      |
| source space after paragraphs. . . . .        | 372  |
| Force HTML superscripts. . . . .              | 372  |
| \LWR@HTMLsanitizeexpand: Fix for              |      |
| babel-french. . . . .                         | 386  |
| \LWR@closeparagraph: Extra HTML               |      |
| source space after paragraphs. . . . .        | 363  |
| \LWR@currenttextcolor: Fix for                |      |
| \rule when xcolor not loaded. . . . .         | 611  |
| \LWR@nullfonts: Fix: Filenames while          |      |
| using MATHJAX. . . . .                        | 541  |
| \LWR@restoreorigformatting:                   |      |
| siunitx: Improved super/subscripts            |      |
| in a latextimage. . . . .                     | 539  |
| \LWR@section: Improved spacing. . . . .       | 397  |
| \LWR@stopars: Extra HTML source               |      |
| space after paragraphs. . . . .               | 365  |
| \LWR@subHTMLsanitize: Fix for                 |      |
| babel-french. . . . .                         | 385  |
| \fbox: Fix: Uses \fboxrule and                |      |
| \fboxsep. . . . .                             | 599  |
| \framebox: Fix: Handles width and             |      |
| horiz position. . . . .                       | 598  |
| \makebox: Fix: Handles width and horiz        |      |
| position. . . . .                             | 598  |
| General: 2017/08/17 . . . . .                 | 1    |
| babel-french: Adjustements for                |      |
| French variants, load order,                  |      |
| footnotes, ellipses. . . . .                  | 350  |
| footnote: Extra HTML source space             |      |
| after paragraphs. . . . .                     | 820  |
| siunitx: Fix for babel-french. . . . .        | 584  |
| siunitx: Improved symbol support. . . . .     | 1094 |
| transparent: Added. . . . .                   | 1199 |
| upref: Added. . . . .                         | 1212 |
| xcolor: Added \fcolorboxBlock,                |      |
| \colorboxBlock. . . . .                       | 1224 |
| xcolor: Fix: Background none in               |      |
| print mode. . . . .                           | 1224 |
| xcolor: Refactored                            |      |
| \LWR@colorstyle. . . . .                      | 1228 |
| xcolor: Uses \fboxrule and                    |      |
| \fboxsep. . . . .                             | 1224 |
| xcolor: \fcolorbox etc. now work              |      |
| inside latextimage. . . . .                   | 1224 |
| Docs: Reorganized: Special cases and          |      |
| limitations. . . . .                          | 121  |
| Source: Improved formatting. . . . .          | 1    |
| tabular: Fix for babel-french. . . . .        | 495  |
| latextimage: Footnotes appear in              |      |
| regular text instead of the                   |      |
| latextimage minipage. . . . .                 | 574  |
| v0.37                                         |      |
| @\include: Maintains independent aux          |      |
| files for HTML. . . . .                       | 248  |
| General: 2017/08/19 . . . . .                 | 1    |
| \TeX accents: Added. . . . .                  | 260  |
| babel-french: Adjustment for load             |      |
| order. . . . .                                | 350  |
| color: Prevented. . . . .                     | 745  |
| siunitx: Improved symbol support. . . . .     | 1094 |
| textcomp: Improved support. . . . .           | 1159 |
| l warpmk: Removes additional HTML             |      |
| aux files. . . . .                            | 316  |
| File handles reorganized. . . . .             | 247  |
| v0.38                                         |      |
| @\seccntformat: Added for appendix. . . . .   | 396  |
| \ForceHTMLPage: Added. . . . .                | 394  |
| \ForceHTMLTOC: Added. . . . .                 | 394  |
| \LWR@section: \part* starts a new             |      |
| HTML page, for appendix. . . . .              | 397  |
| Modified spacing, uses                        |      |
| \numberline. . . . .                          | 397  |
| \numberline: Added trailing \quad. . . . .    | 526  |
| \part: Fix with article class. . . . .        | 403  |
| General: 2017/08/27 . . . . .                 | 1    |
| appendix: Added. . . . .                      | 660  |
| arabicfront: Added. . . . .                   | 662  |
| chappg: Added. . . . .                        | 710  |
| color: Forces xcolor as well. . . . .         | 745  |

|                                                                            |                                                                            |           |
|----------------------------------------------------------------------------|----------------------------------------------------------------------------|-----------|
| fix2col:                                                                   | Added.                                                                     | 803       |
| fncychap:                                                                  | Added.                                                                     | 815       |
| grffile:                                                                   | Added.                                                                     | 850       |
| metalogo:                                                                  | Added.                                                                     | 960       |
| nonumonpart:                                                               | Added.                                                                     | 1005      |
| nopageno:                                                                  | Added.                                                                     | 1005      |
| pagenote:                                                                  | Option page disabled.                                                      | 1022      |
| realscripts:                                                               | Added.                                                                     | 1052      |
| relsize:                                                                   | Added.                                                                     | 1057      |
| romanbarpagenumber:                                                        | Added.                                                                     | 1061      |
| romanbar:                                                                  | Added.                                                                     | 1061      |
| scalefnt:                                                                  | Added.                                                                     | 1063      |
| siunitx:                                                                   | Removed from <i>l warp</i> core.                                           | 1094      |
| textcomp:                                                                  | Removed from <i>l warp</i> core.                                           | 1159      |
| tocbibind:                                                                 | Added.                                                                     | 1186      |
| xltextra:                                                                  | Added.                                                                     | 1240      |
| <i>l warpmk</i> :                                                          | Added <b>print1</b> and <b>html1</b> actions.                              | 316       |
| Added \markboth, \sloppy, etc.                                             | .                                                                          | 348       |
| Docs:                                                                      | Enhanced <i>Supported Features</i> table.                                  | 66        |
| Docs:                                                                      | Index, <b>tocbibind</b> .                                                  | 136       |
| Docs:                                                                      | Starred sections.                                                          | 133       |
| v0.39                                                                      |                                                                            |           |
| \@maketitle:                                                               | <i>titling</i> version.                                                    | 1183      |
| Native <i>LATEX</i> version.                                               | .                                                                          | 421       |
| Removed minipages.                                                         | .                                                                          | 421, 1183 |
| Supports <b>authblk</b> with <div>s of class oneauthor instead of tabular. | .                                                                          | 421, 1183 |
| \AddSubTitlePublished:                                                     | Added.                                                                     | 423       |
| \LWR@domulticolumn:                                                        | Add: Optional vpos and # rows.                                             | 481       |
| \LWR@restoreorigformatting:                                                | Appended with \appto instead of calling various macros.                    | 539       |
| \LWR@tabledatacolumntag:                                                   | Don't start a data cell if see \TabularMacro.                              | 490       |
| \ResumeTabular:                                                            | Added.                                                                     | 490       |
| \TabularMacro:                                                             | Added.                                                                     | 490       |
| \multicolumnrow:                                                           | Added.                                                                     | 488, 981  |
| \printauthor:                                                              | Removed minipages.                                                         | 418       |
|                                                                            | Supports <b>authblk</b> with <div>s of class oneauthor instead of tabular. | 418       |
| \thanksmarkseries:                                                         | Removed minipage footnotes.                                                | 1184      |
| General:                                                                   | 2017/09/05                                                                 | 1         |
| a4wide:                                                                    | Added.                                                                     | 634       |
| a4:                                                                        | Added.                                                                     | 633       |
| a5comb:                                                                    | Added.                                                                     | 634       |
| addlines:                                                                  | Added.                                                                     | 643       |
| any size:                                                                  | Added.                                                                     | 660       |
| authblk:                                                                   | Added.                                                                     | 669       |
| v0.40                                                                      |                                                                            |           |
| \@chapcntformat:                                                           | Added for <b>tocbibind</b> , <b>anonchap</b> .                             | 397       |
| \LWR@HTMLhline:                                                            | Added.                                                                     | 494       |
| \LWR@nullfonts:                                                            | Fix: Long arguments for expandable command.                                | 541       |
| \LWR@restoreorigformatting:                                                | Improved <i>LATEX</i> logos inside a lateximage.                           | 539       |
|                                                                            | Improved symbols inside a lateximage.                                      | 539       |
|                                                                            | Nullified \InlineClass, etc. inside a lateximage.                          | 539       |
| \LWR@tabledatacolumntag:                                                   | Fix for <b>bigdelim</b> : \ldelim, \rdelim.                                | 490       |
| \chapter:                                                                  | Added support for <b>quotchap</b> .                                        | 404       |
| \multicolumnrow:                                                           | Fix: Adapts to older <b>multirow</b> and <b>xparse</b> .                   | 488       |
| \simplechapterdelim:                                                       | Added for <b>tocbibind</b> , <b>anonchap</b> .                             | 397       |
| \underline:                                                                | Added.                                                                     | 611       |
| General:                                                                   | 2017/09/25                                                                 | 1         |
| adjmulticol:                                                               | Added.                                                                     | 642       |
| anonchap:                                                                  | Added.                                                                     | 659       |
| bigdelim:                                                                  | Improved documentation.                                                    | 685       |
| cuted:                                                                     | Added.                                                                     | 751       |
| dblfnote:                                                                  | Added.                                                                     | 752       |

|                                                                                           |      |
|-------------------------------------------------------------------------------------------|------|
| <b>fnpos:</b> Added                                                                       | 816  |
| <b>graphics:</b> Add: Full \graphicspath support                                          | 845  |
| <b>graphics:</b> Moved out of the <code>lwarp</code> core                                 | 837  |
| <b>graphics:</b> Restores \includegraphics and \DeclareGraphicsExtensions in a lateximage | 837  |
| <b>graphicx:</b> Moved out of the <code>lwarp</code> core                                 | 850  |
| <b>grffile:</b> Directly supported                                                        | 850  |
| <b>midfloat:</b> Added                                                                    | 964  |
| <b>multirow:</b> Improved bigdelim borders                                                | 979  |
| <b>pfnote:</b> Added                                                                      | 1038 |
| <b>quotchap:</b> Added                                                                    | 1050 |
| <b>sectsty:</b> Added                                                                     | 1074 |
| <b>stabular:</b> Added                                                                    | 1119 |
| <b>tabls:</b> Added                                                                       | 1145 |
| <b>textcomp:</b> Additional symbols, improved XeLaTeX and LuaLaTeX support                | 1159 |
| <b>tocbibind:</b> Improved for \simplechapter                                             | 1186 |
| <b>xfrac:</b> No longer preloaded                                                         | 241  |
| <b>xltextra:</b> Fix for \showhyphens with XeLaTeX                                        | 1240 |
| <b>v0.41</b>                                                                              |      |
| \LWR@addcmidruletrim: Add: \cmidrule trims                                                | 471  |
| \LWR@clearmidrules: Add: \cmidrule trims                                                  | 469  |
| \LWR@closetabledatagrid: Add: Mute > for \bottomrule                                      | 446  |
| Fix: At/bang column with \multirow                                                        | 446  |
| Fix: Cancel < for \multicolumn                                                            | 446  |
| \LWR@domulticolumn: Add: \cmidrule trims                                                  | 481  |
| Added vertical rules                                                                      | 482  |
| \LWR@nullifyNoAutoSpacing: babel-french: Fix: \NoAutoSpacing in a tabular                 | 495  |
| \LWR@parsebarcolumn: Added vertical rules                                                 | 454  |
| \LWR@printatbang: Add: \cmidrule trims                                                    | 465  |
| Add: Mute at and bang columns for \bottomrule                                             | 465  |
| \LWR@printbartag: Added vertical rules                                                    | 465  |
| \LWR@subaddcmidruletrim: Added                                                            | 471  |
| \LWR@subcmidrule: Add: \cmidrule trims                                                    | 469  |
| <b>v0.42</b>                                                                              |      |
| \@ensuredmath: Improved \ensuremath                                                       | 557  |
| \@textsubscript: Added                                                                    | 611  |
| \@textsuperscript: Added                                                                  | 610  |
| \LWR@HTMLhline: If FormatWP force explicit border                                         | 494  |
| \LWR@addformatwpalignment: If FormatWP add explicit style for cell alignment              | 473  |
| \LWR@addrulewidth: If FormatWP force explicit border                                      | 472  |
| \LWR@amsmathbody: Fix: Numbering and naming AMS math environments                         | 573  |
| \LWR@amsmathbodynumbered: Fix: Numbering and naming AMS math environments                 | 573  |
| \LWR@doequation: If FormatWP print LaTeX expression                                       | 562  |
| \LWR@domulticolumn: If FormatWP add cell alignment                                        | 483  |
| \LWR@doubledollar: If FormatWP print LaTeX expression                                     | 555  |
| Improved \ensuremath                                                                      | 555  |
| Improved line spacing with mathjax                                                        | 555  |
| \LWR@floatbegin: If FormatWP add a text frame                                             | 514  |
| \LWR@floatend: If FormatWP add a text frame                                               | 515  |
| \LWR@remembertag: Fix: Numbering and naming AMS math environments                         | 572  |
| \LWR@restoreorigformatting: Improved \ensuremath                                          | 540  |
| \LWR@subaddcmidruletrim: Opt if no rule given                                             | 471  |
| \LWR@subsingledollar: If FormatWP print LaTeX expression                                  | 553  |
| \LWR@tabledatasinglecolumntag: If FormatWP add cell alignment                             | 467  |

|                                                                                  |               |
|----------------------------------------------------------------------------------|---------------|
| \LaTeX: If FormatWP use explicit style.                                          | 622           |
| \TeX: If FormatWP use explicit style.                                            | 622           |
| \hspace: If FormatWP add \quads.                                                 | 616           |
| \listoffigures: Added boolean<br>WPMarkLOFT.                                     | 524           |
| \listoftables: Added boolean<br>WPMarkLOFT.                                      | 524           |
| \marginpar: If FormatWP emulate a<br>wrapfig.                                    | 376           |
| \marginparBlock: If FormatWP<br>emulate a wrapfig.                               | 377           |
| \rule: If FormatWP add \quads.                                                   | 619           |
| \tableofcontents: Added boolean<br>WPMarkTOC.                                    | 523           |
| \underline: If FormatWP, use explicit<br>styles for \underline, etc.             | 611           |
| General: 2017/10/30                                                              | 1             |
| \textbf and related: If FormatWP,<br>use explicit styles for \textsc, etc.       | 603           |
| algorithmicx: If FormatWP add<br>\quads.                                         | 648           |
| booktabs: If FormatWP force explicit<br>border.                                  | 690           |
| epigraph: If FormatWP add HTML<br>styles.                                        | 774           |
| fancybox: If FormatWP add HTML<br>styles.                                        | 786           |
| floatflit: Added width.                                                          | 807           |
| graphics: Fix: Class key.                                                        | 841           |
| graphics: Fix: Filename expansion.                                               | 845           |
| graphics: If FormatWP, use explicit<br>size.                                     | 842           |
| keyfloat: If FormatWP add explicit<br>HTML style.                                | 887           |
| moreverb: Simplified formatting of<br>listings.                                  | 971           |
| multirow: If FormatWP add cell<br>alignment.                                     | 979           |
| overpic: Added.                                                                  | 1021          |
| realscripts: Fix for subscripts in a<br>latexitimage.                            | 1052          |
| sidenotes: If FormatWP add explicit<br>HTML style.                               | 1083          |
| siunitx: Improved \ensuremath. . .                                               | 1094          |
| soul: If FormatWP, add explicit<br>styles.                                       | 1114          |
| textcomp: Improved<br>\interrobangdown.                                          | 1159          |
| wrapfig: If FormatWP add explicit<br>HTML style.                                 | 1223          |
| Added boolean WPMarkLOFT.                                                        | 256           |
| Added boolean WPMarkMath.                                                        | 257           |
| Added boolean WPMarkMinipages.                                                   | 256           |
| Added boolean WPMarkTOC.                                                         | 256           |
| Added boolean WPTitleHeading.                                                    | 257           |
| Docs: Added support page.                                                        | 2             |
| Docs: Improper \prevdepth.                                                       | 193           |
| Docs: Reorganized math limitations                                               | 150           |
| File: lwarpmathjax.txt: Updated<br>siunitx script.                               | 312           |
| Fix: Numbering and naming AMS<br>math environments.                              | 572           |
| If FormatWP, shift section headings.                                             | 257           |
| tabbing: Added.                                                                  | 429           |
| latexitimage: Fix: Numbering and<br>naming AMS math environments.                | 575           |
| center: If FormatWP use explicit<br>text-align.                                  | 580           |
| minipage: Added boolean<br>WPMarkMinipages.                                      | 596           |
| If FormatWP add a text frame.                                                    | 594           |
| eqnarray: Fix: Numbering and naming<br>AMS math environments.                    | 568           |
| If FormatWP print LaTeX expression.                                              | 567           |
| LWR@BlockClassWP: Added to factor<br>code.                                       | 359           |
| LWR@figcaption: If FormatWP forces<br>italic captions.                           | 519           |
| v0.43                                                                            |               |
| \LWR@domulticolumn: Fix for vertical<br>rules.                                   | 482           |
| Fix: Multicolumn trim.                                                           | 482           |
| \LWR@href: Made robust.                                                          | 510           |
| \LWR@maybeprintpendingfootnotes:<br>Added FootnoteDepth.                         | 376           |
| \LWR@nolinkurl: Made robust.                                                     | 511           |
| \LWR@nullfonts: Fix: Nullify dollar<br>inside filenames.                         | 541           |
| \LWR@parsetablecols: Ignore spaces<br>in col spec.                               | 460           |
| \LWR@printmccoltype: Added vertical<br>rules.                                    | 477           |
| \LWR@section: Fix: Expansion in<br>comparison.                                   | 398           |
| Fix: Math in section name. . .                                                   | 399, 402      |
| Fix: Nullify fonts inside HTML<br>comment.                                       | 399           |
| \LWR@url: Made robust.                                                           | 511           |
| \TabularMacro: \newcommand instead<br>of \relax to fix supertabular and<br>xtab. | 490           |
| \nameref: Made robust.                                                           | 508           |
| General: 2017/11/08                                                              | 1             |
| LWR@currentautosecpage: Added.                                                   | 378           |
| breakurl: Added.                                                                 | 693           |
| hyperref: Made robust. . .                                                       | 862, 864, 866 |
| hyperref: \Gauge added.                                                          | 866           |
| luatodonotes: Added.                                                             | 922           |
| todonotes: Added.                                                                | 1196          |
| Added FootnoteDepth.                                                             | 371           |

|                                                                               |      |
|-------------------------------------------------------------------------------|------|
| Docs: HTML settings table. . . . .                                            | 109  |
| Docs: Reorganized HTML customization. . . . .                                 | 109  |
| v0.44                                                                         |      |
| \@currentlabelname: Adjustment for koma-script. . . . .                       | 502  |
| \HTMLTitle: Added. . . . .                                                    | 369  |
| \LWR@addformatwpalignment: Fix for multicolumn alignment if FormatWP. . . . . | 473  |
| \LWR@backgroundcolor: xcolor: Added \LWR@backgroundcolor. . . . .             | 1228 |
| \LWR@filestart: Add \HTMLTitle. . . . .                                       | 408  |
| Fix \HTMLAuthor. . . . .                                                      | 407  |
| \LWR@listitem: Added list and trivlist. . . . .                               | 434  |
| \LWR@patchlists: Added list and trivlist. . . . .                             | 437  |
| \LWR@strresult: Fix: \providecommand. . . . .                                 | 444  |
| \LWR@textcurrentcolor: xcolor: Added \LWR@textcurrentcolor. . . . .           | 1228 |
| \addcontentsline: Automatic \LWR@newfloatanchor. . . . .                      | 520  |
| \chapter: Add preamble for koma-script. . . . .                               | 404  |
| \marginparBlock: Added. . . . .                                               | 377  |
| \nopagecolor: xcolor: Fix for \nopagecolor. . . . .                           | 1230 |
| \part: Add preamble for koma-script. . . . .                                  | 403  |
| \title: Added \thetitle. . . . .                                              | 369  |
| General: 2017/11/22 . . . . .                                                 | 1    |
| algorithmicx: Improved comment symbol. . . . .                                | 648  |
| atbegshi: Added. . . . .                                                      | 666  |
| cancel: Added. . . . .                                                        | 696  |
| changepage: Additional options. . . . .                                       | 705  |
| easy-todo: Added. . . . .                                                     | 758  |
| fancyref: Added. . . . .                                                      | 791  |
| fixmetodonotes: Added. . . . .                                                | 805  |
| fixme: Added. . . . .                                                         | 803  |
| fontenc: Allowed after lwrap. . . . .                                         | 818  |
| hang: Added. . . . .                                                          | 851  |
| ifoddpage: Added. . . . .                                                     | 870  |
| ltxtable: Added. . . . .                                                      | 919  |
| luatodonotes: Improved. . . . .                                               | 922  |
| lwrap-patch-komascript: Added. . . . .                                        | 1249 |
| overpic: Fix: Groups for lateximages. . . . .                                 | 1021 |
| pdfsync: Fixes. . . . .                                                       | 1035 |
| preview: Added. . . . .                                                       | 1046 |
| scrextend: Added. . . . .                                                     | 1065 |
| scrhack: Added. . . . .                                                       | 1069 |
| scrlayer-notecolumn: Added. . . . .                                           | 1071 |
| scrlayer-scrpage: Added. . . . .                                              | 1071 |
| scrlayer: Added. . . . .                                                      | 1069 |
| section: Added. . . . .                                                       | 1073 |
| soulpos: Added. . . . .                                                       | 1115 |
| soulutf8: Added. . . . .                                                      | 1116 |
| supertabular: Fix for caption. . . . .                                        | 1142 |
| tikz: Fix: Groups for lateximages. . . . .                                    | 1173 |
| tocbasic: Added. . . . .                                                      | 1185 |
| tocloft: Added \newlistentry. . . . .                                         | 1193 |
| tocloft: Improved \newlistof. . . . .                                         | 1194 |
| tocstyle: Added. . . . .                                                      | 1195 |
| todonotes: Improved. . . . .                                                  | 1196 |
| todo: Added. . . . .                                                          | 1195 |
| typearea: Added expert commands. . . . .                                      | 1202 |
| watermark: Added. . . . .                                                     | 1220 |
| xcolor: Added                                                                 |      |
| \LWR@currenttextcolorstyle. . . . .                                           | 1227 |
| xcolor: Added                                                                 |      |
| \LWR@findcurrenttextcolor. . . . .                                            | 1227 |
| xtab: Fix for caption. . . . .                                                | 1244 |
| Adjustment for koma-script. . . . .                                           | 216  |
| AMS environments: Fix: Groups for lateximages. . . . .                        | 651  |
| If pdfLaTeX, require T1 and UTF-8 encoding. . . . .                           | 217  |
| picture: overpic: Fix: Groups for lateximages. . . . .                        | 591  |
| list: Added list and trivlist. . . . .                                        | 434  |
| \LWR@nestspan: Added list and trivlist. . . . .                               | 353  |
| v0.45                                                                         |      |
| \@currentHref: Added. . . . .                                                 | 509  |
| \@donoparitem: Modified for HTML. . . . .                                     | 432  |
| \@item: Modified for HTML. . . . .                                            | 432  |
| \@mklab: Modified for HTML. . . . .                                           | 431  |
| \CSSFilename: Improved filenames with underscores. . . . .                    | 368  |
| \LWR@lwrapStart: Fix: Lateximages on incorrect pages with MATHJAX. . . . .    | 410  |
| \LWR@label@createtag: Fix: Labels with underscores. . . . .                   | 504  |
| \LWR@newautooidanchor: Fix: No anchor if frozen autoid. . . . .               | 516  |
| \LWR@nolinkurl: Fix: Underscore in URL. . . . .                               | 511  |
| \LWR@notmemorloadafter: Added. . . . .                                        | 203  |
| \LWR@printpendingmpfootnotes: Added. . . . .                                  | 376  |
| \LWR@startref: Fix: Labels with underscores. . . . .                          | 507  |
| \LWR@subhyperref: Improved URLs with underscores. . . . .                     | 510  |
| \LWR@subhyperrefclass: Improved URLs with underscores. . . . .                | 510  |
| \LWR@tabulatedacolumntag: Fix: Empty line between rows. . . . .               | 493  |

|                                                                           |          |                                                                          |            |
|---------------------------------------------------------------------------|----------|--------------------------------------------------------------------------|------------|
| \LWR@url: Improved URLs with underscores.                                 | 511      | Fix: Empty sidetoc.                                                      | 523        |
| \chapter: Add optional heading title for <i>memoir</i> .                  | 404      | Improved: Robust \,, \, and \textellipsis commands.                      | 612        |
| \newpage: Added.                                                          | 614      | Separate LWR@thisautoidWP for word processor <div>s.                     | 516        |
| \normalmarginpar: Added.                                                  | 377      | thebibliography: Patched to emphasize titles.                            | 538        |
| \reversemarginpar: Added.                                                 | 377      | minipage: Fix: Improper \prevdepth.                                      | 596        |
| \section: Add optional heading title for <i>memoir</i> .                  | 404      | v0.46                                                                    |            |
| \tableofcontents: Fix: Empty sidetoc.                                     | 523      | \LWR@closeparagraph: Fix: Tabular empty lines.                           | 364        |
| Fix: Patch \AtBeginDocument.                                              | 523      | \LWR@closeprevious: Fix: Stack unnesting.                                | 348        |
| General: 2018/01/14                                                       | 1        | \LWR@forcenewpage: Fix: Improper \prevdepth.                             | 349        |
| array: Added.                                                             | 662      | \LWR@lookforpackagename: Fix: Spaces in \usepackage.                     | 244        |
| babel-french: Robust commands.                                            | 350      | \LWR@popclose: Fix: Stack unnesting.                                     | 337        |
| backref: Added.                                                           | 675      | \LWR@providelength: Added.                                               | 220        |
| breakurl: Fix: Underscore in URL.                                         | 693      | \LWR@pushclose: Fix: Stack unnesting.                                    | 336        |
| changebar: Added.                                                         | 703      | \LWRPrintStack: Name changed from \PrintStack.                           | 347        |
| cite: Added.                                                              | 737      | General: 2018/01/23                                                      | 1          |
| continue: Added.                                                          | 747      | LWR@tabularpardepth added.                                               | 443        |
| endfloat: Added.                                                          | 764      | amsthm: Adapted to trivlist changes.                                     | 656        |
| fancyvrb: Improvements.                                                   | 792–794  | mdframed: Fixes for SVG math or lateximage in title.                     | 951        |
| flafter: Added.                                                           | 805      | mdframed: Fixes for footnotes.                                           | 952        |
| fltrace: Added.                                                           | 814      | ntheorem: Adapted to trivlist changes.                                   | 1007       |
| footnpag: Added.                                                          | 821      | theorem: Adapt to trivlist changes.                                      | 1165, 1166 |
| fwlw: Added.                                                              | 831      | tabular: Fix: Tabular empty lines.                                       | 498, 499   |
| graphics: Improved URLs with underscores.                                 | 845      | list: Fix: Stack unnesting.                                              | 434        |
| hanging: Added.                                                           | 853      | v0.47                                                                    |            |
| hyperref: Fix: Underscore in URL.                                         | 862, 863 | \LWR@HTML@caption@begin: Fix: Argument passed to \LWR@origcaption@begin. | 519        |
| l warp-patch-memoir: Added.                                               | 1252     | \LWR@LwarpStart: Fix for SVG math in \nameref.                           | 411        |
| memhfixc: Added.                                                          | 959      | \LWR@WPcell: Fix: Line wrap at HTML hyphen.                              | 473        |
| memoir: Added.                                                            | 625      | \LWR@createautosec: Fix: Line wrap at HTML hyphen.                       | 396        |
| natbib: Added.                                                            | 987      | \LWR@domulticolumn: Fix: Line wrap at HTML hyphen.                       | 483        |
| pagesel: Added.                                                           | 1022     | \LWR@floatbegin: Fix: Line wrap at HTML hyphen.                          | 514        |
| prettyref: Added.                                                         | 1046     | \LWR@htmclclosecomment: Add \mbox to prevent line breaks.                | 355        |
| subfigure: Added.                                                         | 1140     | \LWR@label@createtag: Fix: Line wrap at HTML hyphen.                     | 504        |
| subfig: Fix for subcaption end tag.                                       | 1138     | \LWR@newautoidanchor: Fix: Line wrap at HTML hyphen.                     | 516        |
| subfig: Fix: Math in subcaptions.                                         | 1136     |                                                                          |            |
| textfit: Added.                                                           | 1162     |                                                                          |            |
| titleref: Added.                                                          | 1177     |                                                                          |            |
| turnthepage: Added.                                                       | 1201     |                                                                          |            |
| Allows <i>memoir</i> 's preloaded packages.                               | 206      |                                                                          |            |
| Docs: Fix for double hyphens.                                             | 81       |                                                                          |            |
| Docs: Improved install instructions.                                      | 82       |                                                                          |            |
| Docs: Improved MiK $\mathrm{T}\mkern-1mu\mathrm{E}$ install instructions. | 78       |                                                                          |            |
| Docs: Moved table so doesn't interfere with install docs.                 | 77       |                                                                          |            |
| File: l warp_mathjax.txt: Allow MATHJAX inside tabbing.                   | 312      |                                                                          |            |
| File: l warp_mathjax.txt: Allow MATHJAX inside verse.                     | 312      |                                                                          |            |

|                                                                            |          |
|----------------------------------------------------------------------------|----------|
| \LWR@printopenlist: Fix: Line wrap at HTML hyphen.                         | 431      |
| \LWR@startref: Fix: Line wrap at HTML hyphen.                              | 506      |
| \LWR@subsingledollar: Added svg math image baseline adjust and em sizing.  | 553      |
| \LWR@subsingledollarsvg: Fix: Line wrap at HTML hyphen.                    | 551      |
| \captionlistentry: Fix: Line wrap at HTML hyphen.                          | 520      |
| \hypertoc: Fix: Line wrap at HTML hyphen.                                  | 527      |
| \hypertocfloat: Fix: Line wrap at HTML hyphen.                             | 528      |
| General: 2018/01/30                                                        | 1        |
| adjmulticol: Fix: Line wrap at HTML hyphen.                                | 643      |
| blowup: Added.                                                             | 688      |
| caption: Added.                                                            | 698      |
| changepage: Fix for pagecheck macros.                                      | 705      |
| endheads: Added.                                                           | 764      |
| epigraph: Fix: Line wrap at HTML hyphen.                                   | 774      |
| hanging: Fix: Line wrap at HTML hyphen.                                    | 853      |
| hang: Fix: Line wrap at HTML hyphen.                                       | 851      |
| keyfloat: Fix for SVG math in captions.                                    | 884      |
| midpage: Fix: Line wrap at HTML hyphen.                                    | 965      |
| multirow: Fix: Line wrap at HTML hyphen.                                   | 979      |
| multitoc: Added.                                                           | 982      |
| ntheorem: Fix: Line wrap at HTML hyphen.                                   | 1012     |
| realscripts: Fix: Line wrap at HTML hyphen.                                | 1052     |
| scrextend: Fix: Line wrap at HTML hyphen.                                  | 1065     |
| sectionbreak: Added.                                                       | 1074     |
| sidenotes: Fix for SVG math in captions.                                   | 1082     |
| subfig: Fix for SVG math in captions.                                      | 1136     |
| subfig: Fix: Support \nameref.                                             | 1136     |
| xurl: Added.                                                               | 1246     |
| <i>lwarpmk: pdfcrop</i> : Removed hires option for improved crop accuracy. | 316      |
| lateximage: Added css style option.                                        | 574      |
| Fix: Line wrap at HTML hyphen.                                             | 579      |
| center: Fix: Line wrap at HTML hyphen.                                     | 580      |
| minipage: Fix: Line wrap at HTML hyphen.                                   | 594, 595 |
| flushleft: Fix: Line wrap at HTML hyphen.                                  | 580      |
| flushright: Fix: Line wrap at HTML hyphen.                                 | 580      |
| enumerate: Fix: Line wrap at HTML hyphen.                                  | 435      |
| itemize: Fix: Line wrap at HTML hyphen.                                    | 435      |
| \LWR@BlockClassWP: Fix: Line wrap at HTML hyphen.                          | 359      |
| v0.48                                                                      |          |
| \@@setpageref: Fix for new v0.21 of cleveref.                              | 741      |
| \@@setcref: Fix for new v0.21 of cleveref.                                 | 740      |
| \@@setcrefrange: Fix for new v0.21 of cleveref.                            | 740      |
| \@biblabel: Improved bibliography label.                                   | 538      |
| \@item: Honors \makelabel.                                                 | 432      |
| \@maketitle: Fix: Errors with IEEETran class.                              | 421      |
| \LWR@LwarpStart: Adjusted space around captions.                           | 410      |
| \@LWR@ProvidesPackageDropB: Fix: Options with braces.                      | 247      |
| \@LWR@addtabularhrulecolor: colortbl: Added.                               | 474      |
| \@LWR@addtabularrulecolors: colortbl: Added.                               | 475      |
| \@LWR@closetabledatacell: colortbl: Added.                                 | 447      |
| \@LWR@lookforpackagename: Fix: Parsing similar package names.              | 243      |
| \@LWR@newautopagelabel: Fix: toc, LOF, LOT links.                          | 378      |
| \@LWR@newhtmlfile: Fix: toc, LOF, LOT links.                               | 392      |
| \@LWR@nullfonts: Fix: \newline in title.                                   | 541      |
| \@LWR@parsedrequirepackagenames: Fix: Parsing similar package names.       | 241      |
| \@LWR@parsestablecols: Fix: Ignore optional tabular column arguments.      | 461      |
| \@LWR@restoreorigformatting: Fix: Spacing in SVG math, lateximage, Tikz.   | 539      |
| \@LWR@section: Fix: toc, LOF, LOT links.                                   | 402      |
| \@LWR@tableddatasinglecolumnntag: colortbl: Added.                         | 467      |
| \@LWR@textcurrentfont: Added: Improves font control.                       | 606      |
| \centerline: Added.                                                        | 581      |

|                                           |               |
|-------------------------------------------|---------------|
| \l@part: Adapts to classes without        |               |
| \part. . . . .                            | 529           |
| \leftline: Added.                         | 581           |
| \mbox: Nullified for HTML                 | 597           |
| \rightline: Added.                        | 581           |
| \thempfootnote: Removed <i>itsshape</i> . | 375           |
| General: 2018/02/14                       | 1             |
| acronym: Added.                           | 642           |
| acro: Added.                              | 639           |
| chapterbib: Added.                        | 710           |
| colortbl: Added.                          | 463, 473, 745 |
| fancyref: Now directly supported.         | 791           |
| graphics: Fix: Virtual page size          |               |
| limited to a group.                       | 845, 846      |
| hypcap: Added.                            | 856           |
| hypernat: Added.                          | 857           |
| hyperref: \texorpdfstring now             |               |
| uses the TeX string.                      | 865           |
| luatodonotes: Improved                    |               |
| \todototoc.                               | 922           |
| siunitx: Changes fraction to symbol.      | 1097          |
| siunitx: Improved svg math.               | 1094, 1096    |
| siunitx: Improved color output.           | 1094          |
| stfloats: Added.                          | 1134          |
| todonotes: Improved \todototoc.           | 1196          |
| vmargin: Added.                           | 1217          |
| xfrac: Fix: Added groups around           |               |
| super/subscripts to localize              |               |
| LWR@nestspan changes.                     | 1238          |
| Docs: Converting an existing              |               |
| document.                                 | 98            |
| Improved font control.                    | 606, 607      |
| tabular: colortbl: Added.                 | 497           |
| lateximage: Print mode boxed to           |               |
| natural width.                            | 579           |
| abstract: Allow optional name.            | 424           |
| v0.49                                     |               |
| \lWR@addtabularcellcolor: xcolor:         |               |
| Added tabular row colors.                 | 476           |
| \lWR@domulticolumn: xcolor: Added         |               |
| tabular row colors.                       | 483           |
| \lWR@href: Fix: Adapt to classes.         | 510           |
| \lWR@printlength: Fix: Group              |               |
| printlen changes.                         | 241           |
| \lWR@url: Fix: Adapt to classes.          | 511           |
| \affiliation: Fix: Adapts to classes      |               |
| which already provide.                    | 416           |
| \noalign: Fix: \noalign inside            |               |
| tabular.                                  | 494           |
| General: 2018/02/19                       | 1             |
| amsmath: Fix: Patches for \eqref.         | 650           |
| eso-pic: Fix for                          |               |
| \AddToShipoutPicture.                     | 780           |
| figsize: Added.                           | 802           |
| flineno: Added.                           | 815           |
| hypdestopt: Added.                        | 857           |
| hyphenat: Added.                          | 868           |
| lineno: Added.                            | 904           |
| luacolor: Added.                          | 919           |
| pagegrid: Added.                          | 1022          |
| pdfrender: Added.                         | 1035          |
| resizegather: Added.                      | 1059          |
| verbbars: Added.                          | 1216          |
| vwcol: Added.                             | 1218          |
| xcolor: Added tabular row                 |               |
| colors.                                   | 463, 1233     |
| Fix: Adapt to classes.                    | 613           |
| v0.50                                     |               |
| @\ensuremath: Fix: Use lateximage         |               |
| even if MATHJAX.                          | 557           |
| Improved svg math alt tags.               | 557           |
| \LWR@footnotetext: Robustify              |               |
| macros.                                   | 373           |
| \LWR@atbeginverbatim: Improved            |               |
| column alignment.                         | 428           |
| \LWR@doequation: Improved svg math        |               |
| display.                                  | 562           |
| \LWR@doubledollar: Improved svg           |               |
| math alt tags.                            | 555           |
| Improved svg math display.                | 555           |
| \LWR@htmlrefsectionfilename: Fix:         |               |
| svg math in a section name.               | 344           |
| \LWR@newhtmlfile: Fix: svg math in a      |               |
| section name.                             | 392           |
| \LWR@nullfonts: Fix: \underline in        |               |
| sectioning file name.                     | 543           |
| \LWR@overline: Added.                     | 611           |
| \LWR@subsingleledollar: Fix: Use          |               |
| lateximage even if MATHJAX.               | 553           |
| Improved svg math alt tags.               | 553           |
| \LWR@subsingleledollarsvg: MD5 hash       |               |
| avoids duplicate svg math.                | 551           |
| \LWR@vspace: Robustify macros.            | 617           |
| \newline: Robustify macros.               | 614           |
| \textsubscript: Robustify macros.         | 610           |
| \textsuperscript: Robustify macros.       | 610           |
| General: 2018/03/03                       | 1             |
| lwarp.css: Improved svg display           |               |
| math centering.                           | 269           |
| lwarp_one_limage.txt: Added.              | 312           |
| amsmath: Fix: Upright tags for            |               |
| svgmath.                                  | 650           |
| axodraw2: Added.                          | 674           |
| bytefield: Added.                         | 696           |
| dblfloatfix: Added.                       | 752           |
| diagbox: Added.                           | 753           |
| epstopdf: Added.                          | 776           |
| listings: Force flexible columns.         | 907           |
| morefloats: Added.                        | 971           |
| nonfloat: Added.                          | 1005          |

|                            |                                                                         |                 |
|----------------------------|-------------------------------------------------------------------------|-----------------|
| ntheorem:                  | Fix: Not standard nor<br>amsthm selected.                               | 1014            |
| pbox:                      | Added.                                                                  | 1028            |
| phfjqt:                    | Added.                                                                  | 1038            |
| schemata:                  | Added.                                                                  | 1064            |
| siunitx:                   | Fix: Loads xcolor.                                                      | 1094            |
| siunitx:                   | Improved svg math alt<br>tags.                                          | 1096            |
| siunitx:                   | Improved units.                                                         | 584, 1094, 1097 |
| xy:                        | Added.                                                                  | 1246            |
| <i>lwarpmk</i> :           | Error if lateximages.txt<br>does not exist.                             | 316             |
| <i>lwarpmk</i> :           | Error if lwarpmk.conf<br>points to l warp.                              | 316             |
| <i>lwarpmk</i> :           | Improved error messages.                                                | 316             |
| <i>lwarpmk</i> :           | MD5 hash avoids duplicate<br>svg math.                                  | 316             |
| <i>lwarpmk</i> :           | Multiprocess support<br>making lateximages.                             | 316             |
| AMS environments:          | Improved svg<br>math display.                                           | 651             |
| Fix:                       | Load fontspec if necessary.                                             | 235             |
| Robustify macros.          |                                                                         | 607             |
| lateximage:                | Fix: svg math in a section<br>name.                                     | 577             |
|                            | MD5 hash avoids duplicate svg<br>math.                                  | 576, 579        |
| eqnarray:                  | Improved svg math<br>display.                                           | 568, 569        |
| v0.51                      |                                                                         |                 |
| \@ensuredmath:             | Hashes \ensuremath.                                                     | 557             |
| \@item:                    | Restored list label space.                                              | 433             |
| \LWR@HTMLsanitizeexpand:   | Fix:<br>Escapes double quotes.                                          | 386             |
| \LWR@LwarpStart:           | MathJax: Nullifies<br>\ensuremath.                                      | 411             |
| \LWR@addbaselinemarker:    | Improved<br>svg math baseline.                                          | 547             |
| \LWR@atbeginverbatim:      | Adds vertical<br>offset.                                                | 427             |
| \LWR@dequation:            | Fix:<br>\addcontentsline inside svg<br>math. Provides an autoid anchor. | 562             |
| \LWR@doubledollar:         | Fix:<br>\addcontentsline inside svg<br>math. Provides an autoid anchor. | 555             |
| \LWR@findcurrenttextcolor: | Added<br>\LWR@findcurrenttextcolor<br>when no xcolor.                   | 611             |
| \LWR@newautoidanchor:      | Fix: No autoid<br>is inside a lateximage.                               | 516             |
| \LWR@singledollarmeasure:  | Fix:<br>lateximage inside $\mathcal{M}$ \text.                          | 549             |
| Fix:                       | Honors text font around svg<br>math.                                    | 548             |
|                            | Improved svg math baseline.                                             | 549             |
|                            | Typeset svg math only once during<br>measurement.                       | 549             |
| \LWR@subHTMLsanitize:      | Fix: Escapes<br>double quotes.                                          | 385             |
| \LWR@subsingledollar:      | Fix:<br>\ensuredmath inside svg image.                                  | 554             |
| \LWR@subsingledollarsvg:   | Fix: svg<br>math with enclosed lateximage.                              | 550             |
|                            | SVG math baseline improved with<br>invisible rule at corner.            | 552             |
| \LWR@textcurrentcolor:     | xcolor:<br>\LWR@textcurrentcolor if xcolor<br>not loaded.               | 612             |
| \addcontentsline:          | Add missing<br>support for float mechanism if<br>necessary.             | 521             |
|                            | No anchor ID if inside svg image.                                       | 521             |
| \displaymathnormal:        | Processing for<br>complicated display math.                             | 565             |
| \displaymathother:         | Processing for<br>complicated display math.                             | 566             |
| General:                   | 2018/03/24                                                              | 1               |
| MATHJAX:                   | Nullifies \ensuremath.                                                  | 388             |
| \l warp_one_limage.txt:    | <i>pdftocairo</i><br>-no shrink added.                                  | 312             |
| afterpackage:              | No longer required.                                                     | 238             |
| chemfig:                   | Added.                                                                  | 711             |
| chemformula:               | Added.                                                                  | 713             |
| chemgreek:                 | Added.                                                                  | 718             |
| chemmacros:                | Added.                                                                  | 718             |
| chemnum:                   | Added.                                                                  | 736             |
| epstopdf-base:             | Added.                                                                  | 776             |
| fancybox:                  | Fix: Optional tag for<br>\item in a span.                               | 789             |
| grid:                      | Added.                                                                  | 850             |
| listings:                  | Forces cleared options.                                                 | 907             |
| ltxgrid:                   | Added.                                                                  | 918             |
| mhchem:                    | Added.                                                                  | 962             |
| tikz:                      | Fix for \tikz macro.                                                    | 1173            |
| tikz:                      | Fix for tikz with optional<br>argument.                                 | 1173            |
| titling:                   | Fix for \thanks mark.                                                   | 1183            |
| <i>lwarpmk</i> :           | <i>pdftocairo</i> -no shrink<br>option.                                 | 316             |
| <i>lwarpmk</i> :           | <i>pdftocairo</i> -no shrink<br>added.                                  | 316             |
| AMS environments:          | Fix:<br>\addcontentsline inside svg<br>math. Provides an autoid anchor. | 651             |
| Docs:                      | tikz limitations.                                                       | 159             |
| Docs:                      | Multiple authors and<br>affiliations.                                   | 132             |
| Docs:                      | Things to avoid.                                                        | 121             |

|                                                                                                                                         |          |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------|
| Docs: Updated Converting an existing document. . . . .                                                                                  | 98       |
| Fix: Remember original \# in case is redefined. . . . .                                                                                 | 259      |
| Named HTML entity used for text dollar. . . . .                                                                                         | 546      |
| <b>lateximage:</b> Added additional hashing option. . . . .                                                                             | 574      |
| Fix: <i>lateximage</i> inside <i>\text</i> . . . . .                                                                                    | 575      |
| Processing for complicated display math. . . . .                                                                                        | 578      |
| <b>alignat:</b> <i>amsmath</i> : Fix: Added. . . . .                                                                                    | 653      |
| <b>eqnarray:</b> Fix: <i>\addcontentsline</i> inside SVG math. Provides an autoid anchor. . . . .                                       | 568, 569 |
| <b>LWR@displaymathother:</b> Processing for complicated display math. . . . .                                                           | 558      |
| <b>LWR@equationother:</b> Processing for complicated display math. . . . .                                                              | 558      |
| <b>v0.52</b>                                                                                                                            |          |
| <b>\@ensuredmath:</b> Improved hashing expansion. . . . .                                                                               | 557      |
| <b>\@mpfootnotetext:</b> Fix: Paragraph handling. . . . .                                                                               | 375      |
| <b>\CustomizeMathJax:</b> Added. . . . .                                                                                                | 387      |
| <b>\LWR@footnotetext:</b> Fix: Paragraph handling. . . . .                                                                              | 374      |
| <b>\LWR@addbaselinemarker:</b> Warnings if <i>lwarf_baseline_marker.png</i> is not present or if <i>graphicx</i> /s not loaded. . . . . | 547      |
| <b>\LWR@customizedMathJax:</b> Added. . . . .                                                                                           | 386      |
| <b>\LWR@dequation:</b> Fix: <i>equation*</i> now based on <i>equation</i> instead of <i>displaymath</i> . . . . .                       | 562      |
| Fix: <i>equation*</i> with <i>split</i> . . . . .                                                                                       | 562      |
| <b>\LWR@filenamenoblanks:</b> Fix: <i>\FileDepth</i> with non-utf8 encoding. . . . .                                                    | 383      |
| <b>\LWR@href:</b> Fix: #, %, &, ~, _ in URL. . . . .                                                                                    | 510      |
| <b>\LWR@nolinkurl:</b> Fix: #, %, &, ~, _ in URL. . . . .                                                                               | 511      |
| <b>\LWR@nullfonts:</b> Fix: <i>\texorpdfstring</i> in section names. . . . .                                                            | 544      |
| <b>\LWR@section:</b> Fix: Footnote numbering: Limited HTML comment if starred. . . . .                                                  | 399      |
| Fix: Footnote numbering: Use short TOC entry for HTMLDebug comments. . . . .                                                            | 399      |
| <b>\LWR@singledollarmeasure:</b> Added user-adjustable SVG math font scaling. . . . .                                                   | 549      |
| <b>\LWR@url:</b> Fix: #, %, &, ~, _ in URL. . . . .                                                                                     | 511      |
| <b>\LateximageFontSize:</b> Added user-adjustable SVG math font scaling. . . . .                                                        | 571      |
| <b>\theHTMLTitleSeparator:</b> Fix: <i>\FileDepth</i> with non-utf8 encoding. . . . .                                                   | 405      |
| General: 2018/04/01 . . . . .                                                                                                           | 1        |
| <b>breakurl:</b> Fix: #, %, &, ~, _ in URL. . . . .                                                                                     | 693      |
| <b>endfloat:</b> Updated for v2.6. . . . .                                                                                              | 764      |
| <b>fancyvrb:</b> Initial support for <i>\VerbatimFootnotes</i> . . . . .                                                                | 786, 792 |
| <b>graphics:</b> Added defaults. . . . .                                                                                                | 840      |
| <b>graphics:</b> Updated for v1.1a. . . . .                                                                                             | 841      |
| <b>graphics:</b> Updated for v1.1b. . . . .                                                                                             | 841      |
| <b>hyperref:</b> Fix: #, %, &, ~, _ in URL. . . . .                                                                                     | 862–864  |
| <b>nicefrac:</b> Added. . . . .                                                                                                         | 1000     |
| <b>url:</b> Added. . . . .                                                                                                              | 1213     |
| <b><i>lwarfmk</i>:</b> Fix: Memory overflow when spawning tasks. . . . .                                                                | 316      |
| <b><i>lwarfmk</i>:</b> Fix: Skip image generation if from page 0. . . . .                                                               | 316      |
| <b>Changed FootnoteDepth default to \subsubsection.</b> . . . . .                                                                       | 371      |
| Docs: Improved install instructions. . . . .                                                                                            | 79       |
| Fix: MATHJAX script line wraps. Reduced right margin. . . . .                                                                           | 236      |
| If pdfLaTeX, allow other input encoding. . . . .                                                                                        | 217      |
| Restore <i>\kill</i> in a <i>lateximage</i> . . . . .                                                                                   | 917      |
| <b>tabbing:</b> Fix to allow inside <i>lateximage</i> . . . . .                                                                         | 429      |
| <b>lateximage:</b> Fix for hash expansion. . . . .                                                                                      | 576      |
| <b>v0.53</b>                                                                                                                            |          |
| General: 2018/04/01 . . . . .                                                                                                           | 1        |
| <b><i>lwarfmk</i>:</b> Added                                                                                                            |          |
| <b><i>lwarfmk cleanimages</i>:</b> . . . . .                                                                                            | 316      |
| <b><i>lwarfmk</i>:</b> Added warning for corrupted images. . . . .                                                                      | 316      |
| Docs: <b><i>lwarfmk cleanimages</i></b> . . . . .                                                                                       | 95       |
| Docs: <b><i>lwarfmk pdftohtml</i></b> . . . . .                                                                                         | 95       |
| <b>v0.54</b>                                                                                                                            |          |
| <b>\@xdbfloat:</b> Honor <i>\centering</i> , etc. in floats. . . . .                                                                    | 515      |
| <b>\LWR@afterendverbatim:</b> Added <i>vspace</i> argument. . . . .                                                                     | 428      |
| <b>\LWR@beginverbatim:</b> Improved column alignment. . . . .                                                                           | 428      |
| <b>\LWR@earlyloadnever:</b> Added. . . . .                                                                                              | 205      |
| <b>\LWR@endfloatalignment:</b> Honor <i>\centering</i> , etc. in floats. . . . .                                                        | 517      |
| <b>\LWR@floatalignment:</b> Honor <i>\centering</i> , etc. in floats. . . . .                                                           | 517      |
| <b>\LWR@floatend:</b> Honor <i>\centering</i> , etc. in floats. . . . .                                                                 | 515      |

|                                                                                |      |
|--------------------------------------------------------------------------------|------|
| \LateximageFontSizeName: Defaults to normalsize.                               | 571  |
| \centering: Added debug comment.                                               | 580  |
| \raggedleft: Added debug comment.                                              | 581  |
| \raggedright: Added debug comment.                                             | 581  |
| General: 2018/04/22                                                            | 1    |
| *.lwarpmkconf: Option<br>IndexLanguage changed to<br>xindyLanguage.            | 269  |
| *.lwarpmkconf: Option<br>pdftotextEnc added.                                   | 269  |
| *.lwarpmkconf: Option<br>xdyFilename changed to<br>xindyStyle.                 | 269  |
| *.lwarpmkconf: Option<br>xindyCodepage added.                                  | 269  |
| lwarf.css: Fix:<br>Text-decoration-skip: auto.                                 | 269  |
| lwarpmk.conf: Option<br>IndexLanguage changed to<br>xindyLanguage.             | 269  |
| lwarpmk.conf: Option<br>pdftotextEnc added.                                    | 269  |
| lwarpmk.conf: Option xdyFilename changed to xindyStyle.                        | 269  |
| lwarpmk.conf: Option<br>xindyCodepage added.                                   | 269  |
| bibunits: Added.                                                               | 685  |
| chngpage: Added.                                                               | 737  |
| forest: Added.                                                                 | 822  |
| glossaries: Fix when not using <b>babel</b> or <b>polyglossia</b> .            | 836  |
| gridset: Added.                                                                | 851  |
| hyperref: Fix: \hyperref and<br>\hyperlink with special chars in<br>text.      | 864  |
| hyperref: Fix: \ref in \hyperref<br>and \hyperlink caused nested<br>link.      | 864  |
| lwarf-patch-memoir: Update for<br>v3.7g.                                       | 1257 |
| magaz: Added.                                                                  | 926  |
| ragged2e: Fix: \centering, etc.                                                | 1052 |
| textcomp: Fix for<br>\textperthousand.                                         | 1159 |
| tikz: Fixes for \pgfpicture,<br>minipages, fit, align, font.                   | 1173 |
| <i>lwarfmk</i> : Added pdftotextenc.                                           | 316  |
| <i>lwarfmk</i> : Added xindycodepage.                                          | 316  |
| <i>lwarfmk</i> : Changed language to<br>xindylanguage.                         | 316  |
| <i>lwarfmk</i> : Changed xdyfile to<br>xindystyle.                             | 316  |
| <i>lwarfmk</i> : Improved error if<br>configuration file does not exist.       | 316  |
| <i>lwarfmk</i> : Increased prominence for<br>error for an unknown command.     |      |
| 316                                                                            |      |
| <i>lwarfmk</i> : Verifies HTML version<br>exists before <i>lwarfmk</i> images. |      |
| 316                                                                            |      |
| <i>lwarfmk</i> : Verifies image references<br>before <i>lwarfmk</i> images.    |      |
| 316                                                                            |      |
| Add: pdftotextEnc.                                                             |      |
| 229                                                                            |      |
| Add: xindyCodepage.                                                            |      |
| 228                                                                            |      |
| Added early check for disallowed<br>packages.                                  |      |
| 205                                                                            |      |
| Docs: BibTeX.                                                                  |      |
| 134                                                                            |      |
| Docs: Macros in sectioning names.                                              |      |
| 121                                                                            |      |
| Never load <b>aecompl</b> .                                                    |      |
| 205                                                                            |      |
| Option IndexLanguage changed to<br>xindyLanguage.                              |      |
| 228                                                                            |      |
| Option xdyFilename changed to<br>xindyStyle.                                   |      |
| 228                                                                            |      |
| verse: Fix: Line spacing.                                                      |      |
| 426                                                                            |      |
| v0.55                                                                          |      |
| \@xdlbfloa: Fix: Float optional args.                                          |      |
| 515                                                                            |      |
| \LWR@LwarpStart: Fix: Overfull boxes<br>in lateximages.                        |      |
| 409                                                                            |      |
| \LWR@nullfonts: Removed extraneous<br>space which appeared in file links.      |      |
| 543                                                                            |      |
| \LWR@phantomsection: Fix:<br>\ForceHTMLTOC with<br>\phantomsection.            |      |
| 620                                                                            |      |
| General: 2018/04/26                                                            |      |
| 1                                                                              |      |
| clrdblpg: Added.                                                               |      |
| 743                                                                            |      |
| Fix: \centering, etc. for<br>komascript.                                       |      |
| 514                                                                            |      |
| Fix: QED symbols in<br>latextimage.                                            |      |
| 658, 1018                                                                      |      |
| v0.56                                                                          |      |
| \LWR@addcdashline: arydshln: Added.                                            |      |
| 473                                                                            |      |
| \LWR@addmulticolverrulecolor:                                                  |      |
| Adds support for dashed vertical<br>rules.                                     |      |
| 480                                                                            |      |
| Adds support for double vertical<br>rules.                                     |      |
| 480                                                                            |      |
| \LWR@addtabularhrulecolor: Adds<br>support for arydshln dashed rules.          |      |
| 474                                                                            |      |
| Adds support for double \hlines and<br>\midrules.                              |      |
| 474                                                                            |      |
| \LWR@addtabularrulecolors: Adds<br>support for dashed vertical rules.          |      |
| 475                                                                            |      |
| Adds support for double vertical<br>rules.                                     |      |
| 475                                                                            |      |
| \LWR@closeparagraph: Added support<br>for parnotes.                            |      |
| 363                                                                            |      |
| \LWR@domulticolumn: Adds support<br>for dashed vertical rules.                 |      |
| 482                                                                            |      |
| Adds support for double vertical<br>rules.                                     |      |
| 482                                                                            |      |

|                                                                          |          |
|--------------------------------------------------------------------------|----------|
| \LWR@floatbegin: Adds a <class> per float package style.                 | 514      |
| \LWR@multicolpartext: Fix: \multicolumn parameters.                      | 478      |
| \LWR@openparagraph: Added support for parnotes.                          | 362      |
| \LWR@parsebarcolumn: Adds support for double vertical rules.             | 454      |
| \LWR@parsecoloncolumn: arydshln: Added.                                  | 454      |
| \LWR@parsesemicoloncolumn: arydshln: Added.                              | 455      |
| \LWR@parsetablecols: Added array W column.                               | 462      |
| \LWR@printmccoldata: Added array W column.                               | 479      |
| Fix: \multicolumn parameters.                                            | 479      |
| \LWR@printmccoltype: Added array W column.                               | 477      |
| Adds support for dashed vertical rules.                                  | 477      |
| Adds support for double vertical rules.                                  | 477      |
| \LWR@tabledatacolumntag: Fix: \morecmidrules                             | 492      |
| \LWR@textcurrentfont: Added span.textbf, etc.                            | 606      |
| General: 2018/05/12                                                      | 1        |
| *.lwarpmkconf: Records --shell-escape.                                   | 269      |
| lwarf.css: Added div.textbf, etc.                                        | 269      |
| lwarf.css: Added span.textbf, etc.                                       | 269      |
| lwarpmk.conf: Records --shell-escape.                                    | 269      |
| arydshln: Added.                                                         | 441, 663 |
| lua-check-hyphen: Added.                                                 | 919      |
| paralist: Fixes for compactenum, compactitem, compactdesc.               | 1022     |
| parnotes: Added.                                                         | 1027     |
| quoting: Added.                                                          | 1051     |
| tocenter: Added.                                                         | 1189     |
| underscore: Added.                                                       | 1206     |
| <i>lwarpmk</i> : Added lwarpmk pdftosvg.                                 | 316      |
| <i>lwarpmk</i> : Supports --shell-escape.                                | 316      |
| Added \thinspace.                                                        | 612      |
| Docs: <b>lwarpmk pdftosvg</b> .                                          | 95       |
| \LWR@blocktextcurrentfont: Added div.textbf, etc.                        | 607      |
| \BlockClassSingle: Improved print/HTML output selection.                 | 358      |
| \InlineClass: Improved print/HTML output selection.                      | 359      |
| \LWR@href: Fix: Text catcodes.                                           | 510      |
| \LWR@singledollarmeasure: Fix: Dynamic inline math expressions.          | 549      |
| \LWR@subhyperref: Fix: Text catcodes.                                    | 510      |
| \LWR@subhyperreftext: Fix: Text catcodes.                                | 510      |
| \LWR@subsingledollar: Fix: Dynamic inline math expressions.              | 554      |
| \LWR@subsingledollarsvg: Fix: Dynamic inline math expressions.           | 551      |
| \LWR@vspace: Improved print/HTML output selection.                       | 617      |
| \MathImageAltText: Added.                                                | 545      |
| \PackageDiagramAltText: Added.                                           | 545      |
| \StartDefiningMath: Added.                                               | 339      |
| \boxframe: xcolor: Fix: Colored \boxframe.                               | 1233     |
| \colorbox: xcolor: New system for switching print and HTML outputs.      | 1230     |
| \colorboxBlock: xcolor: New system for switching print and HTML outputs. | 1230     |
| \framebox: Improved print/HTML output selection.                         | 598      |
| \inlinemathother: Added.                                                 | 340      |
| \listof: Fix: Provide \l@name if not defined.                            | 525      |
| \makebox: Improved print/HTML output selection.                          | 598      |
| \mbox: Improved print/HTML output selection.                             | 597      |
| \multicolumnrow: multirow: Improved print/HTML output selection.         | 981      |
| Improved print/HTML output selection.                                    | 488      |
| \newfloat: rotfloat: Added float styles.                                 | 1062     |
| rotfloat: Fix for listof sideways floats.                                | 1063     |
| \parbox: Improved print/HTML output selection.                           | 597      |
| \raisebox: Improved print/HTML output selection.                         | 602      |
| \reflectbox: Improved print/HTML output selection.                       | 849      |
| \resizebox: Improved print/HTML output selection.                        | 849      |
| \rotatebox: Improved print/HTML output selection.                        | 847      |

|                                                  |                                                       |          |       |
|--------------------------------------------------|-------------------------------------------------------|----------|-------|
| \rule:                                           | Fix: Colored rules.                                   | 619      | v0.58 |
| \scalebox:                                       | Improved print/HTML output selection.                 | 848      |       |
| \textcolor{xcolor}:                              | New system for switching print and HTML outputs.      | 1229     |       |
| General:                                         | 2018/06/06                                            | 1        |       |
| MATHJAX:                                         | Supports \footnote,                                   |          |       |
|                                                  | \footnotemark.                                        | 388      |       |
| lwarf.css:                                       | Added ruled, boxed, boxruled floats.                  | 269      |       |
| lwarf.css:                                       | Increased float vertical margins.                     | 269      |       |
| algorithm2e:                                     | Added.                                                | 644      |       |
| bigdelim:                                        | Improved print/HTML output selection.                 | 685      |       |
| breakurl:                                        | Fix: Text catcodes.                                   | 693      |       |
| colortbl:                                        | New system for switching print and HTML outputs.      | 745, 746 |       |
| ellipsis:                                        | Added \midwordellipsis.                               | 763      |       |
| errata:                                          | Added.                                                | 778      |       |
| float:                                           | Added float styles.                                   | 806      |       |
| float:                                           | Fix: Do not pre-define \l@name.                       | 806      |       |
| ltablex:                                         | Added.                                                | 917      |       |
| marginnote:                                      | Fix: Long optional argument.                          | 930      |       |
| multirow:                                        | Improved print/HTML output selection.                 | 979      |       |
| register:                                        | Added.                                                | 1056     |       |
| subcaption:                                      | Fix: \subref.                                         | 863      |       |
| trimclip:                                        | Added.                                                | 1199     |       |
| vowel:                                           | Added.                                                | 1217     |       |
| xellipsis:                                       | Added.                                                | 1235     |       |
| xfrac:                                           | Improved print/HTML \scalebox control.                | 1238     |       |
| xltabular:                                       | Added.                                                | 1239     |       |
| xpiano:                                          | Added.                                                | 1241     |       |
| <i>lwarpmk</i> :                                 | Improved code factoring.                              | 316      |       |
| <i>lwarpmk</i> :                                 | Improved error handling.                              | 316      |       |
| Docs:                                            | Recompiling <i>lwarpmk</i> or css files.              | 189      |       |
| Docs:                                            | Recreating the index for lwarf source.                | 187      |       |
| New system for switching print and HTML outputs. |                                                       | 253      |       |
| minipage:                                        | Improved print/HTML output selection.                 | 594      |       |
| BlockClass:                                      | Improved print/HTML output selection.                 | 358      |       |
| fminipage:                                       | Improved print/HTML output selection.                 | 600      |       |
| \LWR@BlockClassWP:                               | Improved print/HTML output selection.                 | 359      |       |
| \LWR@HTML@caption@begin:                         | Improved print/HTML output selection.                 | 519      |       |
| \LWR@HTML@caption@end:                           | Improved print/HTML output selection.                 | 519      |       |
| \LWR@HTML@ref:                                   | Improved print/HTML output selection.                 | 508      |       |
| \LWR@doindexentrysubsub:                         | Adds support for \see, \seealso, \emph, \textbf, etc. | 535      |       |
| \LWR@hyperindexrefnullified:                     | Adds support for \see, \seealso, \emph, \textbf, etc. | 535      |       |
| \LWR@hyperindexrefsubtwo:                        | Adds support for \see, \seealso, \emph, \textbf, etc. | 537      |       |
| \LWR@indexitem:                                  | Accepts optional arg for repeatindex.                 | 530      |       |
| \dotfill:                                        | Improved print/HTML output selection.                 | 614      |       |
| \hfill:                                          | Improved print/HTML output selection.                 | 613      |       |
| \hrulefill:                                      | Improved print/HTML output selection.                 | 613      |       |
| \printindex:                                     | Fix: Extra \newpage to flush pending \index writes.   | 927      |       |
| General:                                         | 2018/07/07                                            | 1        |       |
| *.lwarpmkconf:                                   | Added option makeindexstyle.                          | 269      |       |
| *.lwarpmkconf:                                   | Added options makeindex and xindy.                    | 269      |       |
| *.lwarpmkconf:                                   | Generated \AtBeginDocument.                           | 269      |       |
| lwarf.xdy:                                       | Requires makeindex.xdy.                               | 311      |       |
| lwarf.xdy:                                       | Supports bold, italic.                                | 311      |       |
| lwarf_html.list:                                 | Added.                                                | 310      |       |
| lwarpmk.conf:                                    | Added option makeindexstyle.                          | 269      |       |
| lwarpmk.conf:                                    | Added options makeindex and xindy.                    | 269      |       |
| lwarpmk.conf:                                    | Generated \AtBeginDocument.                           | 269      |       |
| array:                                           | Improved print/HTML output selection.                 | 662      |       |
| attachfile2:                                     | Added.                                                | 667      |       |
| attachfile:                                      | Added.                                                | 666      |       |
| cases:                                           | Added.                                                | 702      |       |
| imakeidx:                                        | Added.                                                | 870      |       |
| index:                                           | Added.                                                | 874      |       |
| intopdf:                                         | Added.                                                | 876      |       |
| <i>lwarf-patch-komascript</i> :                  | Modified indexing.                                    | 1250     |       |
| <i>lwarf-patch-memoir</i> :                      | Fix for \specialindex.                                | 1274     |       |

|                                                                                                                      |      |
|----------------------------------------------------------------------------------------------------------------------|------|
| <b>l warp-patch-memoir:</b> Fix for multiple indexes.                                                                | 1275 |
| <b>makeidx:</b> Added. Moved from <b>l warp</b>                                                                      |      |
| core.                                                                                                                | 927  |
| <b>memoir:</b> Fix for \firsthline,                                                                                  |      |
| \lasthline.                                                                                                          | 489  |
| <b>memoir:</b> Fix for <b>booktabs</b> .                                                                             | 494  |
| <b>pdfpages:</b> Added.                                                                                              | 1032 |
| <b>pdfx:</b> Added.                                                                                                  | 1036 |
| <b>repeatingindex:</b> Added.                                                                                        | 1059 |
| <b>splitidx:</b> Added.                                                                                              | 1117 |
| <b>textcomp:</b> Improved print/HTML output selection.                                                               | 1159 |
| <b>l warpmk:</b> Added <b>makeindex</b> and <b>xindy</b> options.                                                    | 316  |
| <b>l warpmk:</b> Added -p option for project name.                                                                   | 316  |
| <b>l warpmk:</b> Added optional list of names for <b>l warpmk printindex</b> and <b>/cmdslwarpmk htmlindex</b> .     | 316  |
| <b>l warpmk:</b> Glossary generation now uses <b>makeglossaries</b> .                                                | 316  |
| <b>l warpmk: l warpmk clean</b> removes all *.ind and *.idx files.                                                   | 316  |
| Added <b>makeindex</b> option.                                                                                       | 230  |
| Added <b>xindy</b> option.                                                                                           | 230  |
| Added option <b>makeindexStyle</b> .                                                                                 | 228  |
| Docs: Index, <b>makeindex</b> , <b>imakeidx</b> .                                                                    | 136  |
| Docs: Misplaced \omit.                                                                                               | 193  |
| Fix: <b>memoir</b> and <b>ccaption</b> .                                                                             | 206  |
| Improved print/HTML output selection.                                                                                | 612  |
| Replaced each \csuse with \nameuse to force error if undefined.                                                      | 1    |
| <b>tabbing:</b> Improved print/HTML output selection.                                                                | 429  |
| <b>v0.59</b>                                                                                                         |      |
| \LWR@addbaselinemarker: Uses .eps if DVI <b>latex</b> .                                                              | 547  |
| \LWR@latexmkcmd: Fix: --shell-escape with <b>latexmk</b> .                                                           | 264  |
| \LWR@writeconf: Compilation commands now preassigned by <b>l warp</b> instead of being computed by <b>l warpmk</b> . | 268  |
| \l: Fix with \displaymathnormal.                                                                                     | 557  |
| General: 2018/09/07                                                                                                  | 1    |
| Slunits: Added.                                                                                                      | 1085 |
| accsupp: Added.                                                                                                      | 638  |
| amsmath: Moved from the <b>l warp</b> core.                                                                          | 650  |
| asymptote: Added.                                                                                                    | 665  |
| axessibility: Added.                                                                                                 | 673  |
| breqn: Added.                                                                                                        | 693  |
| <b>bxpapersize:</b> Added.                                                                                           | 696  |
| <b>canoniclayout:</b> Added.                                                                                         | 697  |
| <b>chemformula:</b> Fix for \NMR.                                                                                    | 733  |
| <b>draftcopy:</b> Added.                                                                                             | 756  |
| <b>epstopdf-base:</b> Improved.                                                                                      | 776  |
| <b>epstopdf:</b> Improved.                                                                                           | 776  |
| <b>fnbreak:</b> Added.                                                                                               | 814  |
| <b>graphics:</b> Fix: Expand filename.                                                                               | 845  |
| <b>graphics:</b> Now works with .pdf and .eps filename extensions.                                                   | 845  |
| <b>ncfancyhdr:</b> Added.                                                                                            | 988  |
| <b>pdftricks:</b> Added.                                                                                             | 1036 |
| <b>pst-eps:</b> Added.                                                                                               | 1047 |
| <b>pstricks:</b> Added.                                                                                              | 1048 |
| <b>units:</b> Added support for <b>MathJax</b> .                                                                     | 1211 |
| <b>xunicode:</b> Added.                                                                                              | 1245 |
| <b>l warpmk:</b> Added <b>l warpmk epstopdf</b> .                                                                    | 316  |
| <b>l warpmk:</b> Consolidated compiling options into <b>printlatexcmd</b> and <b>HTMLlatexcmd</b> .                  | 316  |
| <b>l warpmk:</b> Double instead of single-dashed --shell-escape option.                                              | 316  |
| <b>l warpmk:</b> Error if <b>l warpmk.conf</b> format changed.                                                       | 316  |
| <b>l warpmk:</b> Warning if operating system changed.                                                                | 316  |
| Added option <b>dvipdfmx</b> .                                                                                       | 231  |
| Added option <b>dvipdfm</b> .                                                                                        | 230  |
| Added option <b>dvips</b> .                                                                                          | 230  |
| Docs: <b>l warpmk epstopdf</b> .                                                                                     | 95   |
| File: <b>l warp_mathjax.txt</b> : Fix: Removed chapter number from tagged non-numeric MATHJAX equations.             | 312  |
| File: <b>l warp_mathjax.txt</b> : Updated to MATHJAX v2.7.4.                                                         | 312  |
| <b>picture:</b> Added an alt tag.                                                                                    | 591  |
| <b>v0.60</b>                                                                                                         |      |
| \lWR@clearmidrules: <b>tabular</b> : Fix for midrules.                                                               | 469  |
| \lWR@parsenormalcolumn: <b>tabular</b> : Improved memory management: Not using <b>xstring</b> .                      | 455  |
| \lWR@tableddatasinglecolumntag: <b>tabular</b> : Improved memory management: Not using <b>xstring</b> .              | 467  |
| \lWR@tabularendofline: Fix: Slowdown for long tables.                                                                | 451  |
| General: 2018/09/19                                                                                                  | 1    |
| <b>tabular</b> : Improved memory management: Global boolean.                                                         | 442  |

|                                                                 |                                        |
|-----------------------------------------------------------------|----------------------------------------|
| tabular: Improved memory management: Not using                  | psfragx: Added. . . . .                |
| xstring. . . . . 444, 979                                       | 1047                                   |
| 2up: Added. . . . .                                             | psfrag: Added. . . . .                 |
| 633                                                             | 1046                                   |
| booklet: Added. . . . .                                         | pstool: Added. . . . .                 |
| 689                                                             | 1048                                   |
| bophook: Added. . . . .                                         | refcheck: Added. . . . .               |
| 691                                                             | 1055                                   |
| diagbox: Fix for par tags. . . . .                              | srcltx: Added. . . . .                 |
| 754                                                             | 1119                                   |
| draftfigure: Added. . . . .                                     | srcTEX: Added. . . . .                 |
| 757                                                             | 1119                                   |
| fancytabs: Added. . . . .                                       | supertabular: Fix for caption w/o opt  |
| 791                                                             | arg. . . . .                           |
| fullminipage: Added. . . . .                                    | 1142                                   |
| 827                                                             | thinsp: Added. . . . .                 |
| grid-system: Added. . . . .                                     | 1167                                   |
| 850                                                             | threadcol: Added. . . . .              |
| layaureo: Added. . . . .                                        | 1169                                   |
| 892                                                             | uspace: Added. . . . .                 |
| leading: Added. . . . .                                         | 1213                                   |
| 895                                                             | vpe: Added. . . . .                    |
| listings: Fix for HTML entities. . . . .                        | 1218                                   |
| 907                                                             | xbmks: Added. . . . .                  |
| listings: Fix if inside a list. . . . .                         | 1224                                   |
| 909, 912                                                        | xtab: Fix for caption w/o opt arg. . . |
| thumbs: Added. . . . .                                          | 1244                                   |
| 1172                                                            | Added HTMMLatexCmd option. . . . .     |
| thumb: Added. . . . .                                           | 229                                    |
| 1171                                                            | Added PrintLatexCmd option. . . . .    |
| widows-and-orphans: Added. . . . .                              | 229                                    |
| 1221                                                            | Docs: \tracingl warp . . . . .         |
|                                                                 | 250                                    |
| v0.61                                                           | Docs: HTML entities. . . . .           |
|                                                                 | 122                                    |
| \DeclareGraphicsExtensions: Fix:                                | Docs: Compiling using custom shell     |
| EPS for DVI L <sup>A</sup> T <sub>E</sub> X. . . . .            | commands. . . . .                      |
| 838                                                             | 175                                    |
| \LWR@HTMMLatexCmd: Added                                        | Docs: Fonts. . . . .                   |
| HTMMLatexCmd option. . . . .                                    | 101                                    |
| 268                                                             | Docs: HTMLDebugComments . . . . .      |
| Added PrintLatexCmd option. . . . .                             | 109, 249                               |
| \LWR@addcompilecmd: Removed                                     | Docs: Multiple indexes. . . . .        |
| spaces. . . . .                                                 | 198                                    |
| \LWR@closetabledatacell: Fix: Par                               | Don't write configuration files if     |
| tags in tabular. . . . .                                        | processing pstool image. . . . .       |
| 446                                                             | 262                                    |
| \LWR@hyperindexrefnullified: Made                               | Spaces redefined                       |
| robust. . . . .                                                 | \AtBeginDocument. . . . .              |
| 535                                                             | 612                                    |
| \LWRopseq: Added spaces. . . . .                                | v0.62                                  |
| 226                                                             |                                        |
| \RequirePackage: Support up to 20                               | \@partcntformat: Added for ctex. . .   |
| packages. . . . .                                               | 397                                    |
| 244                                                             | \@partnameformat: Added for ctex. . .  |
| \inlinemathnormal: Changed name                                 | 397                                    |
| from \StopDynamicMath to                                        | \InlineClass: Added optional           |
| \inlinemathnormal. . . . .                                      | word-processing style. Replaces        |
| 340                                                             | \LWR@HTMLtextstyle. . . . .            |
| \inlinemathother: Changed name                                  | 359                                    |
| from \StartDynamicMath to                                       | \LWR@PreloadedPackage: Added. . .      |
| \inlinemathother. . . . .                                       | 581                                    |
| 340                                                             | \LWR@ProvidesPackagePass: Fix:         |
| \listof: Fix: newfloat lists. . . . .                           | Unknown option error. . . . .          |
| 525                                                             | 246                                    |
| \lwarpsetup: Added. . . . .                                     | \LWR@endofline: Extra space if         |
| 227                                                             | optional arg. . . . .                  |
| General: 2018/10/13 . . . . .                                   | 614                                    |
| lwarp.css: Footnotes text align left.                           | \LWR@filestart: Refactored. . . . .    |
| 269                                                             | 408                                    |
| lwarp.css: Minipage table and                                   | \LWR@isolate: Added. . . . .           |
| footnotes: tighter margin. . . . .                              | 221                                    |
| 269                                                             | \LWR@textcurrentfont: Added print      |
| chkfloat: Added. . . . .                                        | version. . . . .                       |
| 737                                                             | 612                                    |
| cmdtrack: Added. . . . .                                        | Tracks depth to avoid nesting          |
| 744                                                             | repeated font changes. . . . .         |
| copyrightbox: Added. . . . .                                    | 606                                    |
| 747                                                             | \colorboxBlock: xcolor: Fix: Horiz     |
| dprogress: Added. . . . .                                       | white space. . . . .                   |
| 756                                                             | 1230                                   |
| epsfig: Added. . . . .                                          | \fcolorbox: Fix: No longer requires    |
| 775                                                             | xifthen. . . . .                       |
| graphics: Fix: EPS for DVI L <sup>A</sup> T <sub>E</sub> X. . . | 587                                    |
| 842                                                             | \fcolorboxBlock: xcolor: Fix: Horiz    |
| graphics: Set keys before using                                 | white space. . . . .                   |
| filename, for epsfig. . . . .                                   | 1231, 1232                             |
| 845                                                             | \l@chapter: Don't define if no         |
| lua-visual-debug: Added. . . . .                                | \chapter. Fix for algorithm2e. . .     |
| 919                                                             | 529                                    |
| pdfprivacy: Added. . . . .                                      | \slshape: Added. . . . .               |
| 1035                                                            | 609                                    |
|                                                                 | \textup: Fixed WP span class. . . . .  |
|                                                                 | 604                                    |
|                                                                 | \theHTMLSection: Added. . . . .        |
|                                                                 | 406                                    |

|                                                                                |          |
|--------------------------------------------------------------------------------|----------|
| \theHTMLTitleSection: Added.                                                   | 405      |
| \theHTMLTitleSeparator: Refactored.                                            | 405      |
| General: 2018/11/19                                                            | 1        |
| \textbf and related: Improved font detection.                                  | 603      |
| \l warp.css: Added css for <code>xfrac</code> , <code>nicefrac</code> .        | 269      |
| \l warp.css: Fixed css for \textup.                                            | 269      |
| \l warp.css: Reduced margins in titlepage.                                     | 269      |
| \l warp_formal.css: Fix: Font for verse.                                       | 306      |
| 2in1: Added.                                                                   | 633      |
| CJKutf8: Prevented unless xeCJK.                                               | 739      |
| CJK: Prevented unless xeCJK.                                                   | 738      |
| asymptote: Improved alt tags.                                                  | 665      |
| bitpattern: Added.                                                             | 687      |
| calc: Fix: Required for print version.                                         | 238      |
| chngpage: Fix: Loads \l warp-chngpage.                                         | 737      |
| ctexpatch: Added patch.                                                        | 627      |
| flippdf: Added.                                                                | 805      |
| graphics: Fix: Filename expansion.                                             | 844      |
| graphics: Fix: FormatWP.                                                       | 842      |
| musicography: Added.                                                           | 982      |
| nicefrac: Improved font control and css, honors nice, ugly.                    | 1000     |
| notespages: Added.                                                             | 1006     |
| octave: Added.                                                                 | 1019     |
| pdfcomment: Added.                                                             | 1031     |
| pdfmarginpar: Added.                                                           | 1032     |
| register: Updated to v1.8.                                                     | 1056     |
| rviewport: Added.                                                              | 1063     |
| semantic-markup: Added.                                                        | 1075     |
| textcomp: Fix conflict with xunicode.                                          | 1160     |
| tram: Added.                                                                   | 1198     |
| twoup: Added.                                                                  | 1201     |
| ulem: Improved compatibility with CJKulem.                                     | 1204     |
| ulem: Now works in a <code>lateXimage</code> .                                 | 1204     |
| unitsdef: Added.                                                               | 1211     |
| units: Improved font control and css, honors loose, tight.                     | 1211     |
| xcolor: Fix: Horiz white space.                                                | 1232     |
| xchangebar: Added.                                                             | 1235     |
| xfrac: Improved css.                                                           | 1238     |
| xunicode: Fix conflict with textcomp.                                          | 1245     |
| Added early checks for CJK, CJKutf8.                                           | 205      |
| Docs: asymptote.                                                               | 161      |
| Docs: miktex-poppler-bin-*.                                                    | 82       |
| Docs: MiK <sup>T</sup> E <sub>X</sub> Console.                                 | 78       |
| Docs: Improved MiK <sup>T</sup> E <sub>X</sub> install instructions.           | 78       |
| Docs: UTF-8 locale.                                                            | 178      |
| File: \l warp_mathjax.txt: Removed inoperable siunitx extension.               | 312      |
| Logos: CSS instead of <sup>, <sub>.                                            | 621      |
| Logos: Fix for X <sub>E</sub> T <sub>E</sub> X logo if graphics is not loaded. | 621      |
| Logos: Improved CSS.                                                           | 621      |
| Logos: Made robust.                                                            | 621      |
| fcolorminipage: xcolor: Fix: Horiz white space.                                | 1233     |
| Fix: No longer requires xifthen.                                               | 588      |
| fminipage: Fix: Horiz white space.                                             | 601, 602 |
| \LWR@blocktextcurrentfont: Added print version.                                | 612      |
| v0.63                                                                          |          |
| \l WR@HTMLLatexCmd: ujarticle and related: Compile options.                    | 268      |
| \l WR@LwarpStart: Fixes for xeCJK.                                             | 409      |
| \l WR@atbeginverbatim: Fix for xeCJK.                                          | 427      |
| \l WR@checkloadbefore: Added.                                                  | 204      |
| \l WR@checkloadfilename: Added to reduce number of \l warp-* files.            | 242      |
| \l WR@checkloadnever: Added.                                                   | 204      |
| \l WR@compileuplatex: Added.                                                   | 265      |
| \l WR@createautosec: Fix for xeCJK.                                            | 396      |
| \l WR@earlyclassloadnever: Added.                                              | 205      |
| \l WR@filestart: Fix: Break ligature for luatexko.                             | 407      |
| \l WR@firstoffive: Added.                                                      | 222      |
| \l WR@htmlclosecomment: Fix: Break ligature for luatexko.                      | 355      |
| \l WR@isolate: Fix for xeCJK.                                                  | 221      |
| \l WR@notltxjloadafter: Added more classes.                                    | 203      |
| Added.                                                                         | 203      |
| \l WR@subhmtlementclass: Fix for xeCJK.                                        | 356      |
| \LinkHome: Fix: Print version.                                                 | 345      |
| \linkhomename: Added.                                                          | 344      |
| General: 2018/12/03                                                            | 1        |
| \l warp.css: Added css for vertical writing.                                   | 269      |
| \l warp.css: Improved css for mdframed.                                        | 269      |
| amsthm, mdframed: Fix for enforced load order.                                 | 654      |
| enumitem: v3.6: Nullify \DrawEnumitemLabel.                                    | 773      |
| everyhook: Fix for bxjs* classes.                                              | 239      |
| geometry: Fix for bxjs* classes.                                               | 237      |
| mdframed: Avoid thin rules.                                                    | 949      |
| mdframed: Improved font control.                                               | 952–954  |
| stfloats: Adapted to ltj* classes.                                             | 1134     |
| xpinyin: Added.                                                                | 1241     |

|                                      |          |                                      |                              |
|--------------------------------------|----------|--------------------------------------|------------------------------|
| zhlineskip: Added.                   | 1247     | \sishape: Added \sishape.            | 609                          |
| Added pTeXsupport.                   | 202      | \textsi: Added.                      | 605                          |
| Docs: \linkhomename.                 | 109      | General: 2018/12/22                  | 1                            |
| Docs: \sidetocname.                  | 111      | \l warp.css: Added \sishape,         |                              |
| Fix: Default \LWR@mdfive.            | 217      | \textsi.                             | 269                          |
| Improved titles.                     | 952, 953 | \l warp.css: Improved css for page   |                              |
| pTeX: Encoding.                      | 217      | layout.                              | 269                          |
| pTeX: Load upquote.                  | 219      | \l warp.css: Improved css for        |                              |
| pTeX: No newunicodechar.             | 218      | quotations.                          | 269                          |
| \LWR@BlockClassWP: Fix for xeCJK.    | 359      | \l warp.css: Siderocto left for      |                              |
| v0.64                                |          | improved \marginpars.                | 269                          |
| \LWR@HTMLLatexCmd: utarticle and     |          | \l warp_formal.css: Siderocto left   |                              |
| related: Added.                      | 268      | for improved \marginpars.            | 306                          |
| \LWR@checkLoadfilename: Prevented    |          | \l warp_sagebrush.css: Siderocto     |                              |
| bitfield, doublespace, newthm,       |          | left for improved \marginpars.       | 301                          |
| rplain, si.                          | 242      | bounddvi: Added.                     | 692                          |
| \LWR@section: Support for            |          | embrac: Added.                       | 763                          |
| ujarticle and related.               | 400      | footnoterange: Added.                | 821                          |
| \enskip: Made robust.                | 615      | gentombow: Added.                    | 832                          |
| \qquad: Made robust.                 | 615      | geometry: Fix for bxjs* classes.     | 237                          |
| \quad: Made robust.                  | 615      | graphics: Added \includegraphics     |                              |
| \theHTMLTitleSeparator: Added        |          | alt key.                             | 586, 838, 840, 841, 844, 845 |
| utarticle and related.               | 405      | \lltjtext: Added.                    | 913                          |
| General: 2018/12/08                  | 1        | multicorule: Added.                  | 976                          |
| addlines: Updated to v0.3.           | 643      | multicol: Added \docolaction.        | 976                          |
| biblatex: Added patch for CTeX.      | 680      | \plarydshln: Added.                  | 1043                         |
| bsheaders: Added.                    | 695      | \plectarydshln: Added.               | 1044                         |
| gmeometric: Added.                   | 837      | \plextcolortbl: Added.               | 1045                         |
| marginal: Added.                     | 929      | \plext: Added.                       | 1043                         |
| rmpage: Added.                       | 1060     | \pxatbegshi: Added.                  | 1049                         |
| scrlayer-scrpage: Fixes.             | 1072     | \pxeveryshi: Added.                  | 1049                         |
| scrlayer: Fixes.                     | 1070     | \pxftnright: Added.                  | 1050                         |
| scrpage2: Added.                     | 1072     | \pxjahyper: Added.                   | 1050                         |
| ujarticle and related: Improved      |          | \tascmac: Added.                     | 1149                         |
| \today.                              | 626      | \versonotes: Added.                  | 1216                         |
| Added utarticle and related.         | 626      | Added early checks for jarticle,     |                              |
| v0.65                                |          | \tarticle, and related.              | 205                          |
| \LWR@LwarpEnd: Improved css for page |          | Fix for \rensuzi.                    | 626                          |
| layout.                              | 412      | Fix space between class and id.      | 359                          |
| \LWR@LwarpStart: Improved css for    |          | \tabular: Added support for \plext.  | 495                          |
| page layout.                         | 411      | Fix: \tabular*.                      | 495                          |
| \LWR@PreloadedPackage:               |          | Fix: Rule color.                     | 497                          |
| \AtBeginDocument to avoid option     |          | \minipage: Refactored to later allow |                              |
| clashes.                             | 581      | Japanese <t/y> argument.             | 594                          |
| \LWR@hyperindexrefnullified:         |          | \LWR@figcaption: Uses                |                              |
| Added \textsi.                       | 535      | <figurecaption> instead of           |                              |
| \LWR@newhtmlfile: Error if duplicate |          | <figcaption>.                        | 519                          |
| file name.                           | 391      | v0.66                                |                              |
| Improved css for page layout.        | 390, 393 | \@mpfootnotetext: Improved HTML      |                              |
| \LWR@nullfonts: Added \textsi.       | 541      | formatting.                          | 374                          |
| \LWR@restoreorigformatting: Fix:     |          | \IgnoreMinipageWidths: Added,        | 593                          |
| tabular*.                            | 540      | \LWR@footnotetext: Improved HTML     |                              |
| \enskip: Changed to Unicode EN       |          | formatting.                          | 373                          |
| SPACE.                               | 615      | \LWR@LwarpStart: Fix: TOC, LOF, LOT  |                              |
| \quad: Changed to Unicode EM SPACE.  | 615      | links.                               | 412                          |

|                                                                                          |          |
|------------------------------------------------------------------------------------------|----------|
| \LWR@checkloadfilename: Prevented colortab, epsf, hyper, picinpar, picins, sistyle, ucs. | 242      |
| \LWR@closeparagraph: Fix: Combined span, tabular, and lateximage.                        | 364      |
| Improved HTML formatting.                                                                | 363      |
| \LWR@closeparagraph@br: Factored.                                                        | 362      |
| \LWR@fboxstyle: Use current text color.                                                  | 599      |
| \LWR@filenamenoblanks: Fix: Section names detokenized.                                   | 381      |
| Fix: Section names with macros.                                                          | 382      |
| Fix: Section names with percent.                                                         | 382      |
| Improved file name generation.                                                           | 381      |
| Limits filename length.                                                                  | 384      |
| \LWR@findcurrenttextcolor: Fix: Color if xcolor not loaded.                              | 611      |
| \LWR@htmlfileref: No longer use zref.                                                    | 503      |
| \LWR@htmalsectionfilename: Sanitize underscores.                                         | 343      |
| \LWR@hyperindexrefsubtwo: Fix: Long index entries.                                       | 537      |
| \LWR@indentHTML: Added.                                                                  | 352      |
| \LWR@lateximagedepthref: No longer use zref.                                             | 503      |
| \LWR@lateximagenumberref: No longer use zref.                                            | 503      |
| \LWR@nameref: No longer use zref.                                                        | 503      |
| \LWR@nullfonts: Logos.                                                                   | 543      |
| \LWR@openparagraph: Improved HTML formatting.                                            | 362      |
| \LWR@section: Fix: toc, LOF, LOT links.                                                  | 402      |
| Improved HTML formatting.                                                                | 401, 402 |
| \LWR@setexparray: Fix with \par.                                                         | 338      |
| \LWR@setref: No longer use zref.                                                         | 502      |
| \LWR@simplifysize: Added.                                                                | 380      |
| \LWR@startref: No longer use zref.                                                       | 506      |
| \LWR@stoppars: Improved HTML formatting.                                                 | 366      |
| \LWR@subhtmelementclass: Improved HTML formatting.                                       | 356      |
| \LWR@subhyperrefclass: Improved HTML formatting.                                         | 510      |
| \LWR@subinlineimage: Improved HTML formatting.                                           | 512      |
| \LWR@write@lwarplabel: No longer use zref.                                               | 503      |
| \LWR@writeconf: Added ImagesDirectory and ImagesName.                                    | 268      |
| \LinkHome: Fix: Document cross-references.                                               | 345      |
| \UseMinipageWidths: Added,                                                               | 593      |
| \fbox: Fix: Removed extra space.                                                         | 599      |
| \minipagefullwidth: Made \global.                                                        | 593      |
| \rotatebox: Improved HTML formatting.                                                    | 848      |
| \rule: Improved HTML formatting.                                                         | 619      |
| \scalebox: Improved HTML formatting.                                                     | 848      |
| \textgreater: Made robust.                                                               | 341      |
| \textless: Made robust.                                                                  | 341      |
| General: 2019/02/08                                                                      | 1        |
| \LWR@currentautosecpage: Fix for LOF, LOTfloat in home page.                             | 378      |
| \lwarf.css: Added niceframe.                                                             | 269      |
| \lwarf.css: Improved css for definition lists.                                           | 269      |
| \lwarf_formal.css: Improved css for table notes.                                         | 306      |
| \lwarf_one_limage.txt: Image directory and prefix.                                       | 312      |
| \acronym: Fix for acronym in caption.                                                    | 642      |
| \acronym: No longer uses zref.                                                           | 642      |
| \ar: Added.                                                                              | 660      |
| \ed: Added.                                                                              | 762      |
| \extramarks: Updated to v3.10.                                                           | 784      |
| \fancyhdr: Updated to v3.10.                                                             | 790      |
| \fancyvrb: Improved HTML formatting.                                                     | 787      |
| \graphics: Improved HTML formatting.                                                     | 845      |
| \kotexutf: Patch for references.                                                         | 628      |
| \memoir: Docs re: version numbers.                                                       | 169      |
| \multicolrule: Updated for v1.2.                                                         | 976      |
| \nameauth: Added.                                                                        | 985      |
| \register: Verified for v1.9.                                                            | 1056     |
| \subcaption: Added.                                                                      | 1135     |
| \tocbasic: Updated to v3.26a.                                                            | 1185     |
| \truncate: Added.                                                                        | 1201     |
| \zref: No longer used.                                                                   | 241      |
| \lwarfpmk: Added ImagesDirectory and ImagesName.                                         | 316      |
| \lwarfpmk: Fix for \cleanimages.                                                         | 316      |
| Added early checks for colortab, epsf, hyper, picinpar, picins, sistyle, ucs.            | 205      |
| Added option ImagesDirectory.                                                            | 228      |
| Added option ImagesName.                                                                 | 228      |
| Added support for indentfirst.                                                           | 366      |
| Docs: Updated Converting an existing document.                                           | 98       |
| Fix: Minipages inside multicols.                                                         | 975      |
| Improved HTML formatting.                                                                | 793      |
| Package dates added where possible.                                                      | 633      |
| Sanitize filenames.                                                                      | 231      |
| \tabular: Fix: Minipages inside tabular.                                                 | 498      |
| \latexitimage: Added \BaseJobname for multiple projects.                                 | 574      |

|                                                                           |          |
|---------------------------------------------------------------------------|----------|
| Improved HTML formatting . . . . .                                        | 576      |
| minipage: Honor<br>\LWR@forceminipagefullwidth.                           | 595      |
| v0.67                                                                     |          |
| \FilenameNullify: Added. . . . .                                          | 544, 612 |
| \FilenameSimplify: Added. . . . .                                         | 380, 390 |
| \LWR@doequation: xfakebold: Added<br>support. . . . .                     | 563      |
| \LWR@doubledollar: xfakebold:<br>Added support. . . . .                   | 556      |
| \LWR@filenamenoblanks: Improved<br>file name generation. . . . .          | 381      |
| \LWR@lookforpackagename:<br>easyReview: Supported. . . . .                | 243      |
| \LWR@nullfonts: Add'l symbols. . . .                                      | 541      |
| \LWR@simplifystyle: Added. . . . .                                        | 380      |
| \LWR@subsingledollar: xfakebold:<br>Added support. . . . .                | 553      |
| \LWR@subsingledollarsvg:<br>xfakebold: Added support. . . . .             | 551, 552 |
| General: 2019/02/23 . . . . .                                             | 1        |
| academicons: Added. . . . .                                               | 636      |
| bbding: Added. . . . .                                                    | 676      |
| changes: Added. . . . .                                                   | 705      |
| color: Fix for version number. . . .                                      | 745      |
| dingbat: Added. . . . .                                                   | 754      |
| eurosym: Added. . . . .                                                   | 783      |
| fitbox: Added. . . . .                                                    | 802      |
| fontawesome5: Added. . . . .                                              | 817      |
| fontawesome: Added. . . . .                                               | 816      |
| foreign: Added. . . . .                                                   | 822      |
| gloss: Added. . . . .                                                     | 835      |
| karnaugh-map: Added. . . . .                                              | 880      |
| marvosym: Added. . . . .                                                  | 931      |
| multicap: Added. . . . .                                                  | 974      |
| nomencl: Added. . . . .                                                   | 1005     |
| notes: Added. . . . .                                                     | 1006     |
| pifont: Added. . . . .                                                    | 1042     |
| struktex: Added. . . . .                                                  | 1134     |
| textcomp: Nullify in filenames. . .                                       | 1161     |
| typicons: Added. . . . .                                                  | 1203     |
| umoline: Added. . . . .                                                   | 1205     |
| xfakebold: Added support. . . . .                                         | 545      |
| xfakebold: Added. . . . .                                                 | 1236     |
| xunicode: Nullify in filenames. . .                                       | 1245     |
| AMS environments: Added<br>xfakebold support. . . . .                     | 651      |
| eqnarray: xfakebold: Added<br>support. . . . .                            | 568, 569 |
| v0.68                                                                     |          |
| \LWR@footnotetext: Factored for<br>multiple foot boxes. . . . .           | 372      |
| \LWR@checkloadfilename: Prevented<br>alg, algorithmic, fncylab, pdfcprot. | 242      |
| \LWR@printpendingfootnotes:                                               |          |
| Factored for multiple footnote<br>boxes. . . . .                          | 375      |
| \LWR@tabular@warpprintonly:                                               |          |
| Added. . . . .                                                            | 495      |
| General: 2019/03/05 . . . . .                                             | 1        |
| bigfoot: Added. . . . .                                                   | 686      |
| fnpara: Added. . . . .                                                    | 815      |
| footnotebackref: Added. . . . .                                           | 821      |
| layouts: Added. . . . .                                                   | 893      |
| listings: Fix for listings v1.7. . . .                                    | 912      |
| longtable: Improved error handling.                                       | 916      |
| manyfoot: Added. . . . .                                                  | 928      |
| niceframe: Added. . . . .                                                 | 1001     |
| perpage: Added. . . . .                                                   | 1037     |
| showtags: Added. . . . .                                                  | 1080     |
| tablefootnote: Added. . . . .                                             | 1145     |
| threeparttable: Added. . . . .                                            | 1171     |
| threeparttable: Fix for caption<br>type. . . . .                          | 1170     |
| \warpmk: Improved error handling if<br>incomplete compile. . . . .        | 316      |
| Prevented alg, algorithmic, fncylab,<br>pdfcprot. . . . .                 | 205      |
| tabular: Fix: \warpprintonly inside<br>tabular. . . . .                   | 497      |
| v0.69                                                                     |          |
| \LWR@maybetocdata: Added support<br>for tocdata. . . . .                  | 527      |
| \framebox: Fix: Handle paren arg. . .                                     | 598      |
| \hypertoc: Added support for tocdata.                                     | 527      |
| \hypertocfloat: Added support for<br>tocdata. . . . .                     | 528      |
| \makebox: Fix: Handle paren arg. . .                                      | 598      |
| \multicolumnrow: multirow: Error if<br>\multirow without \mrowcell. . .   | 981      |
| General: 2019/03/21 . . . . .                                             | 1        |
| array: Fix for \tabularnewline. 662, 916                                  |          |
| ctable: Added. . . . .                                                    | 748      |
| eqlist: Added. . . . .                                                    | 777      |
| eqparbox: Added. . . . .                                                  | 777      |
| ftcap: Added. . . . .                                                     | 827      |
| graphics: Warning if using scale<br>option. . . . .                       | 840      |
| keyfloat: Updated for v2.00. . . . .                                      | 883      |
| listliketab: Added. . . . .                                               | 913      |
| minitoc: Added. . . . .                                                   | 966      |
| multirow: Error if \multirow<br>without \mrowcell. . . . .                | 979      |
| rotating: Requires graphicx. . . . .                                      | 1061     |
| supertabular: Fix: Clear caption after<br>use. . . . .                    | 1143     |
| tabularx: Require array. . . . .                                          | 1145     |
| tabulary: Require array. . . . .                                          | 1146     |
| tocdata: Added. . . . .                                                   | 1187     |

|                                                                                                               |               |
|---------------------------------------------------------------------------------------------------------------|---------------|
| topcapt: Added. . . . .                                                                                       | 1198          |
| xtab: Fix: Clear caption after use. .                                                                         | 1245          |
| tabular: Error if \multirow without<br>\mrowcell. . . . .                                                     | 496, 498, 499 |
| lateximage: Fix for <i>pdftotext</i> errors<br>from font size change. . . . .                                 | 578           |
| fminipage: Honors<br>\minipagewidth. . . . .                                                                  | 601           |
| v0.70                                                                                                         |               |
| \LWR@closeparagraph: Reduced<br>underfull \hbox warnings. . . . .                                             | 363           |
| \LWR@lookforpackagename: changes:<br>Updated to v3.1.2. . . . .                                               | 243           |
| \LWR@mathjaxfilename: Added. . . . .                                                                          | 368           |
| \LWR@restoreorigformatting: Fix: \&<br>in a lateximage. . . . .                                               | 540           |
| \MathJaxFilename: Added. . . . .                                                                              | 368           |
| \enddocument: If labels changed,<br>require recompile before making<br>images. . . . .                        | 413           |
| \fbox: Fix: Accept long arg. . . . .                                                                          | 598           |
| \makebox: Fix: Accept long arg. . . . .                                                                       | 598           |
| Fix: Ignore width of 0pt. . . . .                                                                             | 598           |
| Fix: No width given. . . . .                                                                                  | 598           |
| General: 2019/04/03 . . . . .                                                                                 | 1             |
| autonum: Added. . . . .                                                                                       | 671           |
| changelayout: Added. . . . .                                                                                  | 704           |
| changes: Updated to v3.1.2. . . . .                                                                           | 705           |
| inputrc: Added. . . . .                                                                                       | 876           |
| mathtools: Added. . . . .                                                                                     | 939           |
| metalogo: Added. . . . .                                                                                      | 960           |
| metalogo: Used in print mode. . . . .                                                                         | 960           |
| textcomp: Fix for<br>\textinterrobang. . . . .                                                                | 1159          |
| textpos: Added optional arg to<br>textblock. . . . .                                                          | 1162          |
| xunicode: Fix for<br>\textinterrobang. . . . .                                                                | 1245          |
| AMS environments: Refactored. . . . .                                                                         | 651           |
| Ensure vector font. . . . .                                                                                   | 219           |
| File: l warp_mathjax.txt: Loads<br>autoload-all.js extension. . . . .                                         | 312           |
| File: l warp_mathjax.txt: Updated<br>to MATHJAX v2.7.5. . . . .                                               | 312           |
| Logos: Improved for metalogo,<br>latexitimages. . . . .                                                       | 621           |
| \LWR@nestspan: Improved minipage,<br>\parbox inside a span. . . . .                                           | 353           |
| v0.71                                                                                                         |               |
| \@mpfootnotetext: Improved HTML<br>formatting. . . . .                                                        | 374           |
| Reduced underfull \hbox warnings. . . . .                                                                     | 374           |
| \LWR@closeparagraph: Flush left<br>captions. . . . .                                                          | 363           |
| \lWR@closetabledatacell: Fix:<br>Tabular par tags. . . . .                                                    | 446           |
| \lWR@stoppars: Reduced underfull<br>\hbox warnings. . . . .                                                   | 366           |
| \expandcolspec: Added support for<br>tabular '*' column. . . . .                                              | 457           |
| General: 2019/04/29 . . . . .                                                                                 | 1             |
| \caption: Reduced underfull \hbox<br>warnings. . . . .                                                        | 699           |
| chemfig: Updated to v1.4. . . . .                                                                             | 711           |
| endfloat: Updated for v2.7. . . . .                                                                           | 764           |
| l warp-common-multimedia:<br>Added. . . . .                                                                   | 1280          |
| media9: Added. . . . .                                                                                        | 957           |
| movie15: Added. . . . .                                                                                       | 973           |
| multimedia: Added. . . . .                                                                                    | 977           |
| textpos: Updated for v1.9.1. . . . .                                                                          | 1162          |
| l warpmk: If wrong l warpmk.conf<br>version, or wrong OS, displays the<br>print command to recompile. . . . . | 316           |
| Docs: Error testing. . . . .                                                                                  | 191           |
| quotation: Fix: blockquotation tag. . . . .                                                                   | 425           |
| v0.72                                                                                                         |               |
| \lWR@newautopagelabel: Fix:<br>References for xr, xr-hyper. . . . .                                           | 378           |
| \lWR@printmccoldata: Fix:<br>\multicolumn parameters. . . . .                                                 | 479           |
| \lWR@restoreorigformatting: Use<br>\lWR@formatted for \bfseries,<br>etc. . . . .                              | 540           |
| \chapter: Added support for<br>hypbmsec. . . . .                                                              | 404           |
| \ebweight: nfssext-cfr: Added. . . . .                                                                        | 607           |
| \hypertoc: Fix: References for xr,<br>xr-hyper. . . . .                                                       | 527           |
| \hypertocfloat: Fix: References for xr,<br>xr-hyper. . . . .                                                  | 528           |
| \lgweight: nfssext-cfr: Added. . . . .                                                                        | 608           |
| \paragraph: Added support for<br>hypbmsec. . . . .                                                            | 404           |
| \part: Added support for hypbmsec. . . . .                                                                    | 403           |
| \section: Added support for<br>hypbmsec. . . . .                                                              | 404           |
| \subparagraph: Added support for<br>hypbmsec. . . . .                                                         | 404           |
| \subsection: Added support for<br>hypbmsec. . . . .                                                           | 404           |
| \subsubsection: Added support for<br>hypbmsec. . . . .                                                        | 404           |
| \texteb: nfssext-cfr: Added. . . . .                                                                          | 603           |
| \textlg: nfssext-cfr: Added. . . . .                                                                          | 604           |
| \textulc: fontaxes: Added. . . . .                                                                            | 605           |
| \ulcshape: fontaxes: Added. . . . .                                                                           | 609           |
| General: 2019/06/08 . . . . .                                                                                 | 1             |
| l warp.css: Added backnaur. . . . .                                                                           | 269           |

|                                                              |          |                                                                |            |
|--------------------------------------------------------------|----------|----------------------------------------------------------------|------------|
| \l warp.css: Removed unneeded support for \sishape, \textsi. | 269      | \LWR@titlingmaketitle: titling: Fix: Paragraph tags.           | 422, 1184  |
| backnaur: Added.                                             | 674      | Fix: Paragraph tags.                                           | 422        |
| boxedminipage2e: Added support for lateximages.              | 692      | \attribution: Fix: Paragraph tags.                             | 424        |
| changes: Fix references for xr, xr-hyper.                    | 705      | \color: xcolor: Added HTML support.                            | 1229       |
| fontaxes: Added.                                             | 606, 818 | \fboxBlock: Fix: Paragraph tags.                               | 600        |
| gloss: Fix references for xr, xr-hyper.                      | 835      | \hspace: Fix: Avoid empty <span>.                              | 616        |
| hypbmsec: Added.                                             | 856      | \l@book: Added \book for memoir.                               | 529        |
| minibox: Added.                                              | 965      | \maketitle: titling: Fix: Paragraph tags.                      | 1183       |
| nfssext-cfr: Added.                                          | 994      | Fix: Paragraph tags.                                           | 421        |
| nomencl: Fix references for xr, xr-hyper.                    | 1005     | \marginparBlock: Fix: Paragraph tags.                          | 377        |
| pdfcrypt: Added.                                             | 1031     | \postbookname: Added \book for memoir.                         | 403        |
| shapepar: Added.                                             | 1079     | \printthanks: Fix: Paragraph tags.                             | 417        |
| slantsc: Added.                                              | 1113     | \rule: Fix: Avoid empty <span>.                                | 620        |
| soulutf8: Fix: Loads soul.                                   | 1116     | General: 2019/07/11                                            | 1          |
| tabfigures: Added.                                           | 1145     | \l warp.css: Added \book for memoir.                           | 269        |
| xr-hyper: Added.                                             | 1243     | \l warp.css: Improved pkgtoctdata formatting.                  | 269        |
| xr: Added.                                                   | 1243     | \l warp_formal.css: Added \book for memoir.                    | 301, 306   |
| zhlineskip: Updated to v1.0e.                                | 1247     | boxedminipage2e: Fix: Paragraph tags.                          | 692        |
| Use \LWR@formatted for \bfseries, etc.                       | 259, 607 | epigraph: Fix: Paragraph tags.                                 | 774        |
| <b>v0.73</b>                                                 |          | fancyvrb: Fix: Nested <div>/<pre>.                             | 794, 797   |
| \@include: Fix: \newpage instead of \clearpage.              | 248      | fancyvrb: Btrivlist: Fixed paragraph tags.                     | 788        |
| \HTMLTitle: Added default title if none specified.           | 369      | intopdf: Updated to v0.2.1.                                    | 876        |
| \LWR@LwarpStart: Fix: Empty header/footer.                   | 410      | listings: Fix: Paragraph tags.                                 | 911        |
| \LWR@addbaselinemarker: Improved warning messages.           | 547      | \l warp-common-multimedia: Fix: No size for audio file.        | 1281, 1282 |
| \LWR@createfooter: Fix: Empty header/footer.                 | 390      | \l warp-common-multimedia: Fix: Paragraph tags.                | 1283       |
| \LWR@descitem: Fix: HTML tags.                               | 436      | \l warp-patch-komascript: Fix for captions.                    | 1250       |
| \LWR@forceemptyline: Added.                                  | 222      | \l warp-patch-memoir: Added \book.                             | 1258       |
| \l warp@gsavebox: Added global save boxes.                   | 223      | \l warp-patch-memoir: Fix for \frontmatter* and \mainmatter*.  | 1258       |
| \l warp@htmlelementclass: Vertical space.                    | 356      | lyluatex: Added.                                               | 925        |
| \l warp@htmlelementclassline: Vertical space.                | 357      | musicography: Updated to 2019/05/28. Now supports lateximages. | 982        |
| \l WR@indentHTMLtwo: Added.                                  | 352      | quotchap: Fix: Paragraph tags.                                 | 1051       |
| \l WR@indexitem: Fix: Avoid empty <span>.                    | 530      | quotchap: Updated to v1.2.                                     | 1050       |
| \l WR@indexsubitem: Fix: Avoid empty <span>.                 | 531      | quoting: Fix: Paragraph tags.                                  | 1051       |
| \l WR@indexsubsubitem: Fix: Avoid empty <span>.              | 531      | scxextend: Fix: Paragraph tags.                                | 1067, 1068 |
| \l WR@newhtmlfile: Fix: Empty header/footer.                 | 393      | stackengine: Added.                                            | 1120       |
| \l WR@nullfonts: Fix: \hspace in sectioning file name.       | 543      | threeparttable: Added measuredfigure.                          | 1170       |

|                                                                      |          |
|----------------------------------------------------------------------|----------|
| tocdata: Honors \tocdataformat.                                      | 1187     |
| tocdata: Improved formatting.                                        | 1188     |
| tocdata: Updated to v2.03.                                           | 1187     |
| versonotes: Updated to v0.4.                                         | 1216     |
| vwcol: Fix: Paragraph tags.                                          | 1218     |
| xy: Fix for \xybox.                                                  | 1246     |
| xy: Improved xy, reverted<br>\ymatrix, for qcircuit.                 | 1246     |
| Added \book for memoir.                                              | 335, 350 |
| AMS environments: Fix: alt tags.                                     | 651      |
| AMS environments: Fix: Paragraph<br>tags.                            | 651      |
| Numbered HTML entity used for text<br>dollar.                        | 546      |
| tabular: Fix and warning for tabular<br>inside a <span>.             | 495      |
| LWR@blocktextcurrentfont: Fix:<br>Paragraph tags.                    | 607      |
| LWR@nestspan: Fix: quote, quotation<br>inside a span.                | 353      |
| v0.74                                                                |          |
| @ensuredmath: Add \ThisAltText.                                      | 557      |
| \AltTextClose: Added.                                                | 544      |
| \AltTextOpen: Added.                                                 | 544      |
| \ImageAltText: Added.                                                | 544      |
| \LWR@ThisAltText: Add<br>\ThisAltText.                               | 545      |
| \LWR@addlinktitle: Added.                                            | 506      |
| \LWR@doequation: Add<br>\ThisAltText.                                | 563, 564 |
| \LWR@doubledollar: Add<br>\ThisAltText.                              | 556      |
| \LWR@lateximage@oneimage: Factored<br>from lateximage.               | 573      |
| \LWR@lateximage@oneimageb:<br>Factored from lateximage.              | 573      |
| \LWR@setcurrentfont: Factored.                                       | 546      |
| \LWR@singledollar: Add<br>\ThisAltText.                              | 556      |
| \LWR@singledollarmeasure: Fix: Font<br>control.                      | 548      |
| \LWR@subinlineimage: Add<br>\ThisAltText.                            | 512      |
| \LWR@subsingledollar: Add<br>\ThisAltText.                           | 554      |
| \LWR@subsingledollarsvg: Adds star<br>argument for lateximage.       | 551      |
| \LateximageFontSize: Adjusted svg<br>math font scaling default to 1. | 571      |
| \MathImageAltText: Renamed from<br>\mathimage.                       | 545      |
| \PackageDiagramAltText: Renamed<br>from \packagediagramname.         | 545      |
| \ThisAltText: Add \ThisAltText.                                      | 545      |
| \hspace: Ignore negative space.                                      | 615      |
| v0.75                                                                |          |
| \normalcolor: xcolor: Added for<br>HTML.                             | 1227     |
| General: 2019/09/23                                                  | 1        |
| l warp.css: Improved marginblock.                                    | 269      |
| keyfloat: Fix: \normalcolor.                                         | 883, 884 |
| wrapfig: Fix for \linewidth.                                         | 1223     |
| wrapfig: Fix for width.                                              | 1223     |
| minipage: Fix: \linewidth.                                           | 595      |
| v0.76                                                                |          |
| General: 2019/10/08                                                  | 1        |
| l warp.css: Fix for small caps.                                      | 269      |
| acro: Updated for v2.10.                                             | 639      |
| xr-hyper: Updated for v6.1.                                          | 1243     |
| xr: Updated for v5.05 and xr-hyper<br>v6.1.                          | 1243     |
| Docs expanded: Multiple projects.                                    | 95       |
| File: l warp_mathjax.txt: Updated<br>to MATHJAX v2.7.6.              | 312      |

|                                      |                                        |          |
|--------------------------------------|----------------------------------------|----------|
| v0.77                                |                                        |          |
| General: 2019/10/15 . . . . .        | 1                                      |          |
| booktabs: Updated to v1.6180339.     | 690                                    |          |
| chemformula: Updated to v4.15. .     | 714                                    |          |
| v0.78                                |                                        |          |
| \LWR@linkcatcodes: babel-french:     |                                        |          |
| Fix: Hyperlinks. . . . .             | 509                                    |          |
| Factored. . . . .                    | 509                                    |          |
| \LWR@linkmediacatcodes:              |                                        |          |
| babel-french: Fix: Hyperlinks. .     | 510                                    |          |
| Factored. . . . .                    | 509                                    |          |
| \LWR@nullifyNoAutoSpacing:           |                                        |          |
| babel-french: Fix: Hyperlinks. .     | 495                                    |          |
| \LWR@subhyperrefclass: Remove        |                                        |          |
| extra space. . . . .                 | 510                                    |          |
| \normalfont: Uses \LWR@formatted.    | 610                                    |          |
| General: 2019/11/07 . . . . .        | 1                                      |          |
| accessibility: Added. . . . .        | 638                                    |          |
| babel-french: Fix: Hyperlinks. .     | 351                                    |          |
| caption: Added warning regarding     |                                        |          |
| passing options. . . . .             | 698                                    |          |
| filecontents: Fix to overwrite       |                                        |          |
| existing files using new             |                                        |          |
| filecontents environment. .          | 239                                    |          |
| geometry: Cleaner option handling.   | 833                                    |          |
| graphics: Fix: alt tag expansion. .  | 845                                    |          |
| lwarf-common-multimedia: Fix         |                                        |          |
| links with new LaTeX kernel. .       | 1281                                   |          |
| titlesec: Fix for \titleclass. .     | 1179                                   |          |
| v0.79                                |                                        |          |
| \CustomizeMathJax: Fix: Sanitize for |                                        |          |
| HTML. . . . .                        | 387                                    |          |
| \LWR@ProvidesPackagePass: Fix:       |                                        |          |
| catoptions. . . . .                  | 246                                    |          |
| \LWR@checkloadfilename: Prevented    |                                        |          |
| bxcjkljatype, hangul. . . . .        | 242                                    |          |
| \LWR@closetabledatacell: Fix:        |                                        |          |
| Nested tabulars. . . . .             | 447                                    |          |
| \LWR@customizeMathJax: MathJax:      |                                        |          |
| Hide definitions. . . . .            | 389                                    |          |
| \LWR@earlyloadnever: Factored. .     | 205                                    |          |
| \LWR@forcenewautoidanchor:           |                                        |          |
| Factored. . . . .                    | 516                                    |          |
| \LWR@mathjaxwarn: Warn if using      |                                        |          |
| packages partially supported by      |                                        |          |
| MATHJAX. . . . .                     | 629                                    |          |
| \LWR@parseaftercolumn: Remove        |                                        |          |
| outermost braces. . . . .            | 454                                    |          |
| \LWR@parseatcolumn: Remove           |                                        |          |
| outermost braces. . . . .            | 452                                    |          |
| \LWR@parsebangcolumn: Remove         |                                        |          |
| outermost braces. . . . .            | 452                                    |          |
| \LWR@parsebeforecolumn: Remove       |                                        |          |
| outermost braces. . . . .            | 453                                    |          |
|                                      | \LWR@setexpparray: Fix: Nested         |          |
|                                      | tabulars. . . . .                      | 338      |
|                                      | \LWR@singledollarmeasure:              |          |
|                                      | Factored. . . . .                      | 548      |
|                                      | \LWR@subHTMLsanitize: Fix: \&.         |          |
|                                      | Factored. . . . .                      | 385      |
|                                      | \LWR@subsingledollarsvg: Adjust for    |          |
|                                      | unknown size. . . . .                  | 551      |
|                                      | Factored. . . . .                      | 550      |
|                                      | \LWR@tabulararendofline: Fix: Nested   |          |
|                                      | tabulars. . . . .                      | 450      |
|                                      | \captionlistentry: Fix: Duplicate      |          |
|                                      | auto-id. . . . .                       | 520      |
|                                      | \macrotocname: Added. . . . .          | 223      |
|                                      | \makebox: Fix: Adjust for virtual page |          |
|                                      | size. . . . .                          | 598      |
|                                      | \multicolumnrow: multirow: Fix:        |          |
|                                      | Nested tabulars. . . . .               | 981      |
|                                      | \noalign: Fix: Nested tabulars. . .    | 494      |
|                                      | General: 2020/02/01 . . . . .          | 1        |
|                                      | MATHJAX: Additional macros. . .        | 388      |
|                                      | lwarf.css: Fix: Nested tabulars.       | 269      |
|                                      | amsmath: Added MATHJAX                 |          |
|                                      | emulation. . . . .                     | 653      |
|                                      | arydshln: Added MATHJAX                |          |
|                                      | emulation. . . . .                     | 664      |
|                                      | ar: Added MATHJAX emulation. .         | 662      |
|                                      | awesomebox: Added. . . . .             | 672      |
|                                      | babel and polyglossia: Added info      |          |
|                                      | messages. . . . .                      | 628      |
|                                      | bigdelim: Added MATHJAX                |          |
|                                      | emulation. . . . .                     | 686      |
|                                      | bigstrut: Added MATHJAX emulation.     | 687      |
|                                      | bm: Added. . . . .                     | 688      |
|                                      | booktabs: Added MATHJAX                |          |
|                                      | emulation. . . . .                     | 691      |
|                                      | booktabs: Fix for memoir with          |          |
|                                      | lateimage. . . . .                     | 494, 690 |
|                                      | braket: Added. . . . .                 | 693      |
|                                      | floatfl: Improved width control. .     | 807      |
|                                      | fontawesome5: Supports font size,      |          |
|                                      | color. . . . .                         | 817      |
|                                      | fontawesome: Refactored with fix       |          |
|                                      | for \FAthree. . . . .                  | 816      |
|                                      | fontawesome: Supports font size,       |          |
|                                      | color. . . . .                         | 816      |
|                                      | geometry: Also save \textwidth,        |          |
|                                      | \textheight. . . . .                   | 237      |
|                                      | graphics: Factored from                |          |
|                                      | \LWR@includegraphicsb. . .             | 842, 843 |
|                                      | graphics: Fix for negative angles. .   | 841      |
|                                      | ifpdf, ifptex: Provided by iftex. .    | 202      |
|                                      | keyfloat: Factored to                  |          |
|                                      | \LWR@setvirtualpage. . . . .           | 888      |
|                                      | ltablex: Fix: Require longtable. .     | 917      |

|                                                |            |
|------------------------------------------------|------------|
| <b>ltxtable:</b> Fix: Required packages.       | 919        |
| <b>luatex85:</b> Removed.                      | 202        |
| <b>mathtools:</b> Added MATHJAX                |            |
| emulation.                                     | 940        |
| <b>multirow:</b> Add: MATHJAX emulation.       | 981        |
| <b>multirow:</b> Fix: Centered vertical        |            |
| alignment.                                     | 980        |
| <b>niceframe:</b> Fix: Adjust for virtual      |            |
| page size.                                     | 1001       |
| <b>parallel:</b> Added.                        | 1023       |
| <b>parcolumns:</b> Added.                      | 1025       |
| <b>pdfcolfoot:</b> Added.                      | 1029       |
| <b>pdfcolmk:</b> Added.                        | 1029       |
| <b>pdfcolparallel:</b> Added.                  | 1030       |
| <b>pdfcolparcolumns:</b> Added.                | 1030       |
| <b>pdfcol:</b> Added.                          | 1029       |
| <b>physics:</b> Added.                         | 1038       |
| <b>siunitx:</b> Fix: \square, \cubed.          | 1098       |
| <b>siunitx:</b> Improved MATHJAX.              | 1096       |
| <b>slashed:</b> Added.                         | 1113       |
| <b>steinmetz:</b> Added.                       | 1133       |
| <b>svg:</b> Added.                             | 1143       |
| <b>transparent:</b> Supports                   |            |
| latextimages.                                  | 1199       |
| <b>unicode-math:</b> Added.                    | 1207       |
| <b>widetable:</b> Added.                       | 1221       |
| <b>witharrows:</b> Added.                      | 1221       |
| <b>xcolor:</b> Fix: Nested tabulars.           | 1233, 1234 |
| <b>xltabular:</b> Fix: Require ltablex.        | 1239       |
| <b>xurl:</b> Updated to v0.08.                 | 1246       |
| AMS environments: Fix: Nested.                 | 651        |
| Factored to                                    |            |
| \lwr@setvirtualpage.                           | 811, 845   |
| Fix: Use newfloat instead of float.            | 812        |
| Fix: Use full \linewidth.                      | 811        |
| Remember HTML font size.                       | 612        |
| <b>tabular:</b> colortbl: Fix: Nested          |            |
| tabulars.                                      | 497        |
| Fix: Nested tabulars.                          | 499        |
| <b>warpMathJax:</b> Added.                     | 235        |
| <b>latextimage:</b> Improved \linewidth.       | 577        |
| <b>minipage:</b> Fix: \linewidth frame         |            |
| padding.                                       | 595        |
| Fix: Adjust for virtual page size.             | 594        |
| <b>fminipage:</b> Fix: Adjust for virtual page |            |
| size.                                          | 601        |
| <b>\lwr@setvirtualpage:</b> Factored.          | 592        |
| <b>v0.80</b>                                   |            |
| \CustomizeMathJax: Fix: Made                   |            |
| \@onlypreamble.                                | 387        |
| Warn of slow compile.                          | 387        |
| \lwr@checkloadfilename: Prevented              |            |
| formula, shadethm, slashbox.                   | 242        |
| \lwr@infoprocessingmathjax: Add:               |            |
| Info message.                                  | 387        |
| <b>v0.81</b>                                   |            |
| \lwr@addbaselinemarker: Improved               |            |
| warning messages.                              | 547        |
| \lwr@checkloadfilename: Prevented              |            |
| statex.                                        | 242        |
| \lwr@replacestrings: Added.                    | 384        |

|                                                                                |            |
|--------------------------------------------------------------------------------|------------|
| \LWR@subHTMLsanitize: Faster.                                                  | 385        |
| \textcolor{xcolor}{\textcolor{}}:                                              |            |
| Spurious space.                                                                | 1229       |
| General: 2020/03/04                                                            | 1          |
| lwarf.css: Added <b>nolbreaks</b> .                                            | 269        |
| <b>DotArrow</b> : Added.                                                       | 755        |
| <b>Slunits</b> : Improved \unit. Fixed in<br>math mode. Added MATHJAX          |            |
| emulation.                                                                     | 1085       |
| <b>axessibility</b> : Added MATHJAX                                            |            |
| emulation.                                                                     | 673        |
| <b>axessibility</b> : Updated to 2020/01/08                                    |            |
| version.                                                                       | 673        |
| <b>colonequals</b> : Added.                                                    | 744        |
| <b>decimal</b> : Added.                                                        | 753        |
| <b>dotlessi</b> : Added.                                                       | 756        |
| <b>econometrics</b> : Added.                                                   | 759        |
| <b>engltc</b> : Added.                                                         | 766        |
| <b>gridset</b> : Updated to v0.3.                                              | 851        |
| <b>hyperref</b> : Added                                                        |            |
| \pdfstringdefDisableCommands.                                                  | 865        |
| <b>luamplib</b> : Added.                                                       | 920        |
| <b>multiobjective</b> : Added.                                                 | 977        |
| <b>nolbreaks</b> : Added.                                                      | 1004       |
| <b>physunits</b> : Added.                                                      | 1039       |
| <b>returntogram</b> : Added.                                                   | 1059       |
| <b>stackrel</b> : Added.                                                       | 1122       |
| <b>statex2</b> : Added.                                                        | 1122       |
| <b>statmath</b> : Added.                                                       | 1132       |
| <b>lwarpmk</b> : Improved error if in <b>lwarf</b><br>source directory.        | 316        |
| Prevented <b>statex</b> .                                                      | 205        |
| v0.82                                                                          |            |
| \LWR@disablepinyin: Added.                                                     | 221        |
| \LWR@doequation: MATHJAX: Improved<br>footnotes.                               | 563        |
| \LWR@syncmathjax: Removed <par>                                                |            |
| tags.                                                                          | 560        |
| General: 2020/03/25                                                            | 1          |
| MATHJAX: Improved footnotes.                                                   | 388, 564   |
| <b>amsmath</b> : Fixed: \intertext for<br>MATHJAX.                             | 653        |
| <b>chemfig</b> : Updated to v1.5.                                              | 711        |
| <b>draftwatermark</b> : Updated to v2.0.                                       | 757        |
| <b>endnotes</b> : Added MATHJAX                                                |            |
| emulation.                                                                     | 766        |
| <b>endnotes</b> : Fix: Mark in print mode.                                     | 766        |
| <b>etoc</b> : Added.                                                           | 781        |
| <b>luatexko</b> : Added.                                                       | 920        |
| <b>lwarf-patch-memoir</b> : Supports<br>tocvsec2.                              | 1258, 1263 |
| <b>marginnote</b> : Added MATHJAX                                              |            |
| emulation.                                                                     | 931        |
| <b>marginnote</b> : Fix: Neutralize in print<br>mode.                          | 931        |
| v0.83                                                                          |            |
| <b>nccfoots</b> : Added MATHJAX                                                |            |
| emulation.                                                                     | 989        |
| <b>pagenote</b> : Added MATHJAX                                                |            |
| emulation.                                                                     | 1022       |
| <b>parnotes</b> : Added MATHJAX                                                |            |
| emulation.                                                                     | 1028       |
| <b>sidenotes</b> : Added MATHJAX                                               |            |
| emulation.                                                                     | 1083       |
| <b>soul</b> : Fixed: \<.                                                       | 1114       |
| <b>syntonly</b> : Added \nopages@.                                             | 1144       |
| <b>syntonly</b> : Added to<br>\LWR@loadafters.                                 | 206        |
| <b>ulem</b> : Fixed: \dashuline.                                               | 1204       |
| <b>xpinyin</b> : Added full pinyin support.                                    | 1241       |
| v0.84                                                                          |            |
| General: 2020/03/27                                                            | 1          |
| <b>lwarf-patch-memoir</b> : Fixed<br>framed.                                   | 1253       |
| <b>lwarf-patch-memoir</b> : Fixed:<br>\specialindex.                           | 1275       |
| <b>lwarf-patch-memoir</b> : No longer<br>requires <b>subfigure</b> .           | 1253       |
| <b>lwarf-patch-memoir</b> : Updated for<br>new sizes.                          | 1254       |
| <b>lwarf-patch-memoir</b> :                                                    |            |
| Updated.                                                                       | 1257, 1258 |
| <b>physunits</b> : Updated to v1.0.4.                                          | 1039       |
| v0.84                                                                          |            |
| <b>@currentHref</b> : <b>backref</b> : Fixed from<br>lwarf v0.72 changes.      | 509        |
| <b>@currentlabelname</b> : Default name<br>for previous/next links.            | 502        |
| <b>@fnssymbol</b> : \LWR@formatted, fixed<br>double bar.                       | 420        |
| <b>@makecaption</b> : <b>caption</b> now optional.                             | 517        |
| Warn inside a <span>.                                                          | 518        |
| <b>@textsubscript</b> : Use<br>\LWR@formatted. No longer<br>\AtBeginDocument.  | 611        |
| <b>@textsuperscript</b> : Use<br>\LWR@formatted.                               | 610        |
| <b>@xdlbfloat</b> : <b>caption</b> now optional.                               | 515        |
| <b>AddSubtitlePublished</b> : Added<br>\subtitle, \published for<br>komastyle. | 423        |
| Fixed \subtitle, \printsubtitle<br>if no titling.                              | 423        |
| <b>HTMLFirstPageBottom</b> : Added<br>\FirstPageBottom.                        | 367        |
| \LWR@LwarpEnd: Added prev/next links.                                          | 412        |
| Fix: No footer for EPUB                                                        | 412        |
| \LWR@LwarpStart: Added prev/next<br>links.                                     | 411        |
| \LWR@createfooter: Added<br>\FirstPageBottom.                                  | 390        |

|                                                                                                                                      |          |
|--------------------------------------------------------------------------------------------------------------------------------------|----------|
| \LWR@domulticolumn: Fix:<br>Multicolumn style. . . . .                                                                               | 482      |
| \LWR@excludecomment: Independent<br>cut files. . . . .                                                                               | 234      |
| \LWR@filenamenoblanks: Fix: Dashes<br>in filename. . . . .                                                                           | 383      |
| \LWR@filestart: Improved HTML title.                                                                                                 | 406      |
| \LWR@floatbegin: Warn inside a<br><span>. . . . .</span>                                                                             | 513      |
| \LWR@forcenewautoidanchor: <par><br>handling. . . . .                                                                                | 516      |
| \LWR@htmlsectionfilename: Fix:<br>Sections called “Index” or “index”<br>have -0 appended to their filenames<br>if no prefix. . . . . | 343      |
| \LWR@new@label: Removed optional<br>args. . . . .                                                                                    | 505      |
| \LWR@newhtmlfile: Added prev/next<br>links. . . . .                                                                                  | 391, 393 |
| \LWR@nullfonts: Add'l symbols. . . .                                                                                                 | 541      |
| Factored out redefinitions. . . . .                                                                                                  | 541      |
| Fix: Accents. . . . .                                                                                                                | 541      |
| Revised \texorpdfstring. . . . .                                                                                                     | 544      |
| \LWR@section: Added prev/next links.                                                                                                 | 402      |
| Warn inside a <span>. . . . .                                                                                                        | 397      |
| \LWR@startpars: Ignore if in<br>lateximage. . . . .                                                                                  | 364      |
| \LWR@stopars: Ignore if in<br>lateximage. . . . .                                                                                    | 365      |
| \LinkNext: Added prev/next links. . .                                                                                                | 347      |
| \LinkPrevious: Added prev/next links.                                                                                                | 346      |
| \attribution: Added print mode. . .                                                                                                  | 424      |
| \caption@end: caption now optional.                                                                                                  | 520      |
| \captionlistentry: caption now<br>optional. . . . .                                                                                  | 520      |
| \captionof: caption now optional. .                                                                                                  | 521      |
| \end@dblfloat: caption now optional.                                                                                                 | 515      |
| \linknextname: Added prev/next links.                                                                                                | 346      |
| \linkpreviousname: Added prev/next<br>links. . . . .                                                                                 | 346      |
| \printthanks: Fix: \printthanks in<br>print mode. . . . .                                                                            | 417      |
| \sscshape: Moved to core. . . . .                                                                                                    | 609      |
| \textssc: Moved to core. . . . .                                                                                                     | 606      |
| \textsubscript: Use<br>\LWR@formatted. No longer<br>\AtBeginDocument. . . . .                                                        | 610      |
| \textsuperscript: Use<br>\LWR@formatted. . . . .                                                                                     | 610      |
| \theHTMLTitleSeparator: Improved<br>spacing for xeCJK. . . . .                                                                       | 405      |
| \verbatiminput: Added print mode.                                                                                                    | 428      |
| General: 2020/04/24 . . . . .                                                                                                        | 1        |
| \TeX accents: Add'l symbols. . . . .                                                                                                 | 260      |
| lwarp.css: Added koma-* subject.                                                                                                     | 269      |
| lwarp.css: Fix: Minipage tex align.                                                                                                  | 269      |
| lwarp.css: Fix: Top nav if narrow<br>window. . . . .                                                                                 | 269      |
| lwarp.css: Improved nfssext-cfr.                                                                                                     | 269      |
| lwarp.css: Improved realscripts. .                                                                                                   | 269      |
| abstract: Updated for memoir. . . .                                                                                                  | 635      |
| alltt: Added print mode. . . . .                                                                                                     | 649      |
| amsthm: Fix for \nameref. . . . .                                                                                                    | 656      |
| backref: Fixed from lwarp v0.72<br>changes. . . . .                                                                                  | 675      |
| biblatex: Fixed: Requires hyperref.                                                                                                  | 681      |
| boxedminipage: Renamed from<br>boxedminipage2e per author. . .                                                                       | 692      |
| caption: Improved integration. . .                                                                                                   | 699      |
| caption: Non-width \parboxes. . .                                                                                                    | 698      |
| caption: Simplified. . . . .                                                                                                         | 698      |
| epigraph: Added print mode. . . . .                                                                                                  | 774      |
| fixme: Added section name. . . . .                                                                                                   | 804      |
| float: Fix: Recursive name. . . . .                                                                                                  | 806      |
| fontaxes: Moved sscshape to core.<br>\FilenameNullify. . . . .                                                                       | 818      |
| lwarp-patch-memoir: Creates mark<br>macros. . . . .                                                                                  | 1261     |
| lwarp-patch-memoir: Fix: \label.                                                                                                     | 1254     |
| lwarp-patch-memoir: Fixed<br>pagenotes. . . . .                                                                                      | 1271     |
| lwarp-patch-memoir: Improved<br>cleveref support. . . . .                                                                            | 1272     |
| lwarp-patch-memoir: No longer<br>requires subcaption. . . . .                                                                        | 1253     |
| lwarp-patch-memoir: No longer<br>uses subcaption. . . . .                                                                            | 1268     |
| lwarp-patch-memoir: Use \TeX<br>captions. . . . .                                                                                    | 1267     |
| lwarp-patch-memoir: Uses<br>memoir's \newcomment,<br>\commentsoff, \commentson. . .                                                  | 1273     |
| lwarp-patch-memoir: \contsubtop,<br>etc. now as-is. . . . .                                                                          | 1279     |
| lwarp-patch-memoir: caption now<br>optional, removed dup caption. .                                                                  | 1269     |
| mdframed: Warn inside a <span>.                                                                                                      | 950      |
| memoir: Preloads xcolor. . . . .                                                                                                     | 625      |
| nfssext-cfr: Improved. . . . .                                                                                                       | 994      |
| nfssext-cfr:<br>\FilenameNullify. . . . .                                                                                            | 996, 999 |
| ntheorem: Warning if thref. . . .                                                                                                    | 1008     |
| parcolumns: Fixed: Missing<br>\colplacechunks. . . . .                                                                               | 1026     |
| realscripts: Added print mode. . .                                                                                                   | 1052     |
| realscripts: Fixed starred<br>\textrsuperscript,<br>\textrsubscript. . . . .                                                         | 1052     |
| realscripts: Improved supersub<br>scripts. . . . .                                                                                   | 1052     |

|                                        |      |
|----------------------------------------|------|
| rotfloat: Fix: Requires rotating. . .  | 1062 |
| scrextend: Added \titlehead,           |      |
| \subject, \subtitle,                   |      |
| \published. . . . .                    | 1065 |
| scrextend: Updated to v3.29. . . .     | 1065 |
| sidenotes: \sidecaption not long       |      |
| arg. . . . .                           | 1082 |
| slantsc: \FilenameNullify. . . . .     | 1113 |
| titling: \AtBeginDocument. . . . .     | 1182 |
| xpinyin: Disables pinyin when null     |      |
| fonts. . . . .                         | 1242 |
| <i>lwarpmk</i> : clean also removes    |      |
| comment_*_.cut . . . . .               | 316  |
| Added \FirstPageBottom. . . . .        | 367  |
| Added prev/next links. . . . .         | 343  |
| Docs: JETBRAIN MONO font. . . . .      | 102  |
| Docs: \linkpreviousname. . . . .       | 109  |
| Fix: Multirow style. . . . .           | 980  |
| Fixed: textcomp now in kernel. . .     | 625  |
| Logos: Only warn about graphics if     |      |
| actually use \Xe. . . . .              | 621  |
| tabbing: Restore spacing. . . . .      | 429  |
| center: Added print mode. . . . .      | 580  |
| verbatim: Added print mode. . . . .    | 429  |
| verse: Added print mode. . . . .       | 426  |
| flushleft: Added print mode. . . .     | 580  |
| flushright: Added print mode. . . .    | 580  |
| longtable: caption now optional. .     | 915  |
| quotation: Added print mode. . . .     | 425  |
| quote: Added print mode. . . . .       | 425  |
| \LWR@nestspan: Issue warnings inside a |      |
| span. . . . .                          | 353  |
| Nullified minipage, \parbox inside a   |      |
| span. . . . .                          | 353  |
| v0.85                                  |      |
| \LWR@atbeginverbatim: Fix: Added       |      |
| print macros for fontspec. . . .       | 428  |
| \LWR@htmclosecomment: Fix: Added       |      |
| print macros for fontspec. . . .       | 355  |
| \LWR@htmlcomment: Fix: Added print     |      |
| macros for fontspec. . . . .           | 355  |
| \LWR@htmlltagc: Fix: Added print       |      |
| macros for fontspec. . . . .           | 352  |
| General: 2020/05/01 . . . . .          | 1    |
| idxlayout: Fixed: \AtBeginDocument     |      |
| for load order. . . . .                | 869  |
| mathtools: Fixed:                      |      |
| \shortintertext. . . . .               | 942  |
| titlesec: pagestyles option. . . .     | 1177 |
| url: Fixed print mode. . . . .         | 1213 |
| Fix: Added print macros for            |      |
| fontspec. . . . .                      | 607  |
| v0.86                                  |      |
| \LWR@filenamenoblanks: Fix: *, (,), .  |      |
| in filename. . . . .                   | 382  |
| \LWR@filestart: Error if missing file. | 408  |
| \LWR@href: hyperref: Adjusted          |      |
| emulation. . . . .                     | 510  |
| \LWR@label@createtag: Fix: Labels in   |      |
| eqnarray. . . . .                      | 504  |
| \LWR@label@inmathcomment: Fix:         |      |
| Labels in eqnarray. . . . .            | 504  |
| \LWR@nolinkurl: hyperref: Adjusted     |      |
| emulation. . . . .                     | 511  |
| \LWR@phantomsection: hyperref:         |      |
| Adjusted emulation. . . . .            | 620  |
| \LWR@startref: Fixed: \label inside    |      |
| lateximage. . . . .                    | 507  |
| \LWR@syncmathjax: Improved             |      |
| MATHJAX equation numbers. . .          | 560  |
| \LWR@url: hyperref: Adjusted           |      |
| emulation. . . . .                     | 511  |
| \textcolor: xcolor: \textcolor:        |      |
| Fixed for babel-french. . . . .        | 1229 |
| General: 2020/05/12 . . . . .          | 1    |
| \LWR@insidemathcomment: Added.         | 545  |
| amsmath: Added support for             |      |
| MATHJAX. . . . .                       | 653  |
| hyperref: Adjusted emulation. . .      | 862  |
| mathtools: Added                       |      |
| \ArrowBetweenLines*. . . . .           | 942  |
| mathtools: Added                       |      |
| \shortvdotswithin*. . . . .            | 942  |
| mathtools: Added starred delimited     |      |
| macros. . . . .                        | 942  |
| nccmath: Added \displaybreak. . . .    | 990  |
| nccmath: Fixed \nr, added starred. .   | 990  |
| File: lwarpmathjax.txt: Added          |      |
| support for starred macros. . . .      | 312  |
| File: lwarpmathjax.txt: Improved       |      |
| equation numbering. . . . .            | 312  |
| File: lwarpmathjax.txt: Updated        |      |
| to MATHJAX v3 current. . . . .         | 312  |
| v0.87                                  |      |
| \LWR@checkloadfilename: Prevented      |      |
| csvtools. . . . .                      | 242  |
| \bibliography: Reverted to original.   | 538  |
| \scshape: Added FixSmallCaps to        |      |
| remove \LWR@print@scshape for          |      |
| \erewhon, et. al. . . . .              | 609  |
| \sishape: Added FixSmallCaps to        |      |
| remove \LWR@print@scshape for          |      |
| \erewhon, et. al. . . . .              | 609  |
| General: 2020/06/03 . . . . .          | 1    |
| cancel: Now uses MATHJAX v3            |      |
| extension. . . . .                     | 696  |
| citeref: Added. . . . .                | 738  |
| drftcite: Added. . . . .               | 758  |
| embrac: Neutralized kerning. . .       | 763  |

|                                                                            |          |
|----------------------------------------------------------------------------|----------|
| ifpdf, ifptex: Restored to work on<br>TL2019 and earlier.                  | 202      |
| jurabib: Added.                                                            | 878      |
| mathtools: Improved \underbraket,<br>\overbracket.                         | 940      |
| mathtools: Updated starred macros.                                         | 940      |
| mhchem: Now uses MATHJAX v3<br>extension.                                  | 962      |
| multibib: Added.                                                           | 974      |
| nccmath: Updated starred, improved<br>\underref.                           | 990      |
| physics: Now uses MATHJAX v3<br>extension.                                 | 1038     |
| splitbib: Added.                                                           | 1116     |
| statex2: \pBin exponent.                                                   | 1122     |
| Added FixSmallCaps to remove<br>\LWR@print@scshape for erewhon,<br>et. al. | 603      |
| Docs: Updated docs to compile l warp<br>documentation.                     | 187      |
| File: l warp_mathjax.txt: Now<br>provides \ifstar, \ifnextchar.            | 312      |
| Prevented csvtools.                                                        | 205      |
| <b>v0.88</b>                                                               |          |
| \@wrindex: Added support for <i>xindex</i> .                               | 532      |
| \IndexRangeSeparator: Added.                                               | 530      |
| \LWR@HTML@ref: Added MATHJAX.                                              | 508      |
| Fixed: Starred.                                                            | 507      |
| \LWR@LetLtxMacros: Added.                                                  | 224      |
| \LWR@absorbstar: Added.                                                    | 224      |
| \LWR@checkfilename: Prevented<br>shadethm.                                 | 242      |
| \LWR@doindexentry: Adapts to<br><i>gindex</i> .                            | 535      |
| \LWR@doindexentrysub: Adapts to<br><i>gindex</i> .                         | 535      |
| \LWR@doindexentrysubsub: Handles a<br>range, for <i>xindex</i> .           | 535      |
| \LWR@forcenewautoidanchor: Inline<br>handling.                             | 516      |
| \LWR@hyperindexrefsubtwo: Adds<br>support for a range, for <i>xindex</i> . | 537      |
| \LWR@indexnameref: Added IndexRef<br>option, refactored.                   | 534      |
| \LWR@maybe@orignewpage: Added.                                             | 222      |
| \LWR@printchaptername:<br>Conditionally print \chaptername.                | 397      |
| \LWR@restoreMathJaxformatting:<br>Added.                                   | 539      |
| \LWR@restoreorigformatting: Added<br>\vdots.                               | 540      |
| Support for MATHJAX.                                                       | 540      |
| \LWR@section: Conditionally print<br>\chaptername.                         | 401      |
| \LWR@xindex@modifyentry: Added<br>support for <i>xindex</i> .              | 531      |
| \hrulefill: Full line <div> if not<br>started paragraph.                   | 613      |
| \hyperindexformat: Added.                                                  | 537      |
| \hyperindexref: Rewritten to parse<br>commas and ranges.                   | 536      |
| \hyperpage: Added.                                                         | 537      |
| \nohyperpage: Added.                                                       | 537      |
| General: 2020/07/19                                                        | 1        |
| l warp.css: Added indexheading<br>for <i>gindex</i> .                      | 269      |
| l warp.css: Added tcolorbox,<br>thmbox.                                    | 269      |
| amsmath: Added \dotso text mode.                                           | 650      |
| amsthm: Requires amsmath.                                                  | 654      |
| caption, scrextend: Fixed<br>\caption*.                                    | 699      |
| cleveref, variorref: Fix for starred<br>macros.                            | 742      |
| fancyref: Now uses variorref which<br>ignores page-related output.         | 791      |
| fbox: Added.                                                               | 799      |
| gindex: Added.                                                             | 834      |
| htensor: Added.                                                            | 855      |
| mleftright: Added.                                                         | 971      |
| pdfrender: Restored for xfakebold.                                         | 1035     |
| shadethm: Added.                                                           | 1078     |
| tcolorbox: Added.                                                          | 1150     |
| termcal: Added.                                                            | 1157     |
| thm-listof: Added.                                                         | 1167     |
| thm-restate: Added.                                                        | 1168     |
| thmbox: Added.                                                             | 1168     |
| ushort: Added.                                                             | 1213     |
| variorref: Removed page-related<br>text.                                   | 1214     |
| xfakebold: Now works with<br>pdfrender.                                    | 1236     |
| Added \vdots.                                                              | 259, 612 |
| Added LWR@texboxdepth.                                                     | 222      |
| Added IndexRef option.                                                     | 230      |
| Added xindex option.                                                       | 230      |
| Option xindexConfig added.                                                 | 229      |
| Prevented shadethm.                                                        | 205      |
| <b>v0.883</b>                                                              |          |
| General: nfssext-cfr: Fixed \textsw.                                       | 997      |
| <b>v0.89</b>                                                               |          |
| \@opargbegintheorem: Allow preload<br>of amsmath, amsthm, centernot.       | 430      |
| \LWR@HTMLsanitizeexpand: Fix:<br>Nested MATHJAX environments.              | 386      |
| \LWR@LwarpStart: MathJax: Improved<br>info message.                        | 411      |
| \LWR@addmathjax: TT font for<br>MATHJAX.                                   | 561      |

|                                                        |                                                   |
|--------------------------------------------------------|---------------------------------------------------|
| \LWR@amsmathbodynumbered:                              |                                                   |
| \textrange for number range.                           | . 573                                             |
| \LWR@customizeMathJax:                                 | Print                                             |
| MATHJAX customizations with                            |                                                   |
| typewriter font.                                       | . . . . . 389                                     |
| \LWR@doubledollar:                                     | TT font for                                       |
| MATHJAX.                                               | . . . . . 555                                     |
| \LWR@patcherror:                                       | Improved message.                                 |
| 221                                                    |                                                   |
| \LWR@singledollar:                                     | TT font for                                       |
| MATHJAX.                                               | . . . . . 556                                     |
| \LWR@subsingledollar:                                  | TT font for                                       |
| MATHJAX.                                               | . . . . . 554                                     |
| \enddocument:                                          | Adapt to L <sup>A</sup> T <sub>E</sub> X core     |
| changes.                                               | . . . . . 413                                     |
| General:                                               | 2020/09/03                                        |
| accents:                                               | Added.                                            |
| atbegshi:                                              | Adapt to L <sup>A</sup> T <sub>E</sub> Xkernel    |
| changes.                                               | . . . . . 666                                     |
| caption3:                                              | Split from lwarpm-caption.                        |
| 699                                                    |                                                   |
| caption:                                               | Adapt to v3.5.                                    |
| 698                                                    |                                                   |
| centernot:                                             | Improved.                                         |
| 703                                                    |                                                   |
| econometrics:                                          | Uses                                              |
| lwarpm-common-mathjax-letters.                         | 759                                               |
| everyshi:                                              | Adapt to L <sup>A</sup> T <sub>E</sub> Xkernel    |
| changes.                                               | . . . . . 784                                     |
| everyshi:                                              | Included in L <sup>A</sup> T <sub>E</sub> X core. |
| . . . . . 624                                          |                                                   |
| hepunits:                                              | Added.                                            |
| 854                                                    |                                                   |
| lwarpm-common-mathjax-letters:                         |                                                   |
| Added.                                                 | . . . . . 1284                                    |
| lwarpm-common-mathjax-newpxmath:                       |                                                   |
| Added.                                                 | . . . . . 1291                                    |
| lwarpm-common-mathjax-overlaysymbols:                  |                                                   |
| Added.                                                 | . . . . . 1300                                    |
| mathalpha:                                             | Added.                                            |
| 931                                                    |                                                   |
| mathdesign:                                            | Added.                                            |
| 933                                                    |                                                   |
| mathpazo:                                              | Added.                                            |
| 936                                                    |                                                   |
| mathptmx:                                              | Added.                                            |
| 936                                                    |                                                   |
| mathtools:                                             | Added \adjustlimits.                              |
| 940                                                    |                                                   |
| mathtools:                                             | Minor                                             |
| improvements.                                          | . . . . . 940, 944                                |
| mismath:                                               | Improved math operators.                          |
| 967                                                    |                                                   |
| newpxmath:                                             | Added.                                            |
| 991                                                    |                                                   |
| newtxmath:                                             | Added.                                            |
| 991                                                    |                                                   |
| newtxsf:                                               | Added.                                            |
| 992                                                    |                                                   |
| pxfonts:                                               | Added.                                            |
| 1049                                                   |                                                   |
| shuffle:                                               | Added.                                            |
| 1080                                                   |                                                   |
| siunitx:                                               | Fix: MATHJAX for \tothe,                          |
| \raisetoe.                                             | . . . . . 1100                                    |
| siunitx:                                               | Unicode for endash.                               |
| . . . . . 1103                                         |                                                   |
| statmath:                                              | Fixed abcsm, uses                                 |
| lwarpm-common-mathjax-letters.                         | 1132                                              |
| thm-listof:                                            | Updated to v0.72.                                 |
| . . . . . 1167                                         |                                                   |
| thm-restate:                                           | Updated to v0.72, no                              |
| changes needed.                                        | . . . . . 1168                                    |
| thmtools:                                              | Added.                                            |
| . . . . . 1169                                         |                                                   |
| txfonts:                                               | Added.                                            |
| . . . . . 1201                                         |                                                   |
| upgreek:                                               | Added.                                            |
| . . . . . 1212                                         |                                                   |
| lwarpmk:                                               | clean also removes *.bb1                          |
| 316                                                    |                                                   |
| Allow preload of amsmath, amsthm,                      |                                                   |
| centernot.                                             | . . . . . 206, 625                                |
| AMS environments:                                      | Fix: <ALT> text                                   |
| env name.                                              | . . . . . 651                                     |
| Foreground/background hooks:                           |                                                   |
| Adapt to L <sup>A</sup> T <sub>E</sub> X core changes. | . . . . . 414                                     |
| MATHJAX:                                               | Added \protect, and                               |
| \mathcode and related.                                 | . . . . . 389                                     |
| Removed \let of \[, \].                                | . . . . . 558                                     |
| eqnarray:                                              | \textrange for number                             |
| range.                                                 | . . . . . 568                                     |
| v0.891                                                 |                                                   |
| \LWR@atbeginverbatim:                                  | Fix for                                           |
| verbatim, alltt with lists                             | . . . . . 427                                     |
| \LWR@checkloadfilename:                                | Prevented                                         |
| libgreek.                                              | . . . . . 242                                     |
| \LWR@excludecomment:                                   | Error if nested                                   |
| comment.                                               | . . . . . 234                                     |
| \LWR@subHTMLsanitize:                                  | Neutralized                                       |
| single quotes.                                         | . . . . . 385                                     |
| \verb:                                                 | \verb as \texttt{. . . . . 427}                   |
| General:                                               | 2020/09/22                                        |
| biblatex:                                              | Fixed: Back page                                  |
| references.                                            | . . . . . 682                                     |
| bussproofs:                                            | Added.                                            |
| . . . . . 695                                          |                                                   |
| caption:                                               | Improved integration.                             |
| . . . . . 699                                          |                                                   |
| cmbright:                                              | Added.                                            |
| . . . . . 743                                          |                                                   |
| colonequals:                                           | Uses Unicode and                                  |
| \mathrel.                                              | . . . . . 744                                     |
| fancyvrb:                                              | Fix: BVerbatim with                               |
| labels.                                                | . . . . . 794                                     |
| fourier:                                               | Added.                                            |
| . . . . . 823                                          |                                                   |
| hyperref:                                              | Added backref,                                    |
| pagebackref.                                           | . . . . . 857                                     |
| hyperref:                                              | Fixed \texorpdfstring                             |
| with babel-french.                                     | . . . . . 865                                     |
| kpfonts-otf:                                           | Added.                                            |
| . . . . . 891                                          |                                                   |
| kpfonts:                                               | Added.                                            |
| . . . . . 890                                          |                                                   |
| libertinustmath:                                       | Added.                                            |
| . . . . . 897                                          |                                                   |
| listings:                                              | Fix for MATHJAX: Moved                            |
| \LWR@forcenewpage to start.                            | . 907, 909                                        |
| listings:                                              | Improved HTML sanitizing.                         |
| 907                                                    |                                                   |
| listings:                                              | Improved spacing around                           |
| ampersand.                                             | . . . . . 907                                     |
| lwarpm-common-mathjax-newpxmath:                       |                                                   |
| Expanded for kpfonts.                                  | 1292, 1294, 1297                                  |
| lwarpm-common-mathjax-newpxmath:                       |                                                   |
| Factored non-UNICODE.                                  | 1293, 1294, 1296                                  |
| lwarpm-common-mathjax-newpxmath:                       |                                                   |
| Reverse factored out Greek,                            |                                                   |
| non-UNICODE.                                           | . . . . . 1291                                    |

|                                   |                                                                  |            |
|-----------------------------------|------------------------------------------------------------------|------------|
| l warp-common-mathjax-nonunicode: |                                                                  |            |
| Added. . . . .                    | 1297                                                             |            |
| mathdesign:                       | Added \mathinner,<br>\mathbin. . . . .                           | 935        |
| mathdesign:                       | Added \mathop. . . .                                             | 934        |
| mathdesign:                       | Added \mathrel,<br>\mathord. . . . .                             | 934        |
| mathdesign:                       | Honors<br>greekuppercase,<br>greeklowercase. . . . .             | 934        |
| mathdots:                         | Added more macros,<br>\mathinner. . . . .                        | 935        |
| mathfixs:                         | Added \mathinner. . . .                                          | 935        |
| mathpazo:                         | Honors slantedGreek. . . . .                                     | 936        |
| mathptmx:                         | Honors slantedGreek. . . . .                                     | 936        |
| mathtools:                        | Improved \underbraket,<br>\overbracket. . . . .                  | 940        |
| mathtools:                        | Uses Unicode and<br>\mathrel. . . . .                            | 944        |
| multiobjective:                   | Improved. . . . .                                                | 977        |
| newpxmath:                        | Honors uprightGreek,<br>slantedGreek. . . . .                    | 991, 992   |
| newtxmath:                        | Honors uprightGreek,<br>slantedGreek. . . . .                    | 991        |
| nicefrac:                         | Added \mathinner,<br>improved fraction. . . . .                  | 1001       |
| scalerel:                         | Added. . . . .                                                   | 1064       |
| shuffle:                          | Added \mathbin, improved<br>bar. . . . .                         | 1081       |
| txgreeks:                         | Added. . . . .                                                   | 1202       |
| unicode-math:                     | Added<br>sans-style. . . . .                                     | 1208       |
| units:                            | Added \mathinner, improved<br>fraction. . . . .                  | 1211       |
| File: l warp_mathjax.txt:         | Renamed<br>tagformat extension. . . . .                          | 312        |
| Prevented libgreek.               | . . . . .                                                        | 205        |
| BVerbatim: fancyvrb:              | Fix: BVerbatim<br>with labels. . . . .                           | 798        |
| v0.892                            |                                                                  |            |
| \LWR@subhtmllementclass:          | Ignore<br>empty class. . . . .                                   | 356        |
| \fcolorbox: xcolor:               | Fixed second<br>optional arg. . . . .                            | 1231       |
| \fcolorboxBlock:                  | xcolor: Fixed<br>second optional arg. . . . .                    | 1231       |
| General:                          | 2020/10/07 . . . . .                                             | 1          |
| fancyvrb:                         | Adapted to fvextra. . . .                                        | 798        |
| fancyvrb:                         | Provided<br>\fv@FrameFillLine. . . . .                           | 797        |
| fourier:                          | Added \left/\right<br>support in l warp_mathjax.txt. . .         | 824        |
| fvextra:                          | Added. . . . .                                                   | 828        |
| graphics:                         | Fix path from kernel<br>change. . . . .                          | 846        |
| libertinust1math:                 | Added \left/<br>\right support in<br>l warp_mathjax.txt. . . . . | 898        |
| lineno:                           | Fix for<br>internallinenumbers*. . . . .                         | 904        |
| l warp-common-mathjax-newpxmath:  | Added \left/\right support in<br>l warp_mathjax.txt. . . . .     | 1292, 1296 |
| minted:                           | Added. . . . .                                                   | 966        |
| unicode-math:                     | Adeed MATHJAX<br>support for \left/\right. . . . .               | 1209       |
| File: l warp_mathjax.txt:         | Added<br>\left/\right delimiters. . . . .                        | 312        |
| fcolorminipage:                   | xcolor: Fixed second<br>optional arg. . . . .                    | 1232       |
| v0.893                            |                                                                  |            |
| \LWR@checkloadfilename:           | Allowed<br>picinpar. . . . .                                     | 242        |
| \LWR@expandableformatted:         | Improved error handling. . . . .                                 | 254        |
| \LWR@expandableformattedenv:      | Improved error handling. . . . .                                 | 255        |
| \LWR@formatted:                   | Improved error<br>handling. . . . .                              | 254        |
| \LWR@formatted@checkendname:      | Added. . . . .                                                   | 253        |
| \LWR@formatted@checkname:         | Added. . . . .                                                   | 253        |
| \LWR@formattedenv:                | Improved error<br>handling. . . . .                              | 254        |
| \LWR@htmlcomment:                 | Disabled in math<br>mode. . . . .                                | 355        |
| \LWR@subHTMLsanitize:             | Optionally<br>neutralized single quotes. . . . .                 | 385        |
| General:                          | 2020/11/26 . . . . .                                             | 1          |
| MATHJAX:                          | Added \mathnormal. . .                                           | 388        |
| l warp.css:                       | Added keystroke. . .                                             | 269        |
| braket:                           | Now uses MATHJAX<br>extension. . . . .                           | 693        |
| caption3:                         | Updated date to v2.2e. . .                                       | 699        |
| caption:                          | Updated date to v3.5g. . .                                       | 698        |
| epstopdf-base:                    | Updated date to<br>v2.11. . . . .                                | 776        |
| epstopdf:                         | Updated date to v2.11. .                                         | 776        |
| esvect:                           | Added. . . . .                                                   | 780        |
| fixmath:                          | Added. . . . .                                                   | 803        |
| graphics:                         | Updated date to v1.4c. . .                                       | 837        |
| graphicx:                         | Updated date to v1.2b. . .                                       | 850        |
| keystroke:                        | Added. . . . .                                                   | 888        |
| l warp-common-mathjax-letters:    |                                                                  |            |
| Added \varbeta. . . . .           | 1284                                                             |            |
| mathastext:                       | Added. . . . .                                                   | 932        |
| mathspec:                         | Added. . . . .                                                   | 937        |
| menukeys:                         | Added. . . . .                                                   | 959        |
| menukeys:                         | Updated to v1.6.1. . .                                           | 959        |
| picinpar:                         | Added. . . . .                                                   | 1040       |

|                   |                                                |                          |                                  |                             |
|-------------------|------------------------------------------------|--------------------------|----------------------------------|-----------------------------|
| plimsoll:         | Added.                                         | 1045                     | \LWR@maybenewtablerow:           | Improved                    |
| pstricks:         | Fixed <code>pspicture*</code> .                | 1048                     | HTML quotes.                     | 464                         |
| repltext:         | Added.                                         | 1059                     | \LWR@printatbang:                | Improved HTML               |
| schemata:         | Added <alt> text.                              | 1064                     | quotes.                          | 465                         |
| selectp:          | Added.                                         | 1075                     | \LWR@printopenlist:              | Improved HTML               |
| seqsplit:         | Added.                                         | 1076                     | quotes.                          | 431                         |
| simplebnf:        | Added.                                         | 1084                     | \LWR@startref:                   | Improved HTML               |
| statistics:       | Added.                                         | 1126                     | quotes.                          | 506, 507                    |
| struktex:         | Removed package date.                          | 1134                     | \LWR@subaddtabularcellcolor:     |                             |
| svg:              | Updated date to v2.02j.                        | 1143                     | Improved HTML quotes.            | 476                         |
| swfigure:         | Added.                                         | 1144                     | \LWR@subhyperref:                | Improved HTML               |
| tikz:             | Fixed font macros.                             | 1173                     | quotes.                          | 510                         |
| tocloft:          | Fix: \cftpagenumbersoff,<br>\cftpagenumberson. | 1193                     | \LWR@subhyperrefclass:           | Improved                    |
| Allowed picinpar: |                                                | 205                      | HTML quotes.                     | 510                         |
| v0.894            |                                                |                          | \LWR@subinlinemath:              | Improved                    |
|                   | \LWR@forceSVGmessage:                          | Improved                 | HTML quotes.                     | 512                         |
|                   | MATHJAX warnings.                              | 630                      | \LWR@tabledataasinglecolumntag:  |                             |
|                   | \LWR@mathjaxwarn:                              | Improved                 | Improved HTML quotes.            | 467                         |
|                   | MATHJAX warnings.                              | 631                      | \LWR@taddstyle:                  | Improved HTML               |
| General:          | 2020/12/24                                     | 1                        | quotes.                          | 471                         |
|                   | MATHJAX: Accept starred \hspace.               | 388                      | \LWR@tdendstyle:                 | Improved HTML               |
|                   | MATHJAX: Added \arabic, \number,               |                          | quotes.                          | 471                         |
|                   | \&noalign.                                     | 388                      | \hspace:                         | Improved HTML quotes.       |
|                   | lwarf.css: TeX logos no longer                 |                          | 616                              |                             |
|                   | below baseline.                                | 269                      | \rotatebox:                      | Improved HTML quotes.       |
|                   | booktabs:                                      | MATHJAX: Absorb          | 848                              |                             |
|                   | \cmidrule trim arg.                            | 691                      | \rule:                           | Improved HTML quotes.       |
|                   | colortbl:                                      | Added MATHJAX emulation. | 619                              |                             |
|                   | nicematrix:                                    | Added.                   | \scalebox:                       | Improved HTML quotes.       |
|                   | rmathbr:                                       | Updated to v1.1.         | 848                              |                             |
| v0.895            |                                                | 1060                     | \verb:                           | Improved HTML quotes.       |
|                   | \LWR@addlinktitle:                             | Improved HTML            | 427                              |                             |
|                   | quotes.                                        | 506                      | General:                         | 2021/02/18                  |
|                   | \LWR@checkloadfilename:                        | kpfonts                  | 1                                |                             |
|                   | load before lwarf.                             | 243                      | acro:                            | Updated to v3.5.            |
|                   | Allowed epsf.                                  | 242                      | amscdx:                          | Added.                      |
|                   | \LWR@domulticolumn:                            | Improved HTML            | 639                              |                             |
|                   | quotes.                                        | 482, 483                 | amsmath:                         | Added \hat, etc..           |
|                   | \LWR@floatbegin:                               | Improved HTML            | 653                              |                             |
|                   | quotes.                                        | 514                      | changes:                         | Updated to v4.0.1.          |
|                   | \LWR@forceSVGmessage:                          | Improved                 | 705                              |                             |
|                   | MATHJAX warning.                               | 630                      | epsfig:                          | Supports lateximage.        |
|                   | \LWR@forcenewautoidanchor:                     |                          | 775                              |                             |
|                   | Improved HTML quotes.                          | 516                      | epsf:                            | Added.                      |
|                   | \LWR@hook@processingtags:                      | Added.                   | 774                              |                             |
|                   | 350                                            |                          | fancyhdr:                        | Updated to v4.0.            |
|                   | \LWR@label@subcreatetag:                       | Improved                 | 790                              |                             |
|                   | HTML quotes.                                   | 504                      | imnpnattypo:                     | Added.                      |
|                   | \LWR@mathjaxwarn:                              | Added MATHJAX            | 874                              |                             |
|                   | warnings for aligned-overset,                  |                          | isomath:                         | Added.                      |
|                   | autoaligne, boldtensors,                       |                          | 877                              |                             |
|                   | liberitinustmath, tensind.                     | 631                      | isotope:                         | Added.                      |
|                   | Improved MATHJAX warning for                   |                          | 877                              |                             |
|                   | unicode-math.                                  | 631                      | libertinustmath:                 | MATHJAX: Fixed              |
|                   |                                                |                          | for Greek, ignoring sans.        | 898                         |
|                   |                                                |                          | lpic:                            | Added.                      |
|                   |                                                |                          | 917                              |                             |
|                   |                                                |                          | luavlna:                         | Added.                      |
|                   |                                                |                          | 924                              |                             |
|                   |                                                |                          | mattens:                         | Added.                      |
|                   |                                                |                          | 945                              |                             |
|                   |                                                |                          | mdwmath:                         | Added.                      |
|                   |                                                |                          | 956                              |                             |
|                   |                                                |                          | pinlabel:                        | Added.                      |
|                   |                                                |                          | 1043                             |                             |
|                   |                                                |                          | rlepsf:                          | Added.                      |
|                   |                                                |                          | 1060                             |                             |
|                   |                                                |                          | rotating:                        | Supports lateximage.        |
|                   |                                                |                          | 1061                             |                             |
|                   |                                                |                          | siunitx:                         | MATHJAX: Scientific         |
|                   |                                                |                          | notation.                        | 1100                        |
|                   |                                                |                          | siunitx:                         | MATHJAX: \num sci notation, |
|                   |                                                |                          | multiples, +-,, decimals, comma. | 1100                        |
|                   |                                                |                          | siunitx:                         | Fix: MATHJAX for \ang.      |
|                   |                                                |                          | siunitx:                         | \SI prefix                  |
|                   |                                                |                          | parsing.                         | 1103                        |
|                   |                                                |                          | skmath:                          | Added.                      |
|                   |                                                |                          | 1107                             |                             |

|                                                                        |                |
|------------------------------------------------------------------------|----------------|
| tensor: Added MATHJAX. . . . .                                         | 1156           |
| tikz-imagelabels: Added. . . . .                                       | 1174           |
| xevlna: Added. . . . .                                                 | 1236           |
| Allow \par. . . . .                                                    | 980            |
| Allowed epsf. . . . .                                                  | 205            |
| File: l warp_mathjax.txt: Added                                        |                |
| \ifblank, \ifstrequal macros. .                                        | 312            |
| Fixed <i>libertinus-otf</i> \textquotedbl                              |                |
| kern. . . . .                                                          | 259            |
| Improved HTML quotes. . . . .                                          | 257, 350, 648, |
| 794,                                                                   |                |
| 843, 844, 851, 862, 863, 909, 950, 979, 1012                           |                |
| Use kpfonts-otf if Lua <sup>L</sup> ATEX, X <sup>L</sup> ATEX. . . . . | 220            |
| lateximage: Improved HTML quotes. . . . .                              | 576            |
| minipage: Improved HTML quotes. . . . .                                | 594, 595       |
| enumerate: Improved HTML quotes. . . . .                               | 435            |
| itemize: Improved HTML quotes. . . . .                                 | 435            |
| v0.896                                                                 |                |
| \@begintheorem: Intersperse                                            |                |
| footnotes. . . . .                                                     | 430            |
| \@currentHref: backref: Improved                                       |                |
| back refs. . . . .                                                     | 509            |
| \@endtheorem: Intersperse footnotes. . . . .                           | 430            |
| \LWR@footnotetext: Fix: autopage                                       |                |
| references in footnotes. . . . .                                       | 372            |
| \LWR@printpendingfootnotes:                                            |                |
| Added ARIA role. . . . .                                               | 375            |
| Fix: Backref to footnote. . . . .                                      | 375            |
| \LWR@LwarpEnd: Added <main>. . . . .                                   | 412            |
| Fix: Footnotes at end of document. . . . .                             | 412            |
| \LWR@LwarpStart: Added <main>. . . . .                                 | 411            |
| \LWR@currentautosecpageref:                                            |                |
| Added. . . . .                                                         | 503            |
| \LWR@doequation: Added ARIA role. . . . .                              | 562            |
| \LWR@doubledollar: Added ARIA role. . . . .                            | 555            |
| Fix: Displaymath notes with                                            |                |
| MATHJAX. . . . .                                                       | 555            |
| \LWR@firstoffive: Changed to                                           |                |
| firstoffive instead of four. . . . .                                   | 222            |
| \LWR@htmldivclass: Added ARIA role. . . . .                            | 357            |
| \LWR@htmlelementclass: Added ARIA                                      |                |
| role. . . . .                                                          | 356            |
| \LWR@htmlspanclass: Added ARIA                                         |                |
| role. . . . .                                                          | 354            |
| \LWR@lateximage@oneimage: Added                                        |                |
| ARIA role. . . . .                                                     | 573            |
| \LWR@lateximage@oneimageb: Added                                       |                |
| ARIA role. . . . .                                                     | 573            |
| \LWR@new@label: Revert to a simple                                     |                |
| \newcommand*. . . . .                                                  | 505            |
| \LWR@newautopagelabel: Fix: Refs if                                    |                |
| page changed. . . . .                                                  | 378            |
| \LWR@newhtmlfile: Added                                                |                |
| <main>. . . . .                                                        | 390, 393       |
| \LWR@null@newautopagelabel: Fix:                                       |                |
| Refs in footnotes. . . . .                                             | 379            |
| \LWR@nullfonts: Added ARIA role. . . . .                               | 543            |
| Added groups. . . . .                                                  | 543            |
| \LWR@popclose: Stack 19 deep. . . . .                                  | 337            |
| \LWR@printpendingmpfootnotes:                                          |                |
| Added ARIA role. . . . .                                               | 376            |
| \LWR@pushclose: Error if stack                                         |                |
| overflow. . . . .                                                      | 337            |
| Stack 19 deep. . . . .                                                 | 336            |
| \LWR@refwithsection: Added. . . . .                                    | 508            |
| \LWR@subhtmlelementclass: Added                                        |                |
| ARIA role. . . . .                                                     | 356            |
| \LWR@subinlinemimage: Added ARIA                                       |                |
| role. . . . .                                                          | 512            |
| \LWR@subsingledollarsvg: Added                                         |                |
| ARIA role. . . . .                                                     | 551            |
| \LWR@synconenotename: Fix: MATHJAX:                                    |                |
| Footnote names. . . . .                                                | 564            |
| \LWR@write@lwarplabel: Added                                           |                |
| \LWR@currentautosecpage. . . . .                                       | 503            |
| \LWRPrintStack: Stack 19 deep. . . . .                                 | 347            |
| \RequirePackage: Warn if package                                       |                |
| option has braces. . . . .                                             | 245            |
| \marginpar: Added ARIA role. . . . .                                   | 376            |
| \marginparblock: Added ARIA role. . . . .                              | 377            |
| \mbox: Added a group. . . . .                                          | 597            |
| General: 2021/04/08 . . . . .                                          | 1              |
| l warp.css: Added <main>, adjusted                                     |                |
| <sidetoccontainer> margin. . . . .                                     | 269            |
| 774                                                                    |                |
| amsthm: Fix: Footnotes in opt arg.. . . . .                            | 656            |
| amsthm: Improved back refs. . . . .                                    | 656, 658       |
| amsthm: Intersperse footnotes. . . . .                                 | 656–659        |
| backref: Improved backrefs. . . . .                                    | 675            |
| biblatex: Fix: Back references. . . . .                                | 682            |
| biblatex: Fix: Citation references. . . . .                            | 682            |
| biblatex: Improved refs: \ref to                                       |                |
| \LWR@refwithsection. . . . .                                           | 682            |
| bigdelim: Updated to v2.8. . . . .                                     | 685            |
| ccicons: Added. . . . .                                                | 702            |
| chemfig: Updated to v1.6a. . . . .                                     | 711            |
| citeref: Improved refs: \ref to                                        |                |
| \LWR@refwithsection. . . . .                                           | 738            |
| classicthesis: Added. . . . .                                          | 739            |
| cleveref: Undo memoir changes. . . . .                                 | 742            |
| cleveref: Undo subfig changes. . . . .                                 | 743            |
| enotez: Added. . . . .                                                 | 770            |
| floatflt: Added ARIA role. . . . .                                     | 807            |
| hyperref: Fix: Added                                                   |                |
| \*autorefname macros. . . . .                                          | 865            |
| hyperref: Fix: No \hyperlink in                                        |                |
| HTML comment. . . . .                                                  | 864            |
| hyperxmp: Added keys. . . . .                                          | 867            |
| keyfloat: Added ARIA role. . . . .                                     | 887, 888       |

|                                                                                 |                  |
|---------------------------------------------------------------------------------|------------------|
| <b>listings:</b> Escapes accepted but disabled. . . . .                         | 908              |
| <b>listings:</b> Fix: Labels. . . . .                                           | 908              |
| <b>lwrap-patch-memoir:</b> Added ARIA role. . . . .                             | 1268             |
| <b>natbib:</b> Fix: Citation references. . . . .                                | 987              |
| <b>ntheorem:</b> Intersperse footnotes. . . . .                                 | 1009, 1010, 1017 |
| <b>orcidlink:</b> Added. . . . .                                                | 1020             |
| <b>parnotes:</b> Added ARIA role. . . . .                                       | 1027             |
| <b>pdflscape:</b> Fix: Added landscape. . . . .                                 | 1032             |
| <b>picinpar:</b> Added ARIA role. . . . .                                       | 1041             |
| <b>scrlayer-scrpage:</b> Added \automark, \manualmark. . . . .                  | 1071             |
| <b>scrlayer-scrpage:</b> Added \headmark, \pagemark. . . . .                    | 1072             |
| <b>theorem:</b> Intersperse footnotes. . . . .                                  | 1166             |
| <b>threeparttablex:</b> Fix: \TPTL@tnotex if not referrable. . . . .            | 1171             |
| <b>tocloft:</b> Fix: \cftpagenumbersoff, \cftpagenumberson with memoir. . . . . | 1193             |
| <b>wrapfig:</b> Added ARIA role. . . . .                                        | 1223             |
| <b>Docs:</b> Theorem references. . . . .                                        | 155              |
| <b>Fix:</b> autopage references in footnotes. . . . .                           | 786, 793         |
| <b>Stack 19 deep.</b> . . . . .                                                 | 335, 336         |
| <b>lateximage:</b> Added ARIA role. . . . .                                     | 574, 579         |
| <b>center:</b> Spurious space in a <span>. . . . .                              | 580              |
| <b>description:</b> Fix: Footnotes inside description label. . . . .            | 436              |
| <b>minipage:</b> Improved back refs. . . . .                                    | 595              |
| <b>BlockClass:</b> Added ARIA role. . . . .                                     | 358              |
| <b>flushleft:</b> Spurious space in a <span>. . . . .                           | 580              |
| <b>flushright:</b> Spurious space in a <span>. . . . .                          | 580              |
| <b>LWR@BlockClassWP:</b> Added ARIA role. . . . .                               | 359              |
| <b>LWR@displaymathother:</b> Added ARIA role. . . . .                           | 558              |
| <b>LWR@equationother:</b> Added ARIA role. . . . .                              | 558              |
| <b>LWR@nestspan:</b> Issue BlockClassWP warning inside a span. . . . .          | 353              |

## Index of Objects

This is an index of macros, environments, booleans, counters, lengths, packages, classes, options, keys, files, and various other programming objects. Each is listed by itself, and also by category. In some cases, they are further subdivided by [class].

Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition.

| Symbols                           |                                                   | \@starttoc . . . . .              | 10638                     |
|-----------------------------------|---------------------------------------------------|-----------------------------------|---------------------------|
| \\$ . . . . .                     | <u>546</u>                                        | \@textsubscript . . . . .         | 13070                     |
| \& . . . . .                      | <u>341</u> , <u>8592</u>                          | \@textsuperscript . . . . .       | 13066                     |
| \( . . . . .                      | <u>11626</u>                                      | \@title . . . . .                 | <u>415</u>                |
| *-images.txt (file) . . . . .     | <u>574</u>                                        | \@wrglossary . . . . .            | 10891                     |
| *_html.aux (file) . . . . .       | <u>378</u> , <u>500</u> , <u>502</u> , <u>574</u> | \@rindex . . . . .                | <u>10863</u>              |
| *_html.lof (file) . . . . .       | <u>518</u>                                        | \@xdbfloat . . . . .              | <u>10419</u>              |
| *_html.lot (file) . . . . .       | <u>518</u>                                        | \@xfloat . . . . .                | <u>10419</u>              |
| *_html.tex (file) . . . . .       | <u>263</u>                                        | \[ . . . . .                      | <u>11626</u>              |
| \, . . . . .                      | <u>122</u>                                        | \\" . . . . .                     | <u>614</u>                |
| --shell-escape (option) . . . . . | <u>101</u>                                        | \\$ . . . . .                     | <u>555</u>                |
| \@@setpageref . . . . .           | <u>39</u>                                         | \\$\\$ . . . . .                  | <u>555</u>                |
| \@@setcref . . . . .              | <u>2</u>                                          | 2in1 (package) . . . . .          | <u>633</u>                |
| \@@setcrefrange . . . . .         | <u>17</u>                                         | 2up (package) . . . . .           | <u>633</u>                |
| \@author . . . . .                | <u>415</u>                                        |                                   |                           |
| \@begintheorem . . . . .          | <u>8184</u>                                       | A                                 |                           |
| \@biblabel . . . . .              | <u>11072</u>                                      | a4 (package) . . . . .            | <u>633</u>                |
| \@caption . . . . .               | <u>10498</u>                                      | a4wide (package) . . . . .        | <u>634</u>                |
| \@capttype . . . . .              | <u>10475</u>                                      | a5comb (package) . . . . .        | <u>634</u>                |
| \@chapcntformat . . . . .         | <u>7282</u>                                       | abstract (environment) . . . . .  | <u>8021</u>               |
| \@currentHref . . . . .           | <u>10274</u>                                      | abstract (package) . . . . .      | <u>133</u> , <u>634</u>   |
| \@currentlabelname . . . . .      | <u>10074</u>                                      | \abstractname . . . . .           | <u>112</u> , <u>8020</u>  |
| \@date . . . . .                  | <u>415</u>                                        | academicons (package) . . . . .   | <u>636</u>                |
| \@donoparitem . . . . .           | <u>8216</u>                                       | accents (package) . . . . .       | <u>637</u>                |
| \@endtheorem . . . . .            | <u>8199</u>                                       | accessibility (package) . . . . . | <u>638</u>                |
| \@ensuredmath . . . . .           | <u>11636</u>                                      | accsupp (package) . . . . .       | <u>638</u>                |
| \@fnsymbol . . . . .              | <u>7922</u>                                       | acro (package) . . . . .          | <u>639</u>                |
| \@footnotetext . . . . .          | <u>6642</u>                                       | acronym (package) . . . . .       | <u>641</u>                |
| \@include . . . . .               | <u>1553</u>                                       | \addcontentsline . . . . .        | <u>10586</u>              |
| \@item . . . . .                  | <u>8229</u>                                       | addlines (package) . . . . .      | <u>643</u>                |
| \@makecaption . . . . .           | <u>10498</u>                                      | \AddSubtitlePublished . . . . .   | <u>7984</u>               |
| \@makefnmark . . . . .            | <u>6604</u>                                       | adjmulticol (package) . . . . .   | <u>642</u>                |
| \@makefntext . . . . .            | <u>6603</u>                                       | Adobe (program) . . . . .         | <u>74</u>                 |
| \@maketitle . . . . .             | <u>57</u> , <u>7954</u>                           | \affiliation . . . . .            | <u>7820</u>               |
| \@mklab . . . . .                 | <u>8210</u>                                       | afterpage (package) . . . . .     | <u>644</u>                |
| \@mpfootnotetext . . . . .        | <u>6644</u>                                       | algorithm2e (package) . . . . .   | <u>644</u>                |
| \@nbitem . . . . .                | <u>8296</u>                                       | algorithmicx (package) . . . . .  | <u>167</u> , <u>648</u>   |
| \@opargbegintheorem . . . . .     | <u>8191</u>                                       | align (environment) . . . . .     | <u>85</u>                 |
| \@partcntformat . . . . .         | <u>7283</u>                                       | align* (environment) . . . . .    | <u>88</u>                 |
| \@partnameformat . . . . .        | <u>7284</u>                                       | alignat (environment) . . . . .   | <u>97</u>                 |
| \@rowc@lors . . . . .             | <u>8964</u>                                       | alignat* (environment) . . . . .  | <u>100</u>                |
| \@rowcolors . . . . .             | <u>8963</u>                                       | alltt (package) . . . . .         | <u>649</u>                |
| \@seccntformat . . . . .          | <u>7280</u>                                       | \AltTextClose . . . . .           | <u>114</u> , <u>11288</u> |

|                             |                |                            |               |
|-----------------------------|----------------|----------------------------|---------------|
| \AltTextOpen                | 114, 11287     | bookmark (package)         | 689           |
| \AmS                        | 13428          | booktabs (package)         | 689           |
| amscdx (package)            | 649            | boolean:                   |               |
| amsmath (package)           | 650            | CombineHigherDepths        | 111, 379      |
| amsthm (package)            | 654            | FileSectionNames           | 111, 342      |
| \and                        | 415            | FixSmallCaps               | 111, 122, 603 |
| anonchap (package)          | 659            | FormatEPUB                 | 179, 255      |
| any size (package)          | 660            | FormatWP                   | 181, 256      |
| appendix (package)          | 134, 660       | HTMLDebugComments          | 112, 250      |
| ar (package)                | 660            | LWR@allowanothergeometry   | 237           |
| arabicfront (package)       | 662            | LWR@amsmultiline           | 566           |
| array (package)             | 662            | LWR@copiedsidetoc          | 523           |
| \arrayrulecolor             | 8971           | LWR@doingapar              | 361           |
| \arrayrulecolor\nexttoken   | 8971           | LWR@doingcmidrule          | 442           |
| arydshln (package)          | 663            | LWR@doingstartpars         | 361           |
| AsciiDoc (program)          | 74             | LWR@doingtbrule            | 442           |
| AsciiDoctor (program)       | 74             | LWR@dynamicmath            | 340           |
| Asciidoctor-LaTeX (program) | 74             | LWR@emptyatbang            | 443           |
| asymptote (package)         | 161, 665       | LWR@exittingtabular        | 443           |
| atbegshi (package)          | 666            | LWR@forceminipagefullwidth | 593           |
| attachfile (package)        | 666            | LWR@foundmrowcell          | 442           |
| attachfile2 (package)       | 667            | LWR@freezethisauto         | 516           |
| \attrib                     | 171, 425, 1214 | LWR@indisplaymathimage     | 545           |
| \attribution                | 8031           | LWR@insidemathcomment      | 545           |
| authblk (package)           | 133, 669       | LWR@intabularmetadata      | 443           |
| \author                     | 119, 415       | LWR@isstartingequation     | 572           |
| autobreak (package)         | 670            | LWR@MathJax@silentquotes   | 385           |
| autonum (package)           | 671            | LWR@mathmacro              | 339           |
| autosec                     | 395            | LWR@minipagefullwidth      | 593           |
| awesomebox (package)        | 672            | LWR@minipagethispar        | 593           |
| axessibility (package)      | 673            | LWR@opttablecol            | 443           |
| axodraw2 (package)          | 674            | LWR@origmathjax            | 227           |

## B

|                          |           |                            |          |
|--------------------------|-----------|----------------------------|----------|
| babel (package)          | 172       | LWR@setseqfilelabel        | 343      |
| \backmatter              | 7258      | LWR@skipatbang             | 443      |
| backnaur (package)       | 674       | LWR@skippingmcolrowcell    | 442      |
| backref (package)        | 675       | LWR@skippingmrowcell       | 442      |
| balance (package)        | 675       | LWR@starredlongtable       | 445      |
| \BaseJobname             | 5800      | LWR@startedrow             | 441      |
| BaseJobname (option)     | 108, 228  | LWR@tableparcell           | 442      |
| bding (package)          | 676       | LWR@tabularcelladded       | 442      |
| \bfseries                | 12970     | LWR@tabularmutemods        | 443      |
| bilatex (package)        | 680       | LWR@tracinglwarp           | 250      |
| \bibliography            | 11072     | LWR@unknownmathsize        | 548      |
| \BibTeX                  | 13421     | LWR@usedmultirow           | 442      |
| bibunits (package)       | 685       | LWR@validtablecol          | 443      |
| bigdelim (package)       | 167, 685  | LWR@verbtags               | 427      |
| bigfoot (package)        | 686       | LWR@warnbaselinemarker     | 548      |
| bigstrut (package)       | 687       | LWR@warnedcustomizemathjax | 387      |
| bitpattern (package)     | 687       | LWR@xfakebold              | 545      |
| BlockClass (environment) | 117, 6285 | mathjax                    | 227      |
| \BlockClassSingle        | 6298      | usingOSWindows             | 226      |
| blowup (package)         | 688       | warpingHTML                | 227      |
| bm (package)             | 688       | warpingprint               | 227      |
| booklet (package)        | 689       | WPMarkFloats               | 182, 256 |
|                          |           | WPMarkLOFT                 | 183, 256 |

|                           |               |                               |                |
|---------------------------|---------------|-------------------------------|----------------|
| WPMarkMath                | 183, 257      | class:                        |                |
| WPMarkMinipages           | 183, 256      | internet                      | 73             |
| WPMarkTOC                 | 183, 256      | komascript                    | 169            |
| WPTitleHeading            | 184, 257      | memoir                        | 169, 171, 1215 |
| bophook (package)         | 691           | classicthesis (package)       | 739            |
| bounddvi (package)        | 692           | \cleardoublepage              | 13250          |
| boxedminipage (package)   | 692           | \clearpage                    | 13250          |
| boxedminipage2e (package) | 692           | cleveref (package)            | 130, 740       |
| \boxframe                 | 197           | clrdblp (package)             | 743            |
| braket (package)          | 693           | cm-super (package)            | 101            |
| breakurl (package)        | 693           | cmap (package)                | 102            |
| breqn (package)           | 693           | cmbright (package)            | 743            |
| bsheaders (package)       | 695           | cmdtrack (package)            | 744            |
| bussproofs (package)      | 695           | colonequals (package)         | 744            |
| BVerbatim (environment)   | 257           | \color                        | 53             |
| bxpapersize (package)     | 696           | color (package)               | 159, 745       |
| bytefield (package)       | 696           | \colorbox                     | 80             |
|                           |               | \colorboxBlock                | 93, 12344      |
|                           |               | colortbl (package)            | 166, 745       |
| C                         |               | CombineHigherDepths (boolean) | 111, 379       |
| calc (package)            | 238           | comment (package)             | 233            |
| cancel (package)          | 696           | \ConTeXt                      | 13416          |
| canoniclayout (package)   | 697           | continue (package)            | 747            |
| capt-of (package)         | 521           | copyrightbox (package)        | 747            |
| caption (package)         | 168, 521, 698 | counter:                      |                |
| caption3 (package)        | 699           | FileDepth                     | 111, 379       |
| \caption@begin            | 10554         | FootnoteDepth                 | 111, 371       |
| \caption@end              | 10554         | footnoteReset                 | 371            |
| \captionlistentry         | 10561         | lofdepth                      | 527            |
| \captionof                | 10602         | lotdepth                      | 528            |
| \CaptionSeparator         | 10497         | LWR@cellcolordepth            | 445            |
| cases (package)           | 702           | LWR@currentautosecfloatpage   | 378            |
| ccicons (package)         | 702           | LWR@currentautosecpage        | 378            |
| center (environment)      | 12215         | LWR@externalfilecnt           | 545            |
| \centering                | 12245         | LWR@hdashedlines              | 442            |
| \centerline               | 12264         | LWR@hlines                    | 442            |
| centernot (package)       | 703           | LWR@htmlfilenumber            | 343            |
| changebar (package)       | 703           | LWR@htmlseqfilenumber         | 343            |
| changelayout (package)    | 704           | LWR@lateximagedepth           | 571            |
| changepage (package)      | 704           | LWR@lateximagenumber          | 571            |
| changes (package)         | 705           | LWR@LIPage                    | 571            |
| chappg (package)          | 710           | LWR@midrulecounter            | 445            |
| \chapter                  | 7494          | LWR@nextautoid                | 518            |
| chapterbib (package)      | 710           | LWR@nextautopage              | 518            |
| chemfig (package)         | 711           | LWR@nextequation              | 559            |
| chemformula (package)     | 713           | LWR@prevFileDepth             | 396            |
| chemgreek (package)       | 718           | LWR@previousautopagelabel     | 378            |
| chemmacros (package)      | 718           | LWR@spandepth                 | 361            |
| chemnum (package)         | 736           | LWR@splitstarcopies           | 457            |
| chkfloat (package)        | 737           | LWR@splitstarindex            | 457            |
| chngpage (package)        | 737           | LWR@starcount                 | 457            |
| cite (package)            | 737           | LWR@startingequation          | 572            |
| citeref (package)         | 738           | LWR@tablecolsindex            | 444            |
| CJK (package)             | 738           | LWR@tablecolswidth            | 444            |
| CJKutf8 (package)         | 739           | LWR@tableLaTeXcolindex        | 444            |
| class (key) [Gin]         | 841           |                               |                |

|                                   |                |                                |              |
|-----------------------------------|----------------|--------------------------------|--------------|
| LWR@tabletotalLaTeXcols .....     | 444            | \end@dbffloat .....            | 10444        |
| LWR@tabletotalLaTeXcolsnext ..... | 444            | \end@float .....               | 10444        |
| LWR@tabularDepth .....            | 443            | \enddocument .....             | 7756         |
| LWR@tabularpardepth .....         | 443            | \endfloat (package) .....      | 764          |
| LWR@thisautoid .....              | 516            | \endheads (package) .....      | 764          |
| LWR@thisautoidWP .....            | 516            | \endnotes (package) .....      | 134, 765     |
| LWR@virtualpagedepth .....        | 592            | \engl (package) .....          | 766          |
| SideTOCDepth .....                | 109, 525       | \enlargethispage .....         | 13249        |
| tocdepth .....                    | 109            | \enotez (package) .....        | 770          |
| \cpagerefFor .....                | 38             | \enskip .....                  | 614, 13194   |
| crop (package) .....              | 748            | \enumerate (environment) ..... | 8354         |
| \CSSfilename .....                | 112, 115, 6546 | \enumerate (package) .....     | 773          |
| ctable (package) .....            | 748            | \enumitem (package) .....      | 773          |
| \CustomizeMathJax .....           | 7019, 7112     | \environ (package) .....       | 240          |
| cuted (package) .....             | 751            | environment:                   |              |
| cutwin (package) .....            | 751            | BlockClass .....               | 117          |
|                                   |                | fminipage .....                | 125          |
|                                   |                | \lateximage .....              | 570          |
|                                   |                | picture .....                  | 591          |
|                                   |                | \titlepage .....               | 119          |
|                                   |                | \textit{titlingpage} .....     | 119          |
|                                   |                | \warpall .....                 | 118          |
|                                   |                | \warpHTML .....                | 114, 117     |
|                                   |                | \warpMathJax .....             | 118          |
|                                   |                | \warpprint .....               | 114, 118     |
|                                   |                | environments:                  |              |
|                                   |                | \abstract .....                | 8021         |
|                                   |                | \align .....                   | 85           |
|                                   |                | \align* .....                  | 88           |
|                                   |                | \alignat .....                 | 97           |
|                                   |                | \alignat* .....                | 100          |
|                                   |                | BlockClass .....               | 6285         |
|                                   |                | BVerbatim .....                | 257          |
|                                   |                | \center .....                  | 12215        |
|                                   |                | \description .....             | 8381         |
|                                   |                | \enumerate .....               | 8354         |
|                                   |                | \eqnarray .....                | 11928        |
|                                   |                | \equation .....                | 11859        |
|                                   |                | \equation* .....               | 11867        |
|                                   |                | \fcollminipage .....           | 173, 12384   |
|                                   |                | \flalign .....                 | 91           |
|                                   |                | \flalign* .....                | 94           |
|                                   |                | \flushleft .....               | 12235        |
|                                   |                | \flushright .....              | 12225        |
|                                   |                | \fminipage .....               | 12712        |
|                                   |                | \gather .....                  | 79           |
|                                   |                | \gather* .....                 | 82           |
|                                   |                | \itemize .....                 | 8346         |
|                                   |                | \lateximage .....              | 12071, 12210 |
|                                   |                | \list .....                    | 8316         |
|                                   |                | \longtable .....               | 4            |
|                                   |                | LWR@BlockClassWP .....         | 6328         |
|                                   |                | LWR@blocktextcurrentfont ..... | 12956, 13097 |
|                                   |                | LWR@displaymathnormal .....    | 11676        |
|                                   |                | LWR@displaymathother .....     | 11679        |

|                         |          |                               |                    |
|-------------------------|----------|-------------------------------|--------------------|
| LWR@equationother       | 11692    | fancyvrb (package)            | 792                |
| LWR@figcaption          | 10525    | \fbox                         | 125, 12681         |
| LWR@glrbox              | 886      | fbox (package)                | 799                |
| LWR@nestspan            | 6111     | \fboxBlock                    | 125, 12692         |
| LWR@setvirtualpage      | 12465    | \fcolorbox                    | 110, 12346         |
| LWRcreatelwarpmk        | 1188     | \fcolorboxBlock               | 133, 12382         |
| math                    | 11675    | \fcolorminipage (environment) | 173, 12384         |
| minipage                | 12491    | fewerfloatpages (package)     | 801                |
| multiline               | 72       | figcaps (package)             | 801                |
| multiline*              | 75       | figsize (package)             | 802                |
| picture                 | 12456    | file:                         |                    |
| quotation               | 8058     | *-images.txt                  | 574                |
| quote                   | 8050     | *_html.aux                    | 378, 500, 502, 574 |
| tabbing                 | 8162     | *_html.lof                    | 518                |
| tabular                 | 9918     | *_html.lot                    | 518                |
| thebibliography         | 11073    | *_html.tex                    | 263                |
| theindex                | 10814    | glyptounicode.tex             | 102                |
| titlepage               | 7837     | lwarp.css                     | 116, 269           |
| titlingpage             | 14       | lwarp.ist                     | 147, 310           |
| verbatim                | 8144     | lwarp.xdy                     | 147, 311           |
| verse                   | 2, 8068  | lwarp_baseline_marker.eps     | 546                |
| warpall                 | 1172     | lwarp_baseline_marker.png     | 546                |
| warpHTML                | 1173     | lwarp_formal.css              | 306                |
| warpMathJax             | 1179     | lwarp_mathjax.txt             | 312                |
| warpprint               | 1176     | lwarp_one_limage.cmd          | 311                |
| epigraph (package)      | 774      | lwarp_sagebrush.css           | 301                |
| epsf (package)          | 774      | lwarp Tutorial.txt            | 83                 |
| epsfig (package)        | 775      | lwarpmk.conf                  | 269                |
| epstopdf (package)      | 159, 775 | lwarpmk.lua                   | 189                |
| epstopdf (program)      | 158, 585 | project.css                   | 116                |
| epstopdf-base (package) | 776      | project.lwarpmkconf           | 269                |
| eqlist (package)        | 777      | sample_project.css            | 116, 310           |
| eqnarray (environment)  | 11928    | tutorial.tex                  | 83                 |
| eqparbox (package)      | 777      | filecontents (package)        | 239                |
| equation (environment)  | 11859    | FileDepth (counter)           | 111, 379           |
| equation* (environment) | 11867    | \FilenameLimit                | 111, 6773          |
| errata (package)        | 778      | \FilenameNullify              | 129, 11282, 13098  |
| eso-pic (package)       | 779      | \FilenameSimplify             | 129, 6794, 7113    |
| esvect (package)        | 780      | FileSectionNames (boolean)    | 111, 342           |
| \etalchar               | 134      | fitbox (package)              | 802                |
| etoc (package)          | 780      | fix2col (package)             | 803                |
| etoolbox (package)      | 202      | fixmath (package)             | 803                |
| eurosym (package)       | 783      | fixme (package)               | 173, 803           |
| everyhook (package)     | 239      | fixmetodonotes (package)      | 805                |
| everypage (package)     | 783      | FixSmallCaps (boolean)        | 111, 122, 603      |
| everyshi (package)      | 783      | flafter (package)             | 805                |
| \expandcolspec          | 8849     | \flagverse                    | 1215               |
| expl3 (package)         | 239      | flalign (environment)         | 91                 |
| extarrows (package)     | 784      | flalign* (environment)        | 94                 |
| extramarks (package)    | 784      | Flare (program)               | 74                 |
| <b>F</b>                |          |                               |                    |
| fancybox (package)      | 127, 785 | flippdf (package)             | 805                |
| fancyhdr (package)      | 790      | float (package)               | 167, 806           |
| fancyref (package)      | 791      | floatflt (package)            | 807                |
| fancytabs (package)     | 791      | floatpag (package)            | 808                |
|                         |          | floatrow (package)            | 168, 809           |

|                                     |            |                                           |                               |
|-------------------------------------|------------|-------------------------------------------|-------------------------------|
| fltrace (package) . . . . .         | 814        | [Gin]:                                    |                               |
| \flushbottom . . . . .              | 5999       | class (key) . . . . .                     | 841                           |
| flushend (package) . . . . .        | 814        | gindex (package) . . . . .                | 138, 834                      |
| flushleft (environment) . . . . .   | 12235      | GladTeX (program) . . . . .               | 73                            |
| flushright (environment) . . . . .  | 12225      | gloss (package) . . . . .                 | 135, 834                      |
| fminipage (environment) . . . . .   | 125, 12712 | glossaries (package) . . . . .            | 135, 835                      |
| fnbreak (package) . . . . .         | 814        | GlossaryCmd (option) . . . . .            | 108, 135, 230, 835            |
| fncychap (package) . . . . .        | 815        | glyptounicode.tex (file) . . . . .        | 102                           |
| fnlineno (package) . . . . .        | 815        | gmetric (package) . . . . .               | 837                           |
| fnpara (package) . . . . .          | 815        | graphics (package) . . . . .              | 157, 837                      |
| fnpos (package) . . . . .           | 816        | graphicx (package) . . . . .              | 157, 850                      |
| fontawesome (package) . . . . .     | 816        | grffile (package) . . . . .               | 159, 850                      |
| fontawesome5 (package) . . . . .    | 817        | grid (package) . . . . .                  | 850                           |
| fontaxes (package) . . . . .        | 818        | grid-system (package) . . . . .           | 850                           |
| fontenc (package) . . . . .         | 102, 818   | gridset (package) . . . . .               | 851                           |
| fontspec (package) . . . . .        | 101, 235   |                                           |                               |
| footmisc (package) . . . . .        | 819        | <b>H</b>                                  |                               |
| footnote (package) . . . . .        | 820        | hang (package) . . . . .                  | 851                           |
| footnotebackref (package) . . . . . | 821        | hanging (package) . . . . .               | 853                           |
| FootnoteDepth (counter) . . . . .   | 111, 371   | hepunits (package) . . . . .              | 854                           |
| footnotehyper (package) . . . . .   | 821        | Hevea (program) . . . . .                 | 73                            |
| footnoterange (package) . . . . .   | 821        | \hfill . . . . .                          | 13147                         |
| footnoteReset (counter) . . . . .   | 371        | hhline (package) . . . . .                | 855                           |
| footnpag (package) . . . . .        | 821        | htensor (package) . . . . .               | 855                           |
| \ForceHTMLPage . . . . .            | 133, 7233  | \HomeHTMLFilename . . . . .               | 5802                          |
| \ForceHTMLTOC . . . . .             | 133, 7239  | HomeHTMLFilename (option) . . . . .       | 104, 229                      |
| foreign (package) . . . . .         | 822        | \hrule . . . . .                          | 123                           |
| forest (package) . . . . .          | 822        | \hrulefill . . . . .                      | 123, 13149                    |
| FormatEPUB (boolean) . . . . .      | 179, 255   | \hskip . . . . .                          | 122                           |
| FormatWP (boolean) . . . . .        | 181, 256   | \hspace . . . . .                         | 122, 614, 13202, 13233, 13239 |
| fouridx (package) . . . . .         | 822        | htlatex (program) . . . . .               | 73                            |
| fourier (package) . . . . .         | 823        | \HTMLAuthor . . . . .                     | 113, 120, 6583                |
| \framebox . . . . .                 | 12658      | HTMLDebugComments (boolean) . . . . .     | 112, 250                      |
| framed (package) . . . . .          | 824        | \HTMLDescription . . . . .                | 113, 120, 6588                |
| FrameMaker (program) . . . . .      | 74         | \HTMLEntity . . . . .                     | 5784                          |
| \frontmatter . . . . .              | 7255       | \HTMLFilename . . . . .                   | 5801                          |
| ftcap (package) . . . . .           | 827        | \HTMLFilename (option) . . . . .          | 104, 229                      |
| ftnright (package) . . . . .        | 827        | \HTMLFirstPageBottom . . . . .            | 109, 6534                     |
| fullminipage (package) . . . . .    | 827        | \HTMLFirstPageTop . . . . .               | 109, 6531                     |
| fullpage (package) . . . . .        | 827        | htmlglossary (option) [lwarpmk] . . . . . | 135, 835                      |
| fullwidth (package) . . . . .       | 828        | HTMLIndexCmd (option) . . . . .           | 107, 230                      |
| \fup . . . . .                      | 13073      | \HTMLLanguage . . . . .                   | 112, 7527                     |
| \fussy . . . . .                    | 6001       | HTMLLatexCmd (option) . . . . .           | 106, 175, 229                 |
| fvextra (package) . . . . .         | 828        | \HTMLLeftmargini (length) . . . . .       | 171, 425, 426, 1214           |
| fwlw (package) . . . . .            | 831        | \HTMLPageBottom . . . . .                 | 113, 415, 6540                |
|                                     |            | \HTMLPageTop . . . . .                    | 113, 6537                     |
|                                     |            | \HTMLTitle . . . . .                      | 112, 120, 6578                |
|                                     |            | \HTMLTitleAfterSection . . . . .          | 112, 7550                     |
|                                     |            | \HTMLTitleBeforeSection . . . . .         | 112, 7545                     |
| <b>G</b>                            |            | \HTMLUnicode . . . . .                    | 5792                          |
| gather (environment) . . . . .      | 79         | \HTMLvleftskip (length) . . . . .         | 171, 425, 426, 1214           |
| gather* (environment) . . . . .     | 82         | hypbmsec (package) . . . . .              | 856                           |
| GELLMU (program) . . . . .          | 73         | hypcap (package) . . . . .                | 856                           |
| gensymb (package) . . . . .         | 832        | hypdestopt (package) . . . . .            | 857                           |
| gentombow (package) . . . . .       | 832        | \hyperindexformat . . . . .               | 11061                         |
| geometry (package) . . . . .        | 236, 832   | \hyperindexref . . . . .                  | 11019                         |
| gettitlestring (package) . . . . .  | 239        |                                           |                               |
| ghsystem (package) . . . . .        | 833        |                                           |                               |

|                                    |                 |                                      |                      |
|------------------------------------|-----------------|--------------------------------------|----------------------|
| hypernat (package) . . . . .       | 857             | kpfonts (package) . . . . .          | 889                  |
| \hyperpage . . . . .               | 11059           | kpfonts-otf (package) . . . . .      | 891                  |
| hyperref (package) . . . . .       | 130, 509, 857   | kvoptions (package) . . . . .        | 227                  |
| \hypertoc . . . . .                | 10747           |                                      |                      |
| \hypertocfloat . . . . .           | 10770           |                                      |                      |
| hyperxmp (package) . . . . .       | 867             | \l@book . . . . .                    | 10790                |
| hyphenat (package) . . . . .       | 868             | \l@chapter . . . . .                 | 10792                |
|                                    |                 | \l@figure . . . . .                  | 10803                |
|                                    |                 | \l@paragraph . . . . .               | 10801                |
|                                    |                 | \l@part . . . . .                    | 10791                |
| I                                  |                 | \l@section . . . . .                 | 10798                |
| idxlayout (package) . . . . .      | 869             | \l@subparagraph . . . . .            | 10802                |
| \if@titlepage . . . . .            | 7815            | \l@subsection . . . . .              | 10799                |
| \ifnextchar . . . . .              | 153             | \l@subsubsection . . . . .           | 10800                |
| ifoddpage (package) . . . . .      | 870             | \l@subsubsection . . . . .           | 10804                |
| ifplatform (package) . . . . .     | 202             | \l@table . . . . .                   | 13370                |
| \ifstar . . . . .                  | 153             | \LaTeXe . . . . .                    | LaTeXe . . . . .     |
| \IgnoreMinipageWidths . . . . .    | 125, 592, 12481 | \LaTeXe . . . . .                    | 13370                |
| \ImageAltText . . . . .            | 113, 11289      | latextimage (environment) . . . . .  | 570, 12071, 12210    |
| ImagesDirectory (option) . . . . . | 104, 228        | \LateximageFontSize . . . . .        | 12001                |
| ImagesName (option) . . . . .      | 104, 228        | \LateximageFontSizeName . . . . .    | 12000                |
| imakeidx (package) . . . . .       | 870             | \Latexmk (option) . . . . .          | 104, 230             |
| imakeidx (program) . . . . .       | 140             | \Latexmk (program) . . . . .         | 176                  |
| impnattypo (package) . . . . .     | 874             | \LatexmkIndexCmd (option) . . . . .  | 107, 230             |
| \includegraphics . . . . .         | 315             | \LaTeXXML (program) . . . . .        | 73                   |
| indentfirst (package) . . . . .    | 366             | layaureo (package) . . . . .         | 892                  |
| InDesign (program) . . . . .       | 74              | layout (package) . . . . .           | 892                  |
| index (package) . . . . .          | 874             | layouts (package) . . . . .          | 893                  |
| index (program) . . . . .          | 138             | leading (package) . . . . .          | 895                  |
| \IndexPageSeparator . . . . .      | 112, 10812      | leftidx (package) . . . . .          | 896                  |
| \IndexRangeSeparator . . . . .     | 112, 10812      | \leftline . . . . .                  | 12263                |
| IndexRef (option) . . . . .        | 107, 230        | length:                              |                      |
| \InlineClass . . . . .             | 117, 6308       | \HTMLleftmargini . . . . .           | 171, 425, 426, 1214  |
| \inlinemathnormal . . . . .        | 154, 5777       | \HTMLvleftskip . . . . .             | 171, 425, 426, 1214  |
| \inlinemathother . . . . .         | 154, 5773       | \LWR@cmidrulewidth . . . . .         | 469                  |
| inputenc (package) . . . . .       | 102             | \LWR@heavyrulewidth . . . . .        | 468                  |
| inputenx (package) . . . . .       | 102             | \LWR@lightrulewidth . . . . .        | 468                  |
| inputrc (package) . . . . .        | 876             | \LWR@minipageheight . . . . .        | 592                  |
| internet (class) . . . . .         | 73              | \LWR@minipagewidth . . . . .         | 592                  |
| intopdf (package) . . . . .        | 876             | \LWR@tempheight . . . . .            | 615                  |
| isomath (package) . . . . .        | 877             | \LWR@tempraise . . . . .             | 615                  |
| isotope (package) . . . . .        | 877             | \LWR@tempwidth . . . . .             | 615                  |
| itemize (environment) . . . . .    | 8346            | \LWR@thiscmidrulewidth . . . . .     | 469                  |
| \itshape . . . . .                 | 13005           | \VerbatimHTMLWidth . . . . .         | 426                  |
|                                    |                 | \leftmargini . . . . .               | 171, 425, 1214       |
| J                                  |                 | \leftskip . . . . .                  | 171, 425, 1214, 1215 |
| jurabib (package) . . . . .        | 878             | letltxmacro (package) . . . . .      | 202                  |
| K                                  |                 | letterspace (package) . . . . .      | 896                  |
| karnaugh-map (package) . . . . .   | 880             | lettrine (package) . . . . .         | 896                  |
| \kern . . . . .                    | 122             | \lgweight . . . . .                  | 12980                |
| key:                               |                 | libertinust1math (package) . . . . . | 897                  |
| [Gin]:                             |                 | LibreOffice (program) . . . . .      | 74                   |
| class . . . . .                    | 841             | \linebreak . . . . .                 | 13243                |
| keyfloat (package) . . . . .       | 169, 883        | lineno (package) . . . . .           | 904                  |
| keystroke (package) . . . . .      | 888             | \LinkHome . . . . .                  | 113, 5871, 5876      |
| komascript (class) . . . . .       | 169             | \linkhomename . . . . .              | 109, 5868            |
| kotex (package) . . . . .          | 174             |                                      |                      |

|                                                          |                                                                   |                                                   |                                                                 |
|----------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------|-----------------------------------------------------------------|
| \LinkNext . . . . .                                      | <a href="#">113</a> , <a href="#">5904</a> , <a href="#">5917</a> | lwarf_tutorial.txt (file) . . . . .               | <a href="#">83</a>                                              |
| \linknextname . . . . .                                  | <a href="#">109</a> , <a href="#">5900</a>                        | [lwarpmk]:                                        |                                                                 |
| \LinkPrevious . . . . .                                  | <a href="#">113</a> , <a href="#">5903</a> , <a href="#">5907</a> | htmlglossary (option) . . . . .                   | <a href="#">135</a> , <a href="#">835</a>                       |
| \linkpreviousname . . . . .                              | <a href="#">109</a> , <a href="#">5899</a>                        | printglossary (option) . . . . .                  | <a href="#">135</a> , <a href="#">835</a>                       |
| Linux (program) . . . . .                                | <a href="#">117</a> , <a href="#">224</a>                         | lwarpmk (option) . . . . .                        | <a href="#">108</a> , <a href="#">229</a> , <a href="#">316</a> |
| lips (package) . . . . .                                 | <a href="#">906</a>                                               | lwarpmk (program) . . . . .                       | <a href="#">189</a> , <a href="#">316</a>                       |
| list (environment) . . . . .                             | <a href="#">8316</a>                                              | lwarpmk epstopdf (program) . . . . .              | <a href="#">158</a> , <a href="#">585</a>                       |
| listings (package) . . . . .                             | <a href="#">907</a>                                               | lwarpmk pdftosvg (program) . . . . .              | <a href="#">158</a> , <a href="#">585</a>                       |
| listlike tab (package) . . . . .                         | <a href="#">913</a>                                               | lwarpmk.conf (file) . . . . .                     | <a href="#">269</a>                                             |
| \listof . . . . .                                        | <a href="#">10694</a>                                             | lwarpmk.lua (file) . . . . .                      | <a href="#">189</a>                                             |
| \listoffigures . . . . .                                 | <a href="#">10668</a>                                             | \lwarpmsetup . . . . .                            | <a href="#">960</a>                                             |
| \listoftables . . . . .                                  | <a href="#">10681</a>                                             | \LWR@footnotetext . . . . .                       | <a href="#">6607</a>                                            |
| \lltjext (package) . . . . .                             | <a href="#">913</a>                                               | \LWR@makebox@align . . . . .                      | <a href="#">12614</a>                                           |
| \lmodern (package) . . . . .                             | <a href="#">101</a> , <a href="#">102</a>                         | \LWR@makebox@paren . . . . .                      | <a href="#">12599</a>                                           |
| \lofdepth (counter) . . . . .                            | <a href="#">527</a>                                               | \LWR@printpendingfootnotes . . . . .              | <a href="#">6678</a>                                            |
| \longtable (environment) . . . . .                       | <a href="#">4</a>                                                 | \LWR@absorbstar . . . . .                         | <a href="#">913</a>                                             |
| \longtable (package) . . . . .                           | <a href="#">165</a> , <a href="#">914</a>                         | \LWR@addbaselinemarker . . . . .                  | <a href="#">11324</a>                                           |
| \lotdepth (counter) . . . . .                            | <a href="#">528</a>                                               | \LWR@addcdashline . . . . .                       | <a href="#">9239</a>                                            |
| \lpic (package) . . . . .                                | <a href="#">917</a>                                               | \LWR@addcmidruletrim . . . . .                    | <a href="#">9205</a>                                            |
| \lscape (package) . . . . .                              | <a href="#">917</a>                                               | \LWR@addcmidrulewidth . . . . .                   | <a href="#">9236</a>                                            |
| \ltablex (package) . . . . .                             | <a href="#">917</a>                                               | \LWR@addcompilecmd . . . . .                      | <a href="#">1971</a>                                            |
| \ltcaption (package) . . . . .                           | <a href="#">918</a>                                               | \LWR@addformatwpalignment . . . . .               | <a href="#">9255</a>                                            |
| \ltxgrid (package) . . . . .                             | <a href="#">918</a>                                               | \LWR@addleftmostbartag . . . . .                  | <a href="#">9043</a>                                            |
| \ltxtable (package) . . . . .                            | <a href="#">919</a>                                               | \LWR@addlinktitle . . . . .                       | <a href="#">10192</a>                                           |
| \lua-check-hyphen (package) . . . . .                    | <a href="#">919</a>                                               | \LWR@addmathjax . . . . .                         | <a href="#">11771</a>                                           |
| \lua-visual-debug (package) . . . . .                    | <a href="#">919</a>                                               | \LWR@addmulticolvertrulecolor . . . . .           | <a href="#">9509</a>                                            |
| \luacolor (package) . . . . .                            | <a href="#">919</a>                                               | \LWR@addrulewidth . . . . .                       | <a href="#">9210</a>                                            |
| \LuaLaTeX . . . . .                                      | <a href="#">13399</a>                                             | \LWR@addtabularcellcolor . . . . .                | <a href="#">9384</a>                                            |
| LuaLaTeX (program) [requirement] . . . . .               | <a href="#">77</a>                                                | \LWR@addtabularhrulecolor . . . . .               | <a href="#">9283</a>                                            |
| \luamplib (package) . . . . .                            | <a href="#">920</a>                                               | \LWR@addtabulararrowcolor . . . . .               | <a href="#">9268</a>                                            |
| \LuaTeX . . . . .                                        | <a href="#">13399</a>                                             | \LWR@addtabularrulecolors . . . . .               | <a href="#">9329</a>                                            |
| \luatexko (package) . . . . .                            | <a href="#">920</a>                                               | \LWR@afterendverbatim . . . . .                   | <a href="#">8128</a>                                            |
| \luatodonotes (package) . . . . .                        | <a href="#">173</a> , <a href="#">922</a>                         | \LWR@allowanothergeometry (boolean) . . . . .     | <a href="#">237</a>                                             |
| \luavlna (package) . . . . .                             | <a href="#">924</a>                                               | \LWR@amsmathbody . . . . .                        | <a href="#">12034</a>                                           |
| \lwarf (package) . . . . .                               | <a href="#">104</a>                                               | \LWR@amsmathbodynumbered . . . . .                | <a href="#">12040</a>                                           |
| \lwarf-common-mathjax-letters (package) . . . . .        | <a href="#">1284</a>                                              | \LWR@amsmultiline (boolean) . . . . .             | <a href="#">566</a>                                             |
| \lwarf-common-mathjax-newpmtxmath (package) . . . . .    | <a href="#">1291</a>                                              | \LWR@applyxfakebold . . . . .                     | <a href="#">11306</a>                                           |
| \lwarf-common-mathjax-nonunicode (package) . . . . .     | <a href="#">1297</a>                                              | \LWR@atbeginverbatim . . . . .                    | <a href="#">8108</a>                                            |
| \lwarf-common-mathjax-overlaysymbols (package) . . . . . | <a href="#">1300</a>                                              | \LWR@avoiddupfilenames . . . . .                  | <a href="#">6805</a>                                            |
| \lwarf-common-mathjax-multimedia (package) . . . . .     | <a href="#">1279</a>                                              | \LWR@backgroundcolor . . . . .                    | <a href="#">41</a>                                              |
| \lwarf-patch-komascript (package) . . . . .              | <a href="#">1249</a>                                              | \LWR@beginhideamsmath . . . . .                   | <a href="#">11911</a>                                           |
| \lwarf-patch-memoir (package) . . . . .                  | <a href="#">1251</a>                                              | \LWR@BlockClassWP (environment) . . . . .         | <a href="#">6328</a>                                            |
| \lwarf.css (file) . . . . .                              | <a href="#">116</a> , <a href="#">269</a>                         | \LWR@blocktextcurrentfont (environment) . . . . . | <a href="#">12956</a> , <a href="#">13097</a>                   |
| \lwarf.ist (file) . . . . .                              | <a href="#">147</a> , <a href="#">310</a>                         | \LWR@botnavigation . . . . .                      | <a href="#">5894</a>                                            |
| \lwarf.xdy (file) . . . . .                              | <a href="#">147</a> , <a href="#">311</a>                         | \LWR@cdashlines . . . . .                         | <a href="#">468</a>                                             |
| \lwarf_baseline_marker.eps (file) . . . . .              | <a href="#">546</a>                                               | \LWR@cellcolordepth (counter) . . . . .           | <a href="#">445</a>                                             |
| \lwarf_baseline_marker.png (file) . . . . .              | <a href="#">546</a>                                               | \LWR@checkloadfilename . . . . .                  | <a href="#">1353</a>                                            |
| \lwarf_formal.css (file) . . . . .                       | <a href="#">306</a>                                               | \LWR@checkloadnever . . . . .                     | <a href="#">88</a>                                              |
| \lwarf_mathjax.txt (file) . . . . .                      | <a href="#">312</a>                                               | \LWR@clearmidrules . . . . .                      | <a href="#">9124</a>                                            |
| \lwarf_one_limage.cmd (file) . . . . .                   | <a href="#">311</a>                                               | \LWR@closeparagraph . . . . .                     | <a href="#">6431</a>                                            |
| \lwarf_sagebrush.css (file) . . . . .                    | <a href="#">301</a>                                               | \LWR@closeparagraph@br . . . . .                  | <a href="#">6421</a>                                            |
|                                                          |                                                                   | \LWR@closeprevious . . . . .                      | <a href="#">5962</a>                                            |

|                                              |       |                                       |       |
|----------------------------------------------|-------|---------------------------------------|-------|
| \LWR@closetabledatacell .....                | 8545  | \LWR@fboxstyle .....                  | 12674 |
| \LWR@cmidrulewidth (length) .....            | 469   | \LWR@fifthoffive .....                | 858   |
| \LWR@colafterspec .....                      | 445   | \LWR@figcaption (environment) .....   | 10525 |
| \LWR@colatspec .....                         | 444   | \LWR@filenamenoblocks .....           | 6818  |
| \LWR@colbangspec .....                       | 445   | \LWR@filestart .....                  | 7559  |
| \LWR@colbarspec .....                        | 445   | \LWR@findcurrenttextcolor .....       | 13087 |
| \LWR@colbeforespec .....                     | 445   | \LWR@findword .....                   | 1350  |
| \LWR@columnHTMLcolor .....                   | 8966  | \LWR@firstoffive .....                | 858   |
| \LWR@columnspeclookahead .....               | 8676  | \LWR@floatalignment .....             | 10477 |
| \LWR@compilecmd .....                        | 1968  | \LWR@floatalignmentname .....         | 10476 |
| \LWR@compileuplatex .....                    | 2003  | \LWR@floatbegin .....                 | 10382 |
| \LWR@convertto .....                         | 827   | \LWR@floatend .....                   | 10429 |
| \LWR@copiedsidetoc (boolean) .....           | 523   | \LWR@floatstyle .....                 | 2     |
| \LWR@copyfile .....                          | 1588  | \LWR@footnotebox .....                | 6602  |
| \LWR@createautosec .....                     | 7264  | \LWR@footnotetext .....               | 6641  |
| \LWR@createfooter .....                      | 7116  | \LWR@forceemptyline .....             | 854   |
| \LWR@currentautosecfloatpage (counter) ..... | 378   | \LWR@forceminiwidth (boolean) .....   | 593   |
| \LWR@currentautosecpage (counter) .....      | 378   | \LWR@forceminwidth .....              | 12663 |
| \LWR@currentautosecpageref .....             | 10093 | \LWR@forcenewautoidanchor .....       | 10452 |
| \LWR@currentcss .....                        | 6545  | \LWR@forcenewpage .....               | 5982  |
| \LWR@currenttextcolor .....                  | 13084 | \LWR@forceSVGmessage .....            | 13655 |
| \LWR@customizedMathJax .....                 | 7004  | \LWR@formatted .....                  | 1653  |
| \LWR@customizeMathJax .....                  | 7093  | \LWR@formatted@checkendname .....     | 1644  |
| \LWR@descitem .....                          | 8362  | \LWR@formatted@checkname .....        | 1635  |
| \LWR@disablepinyin .....                     | 853   | \LWR@formattedenv .....               | 1685  |
| \LWR@displaymathnormal (environment) .....   | 11676 | \LWR@formatting .....                 | 1634  |
| \LWR@displaymathother (environment) .....    | 11679 | \LWR@foundmrowcell (boolean) .....    | 442   |
| \LWR@docdashline .....                       | 9173  | \LWR@fourthoffive .....               | 858   |
| \LWR@docmidrule .....                        | 9157  | \LWR@freezethisautoid (boolean) ..... | 516   |
| \LWR@doequation .....                        | 11789 | \LWR@futurenonospacelet .....         | 8471  |
| \LWR@doindexentry .....                      | 11000 | \LWR@FVstyle .....                    | 56    |
| \LWR@doindexentrysub .....                   | 10998 | \LWR@getexparray .....                | 5746  |
| \LWR@doindexentrysubsub .....                | 10987 | \LWR@getmynexttoken .....             | 8481  |
| \LWR@doingapar (boolean) .....               | 361   | \LWR@girbox (environment) .....       | 886   |
| \LWR@doingcmidrule (boolean) .....           | 442   | \LWR@gsavebox .....                   | 872   |
| \LWR@doingstartpars (boolean) .....          | 361   | \LWR@hdashedlines (counter) .....     | 442   |
| \LWR@doingtbrule (boolean) .....             | 442   | \LWR@heavyrulewidth (length) .....    | 468   |
| \LWR@domulticolumn .....                     | 9547  | \LWR@hidelatexequation .....          | 11755 |
| \LWR@doubledollar .....                      | 11567 | \LWR@hlines (counter) .....           | 442   |
| \LWR@dynamicmath (boolean) .....             | 340   | \LWR@hook@processingtags .....        | 6025  |
| \LWR@earlyclassloadnever .....               | 99    | \LWR@href .....                       | 10318 |
| \LWR@earlyloadnever .....                    | 94    | \LWR@HTML@caption@begin .....         | 10534 |
| \LWR@emptyatbang (boolean) .....             | 443   | \LWR@HTML@caption@end .....           | 10545 |
| \LWR@endfloatalignment .....                 | 10491 | \LWR@HTML@ref .....                   | 10235 |
| \LWR@endhideamsmath .....                    | 11920 | \LWR@htmlblockcomment .....           | 6216  |
| \LWR@endofline .....                         | 13175 | \LWR@htmlblocktag .....               | 6218  |
| \LWR@ensuredoingapar .....                   | 6397  | \LWR@HTMLcline .....                  | 9899  |
| \LWR@equationother (environment) .....       | 11692 | \LWR@htmlclosecomment .....           | 6183  |
| \LWR@equationtag .....                       | 12020 | \LWR@htmlcomment .....                | 6204  |
| \LWR@excludecomment .....                    | 1132  | \LWR@htmldivclass .....               | 6259  |
| \LWR@exittingtabular (boolean) .....         | 443   | \LWR@htmldivclassend .....            | 6264  |
| \LWR@expandableformatted .....               | 1669  | \LWR@htmlelement .....                | 6275  |
| \LWR@expandableformattedenv .....            | 1701  | \LWR@htmlelementclass .....           | 6243  |
| \LWR@expcolspec .....                        | 8845  | \LWR@htmlelementclassend .....        | 6251  |
| \LWR@externalfilecnt (counter) .....         | 545   | \LWR@htmlelementclassline .....       | 6267  |

|                                         |       |                                        |             |
|-----------------------------------------|-------|----------------------------------------|-------------|
| \LWR@htmlelementend .....               | 6278  | \LWR@LetLtxMacros .....                | 909         |
| \LWR@htmlfilename (counter) .....       | 343   | \LWR@lightrulewidth (length) .....     | 468         |
| \LWR@htmlfileref .....                  | 10096 | \LWR@linkcatcodes .....                | 10277       |
| \LWR@HTMLhline .....                    | 9880  | \LWR@linkmediacatcodes .....           | 10285       |
| \LWR@HTMLLatexCmd .....                 | 2013  | \LWR@LIPage (counter) .....            | 571         |
| \LWR@htmlemulticolumn .....             | 9613  | \LWR@listitem .....                    | 8301        |
| \LWR@htmlopencomment .....              | 6183  | \LWR@loadafter .....                   | 20          |
| \LWR@htmlrefsectionfilename .....       | 5858  | \LWR@loadbefore .....                  | 55          |
| \LWR@HTMLsanitize .....                 | 6974  | \LWR@loadnever .....                   | 73          |
| \LWR@HTMLsanitizeexpand .....           | 6982  | \LWR@longtabledatacaptiontag .....     | 9622        |
| \LWR@htmlsectionfilename .....          | 5818  | \LWR@lookforpackagename .....          | 1403        |
| \LWR@htmlseqfilename (counter) .....    | 343   | \LWR@larpconfversion .....             | 1962        |
| \LWR@htmlspan .....                     | 6158  | \LWR@LwarpEnd .....                    | 7736, 13447 |
| \LWR@htmlspanclass .....                | 6166  | \LWR@LwarpStart .....                  | 7657, 13447 |
| \LWR@htmlltag .....                     | 6178  | \LWR@maketitlesetup .....              | 34, 7912    |
| \LWR@htmlltagc .....                    | 6085  | \LWR@MathJax@silentquotes (boolean) .. | 385         |
| \LWR@hyperindexref@comma .....          | 11030 | \LWR@mathjaxfilename .....             | 6556        |
| \LWR@hyperindexref@comma .....          | 11023 | \LWR@mathjaxwarn .....                 | 13612       |
| \LWR@hyperindexref@range .....          | 11035 | \LWR@mathmacro (boolean) .....         | 339         |
| \LWR@hyperindexrefnullified .....       | 11004 | \LWR@maybe@orignewpage .....           | 865         |
| \LWR@hyperindexrefsub .....             | 11038 | \LWR@maybenewtablerow .....            | 8975        |
| \LWR@hyperindexrefsubtwo .....          | 11045 | \LWR@maybeprintpendingfootnotes ..     | 6698        |
| \LWR@includecomment .....               | 1132  | \LWR@maybetocdata .....                | 10746       |
| \LWR@indentHTML .....                   | 6079  | \LWR@midrulecounter (counter) .....    | 445         |
| \LWR@indentHTMLtwo .....                | 6082  | \LWR@midrules .....                    | 468         |
| \LWR@indexitem .....                    | 10829 | \LWR@minipagefullwidth (boolean) ..... | 593         |
| \LWR@indexnameref .....                 | 10958 | \LWR@minipageheight (length) .....     | 592         |
| \LWR@indexnameref@anonref .....         | 10899 | \LWR@minipagestartpars .....           | 13182       |
| \LWR@indexnameref@cref .....            | 10925 | \LWR@minipagestoppars .....            | 13185       |
| \LWR@indexnameref@crefnameref .....     | 10942 | \LWR@minipagethispar (boolean) .....   | 593         |
| \LWR@indexnameref@ref .....             | 10904 | \LWR@minipagewidth (length) .....      | 592         |
| \LWR@indexnameref@refnameref .....      | 10913 | \LWR@multicolother .....               | 9449        |
| \LWR@indexsubitem .....                 | 10833 | \LWR@multicolpartext .....             | 9443        |
| \LWR@indexsubsubitem .....              | 10837 | \LWR@multicolskip .....                | 9455        |
| \LWR@indisplaymathimage (boolean) ..... | 545   | \LWR@multirowborder .....              | 3           |
| \LWR@infoprocessingmathjax .....        | 7039  | \LWR@mynexttoken .....                 | 8470        |
| \LWR@insidemathcomment (boolean) .....  | 545   | \LWR@myshorttoc .....                  | 10614       |
| \LWR@insertatbangcols .....             | 8537  | \LWR@nameref .....                     | 10090       |
| \LWR@intabularmetadata (boolean) .....  | 443   | \LWR@nestspan (environment) .....      | 6111        |
| \LWR@isolate .....                      | 844   | \LWR@new@label .....                   | 10172       |
| \LWR@isstartingequation (boolean) ..... | 572   | \LWR@newautoidanchor .....             | 10470       |
| \LWR@itemizeitem .....                  | 8339  | \LWR@newautopagelabel .....            | 6756        |
| \LWR@label@createtag .....              | 10143 | \LWR@newhtmlfile .....                 | 7135        |
| \LWR@label@inmathcomment .....          | 10129 | \LWR@nextautoid (counter) .....        | 518         |
| \LWR@label@subcreatetag .....           | 10125 | \LWR@nextautopage (counter) .....      | 518         |
| \LWR@lateximage@oneimage .....          | 12056 | \LWR@nextequation (counter) .....      | 559         |
| \LWR@lateximage@oneimageb .....         | 12047 | \LWR@nolinkurl .....                   | 10330       |
| \LWR@latexitimagedepth (counter) .....  | 571   | \LWR@notltjloadafter .....             | 42          |
| \LWR@latexitimagedepthref .....         | 10099 | \LWR@notmemoirloadafter .....          | 39          |
| \LWR@latexitagenumber (counter) .....   | 571   | \LWR@null@newautopagelabel .....       | 6767        |
| \LWR@latexitagenumberref .....          | 10102 | \LWR@nullfonts .....                   | 11149       |
| \LWR@latexitimagesfile .....            | 1550  | \LWR@nullifycomment .....              | 1344        |
| \LWR@latexmkcmd .....                   | 1989  | \LWR@nullifyNoAutoSpacing .....        | 9905        |
| \LWR@latexmkdvipdfm .....               | 1994  | \LWR@nulllistfills .....               | 8308        |
| \LWR@latexmkvar .....                   | 1983  | \LWR@openparagraph .....               | 6403        |

|                                            |                       |                                          |                       |
|--------------------------------------------|-----------------------|------------------------------------------|-----------------------|
| \LWR@opttablecol (boolean) .....           | <a href="#">443</a>   | \LWR@restoreorigaccents .....            | <a href="#">1911</a>  |
| \LWR@orig@setBold .....                    | <a href="#">11304</a> | \LWR@restoreorigformatting .....         | <a href="#">11098</a> |
| \LWR@orig@unsetBold .....                  | <a href="#">11305</a> | \LWR@restoreoriglists .....              | <a href="#">8446</a>  |
| \LWR@origcolspec .....                     | <a href="#">8520</a>  | \LWR@rowHTMLcolor .....                  | <a href="#">8967</a>  |
| \LWR@origmathjax (boolean) .....           | <a href="#">227</a>   | \LWR@ruleHTMLcolor .....                 | <a href="#">8969</a>  |
| \LWR@overline .....                        | <a href="#">13079</a> | \LWR@sanitize .....                      | <a href="#">1034</a>  |
| \LWR@parseaftercolumn .....                | <a href="#">8754</a>  | \LWR@sanitized .....                     | <a href="#">1033</a>  |
| \LWR@parseatcolumn .....                   | <a href="#">8686</a>  | \LWR@secondoffive .....                  | <a href="#">858</a>   |
| \LWR@parsebangcolumn .....                 | <a href="#">8716</a>  | \LWR@section .....                       | <a href="#">7288</a>  |
| \LWR@parsebarcolumn .....                  | <a href="#">8766</a>  | \LWR@sectionnumber .....                 | <a href="#">7261</a>  |
| \LWR@parsebeforecolumn .....               | <a href="#">8742</a>  | \LWR@select@html@hspase .....            | <a href="#">13202</a> |
| \LWR@parsecoloncolumn .....                | <a href="#">8791</a>  | \LWR@select@html@nohspase .....          | <a href="#">13233</a> |
| \LWR@parseDcolumn .....                    | <a href="#">8840</a>  | \LWR@select@print@hspase .....           | <a href="#">13236</a> |
| \LWR@parsedrequirepackagenames .....       | <a href="#">1343</a>  | \LWR@setcurrentfont .....                | <a href="#">11307</a> |
| \LWR@parseenormalcolumn .....              | <a href="#">8816</a>  | \LWR@setexparray .....                   | <a href="#">5737</a>  |
| \LWR@parsepcolumn .....                    | <a href="#">8828</a>  | \LWR@setlatestname .....                 | <a href="#">10076</a> |
| \LWR@parsesemicoloncolumn .....            | <a href="#">8812</a>  | \LWR@setOSWindows .....                  | <a href="#">948</a>   |
| \LWR@parsestarcolumn .....                 | <a href="#">8837</a>  | \LWR@setref .....                        | <a href="#">10084</a> |
| \LWR@parsetablecols .....                  | <a href="#">8877</a>  | LWR@setseqfilelabel (boolean) .....      | <a href="#">343</a>   |
| \LWR@parsewcolumn .....                    | <a href="#">8832</a>  | LWR@setvirtualpage (environment) .....   | <a href="#">12465</a> |
| \LWR@patcherror .....                      | <a href="#">835</a>   | \LWR@shellescapecmd .....                | <a href="#">1963</a>  |
| \LWR@patchlists .....                      | <a href="#">8418</a>  | \LWR@sidetoc .....                       | <a href="#">10720</a> |
| \LWR@pdfencoding .....                     | <a href="#">738</a>   | \LWR@simplifycustom .....                | <a href="#">6793</a>  |
| \LWR@phantomsection .....                  | <a href="#">13309</a> | \LWR@simplifyname .....                  | <a href="#">6782</a>  |
| \LWR@popclose .....                        | <a href="#">5696</a>  | \LWR@singledollar .....                  | <a href="#">11604</a> |
| \LWR@PreloadedPackage .....                | <a href="#">12268</a> | \LWR@singledollarmeasure .....           | <a href="#">11379</a> |
| \LWR@prevFileDepth (counter) .....         | <a href="#">396</a>   | \LWR@skipatbang (boolean) .....          | <a href="#">443</a>   |
| \LWR@previousautopagelabel (counter) ..... | <a href="#">378</a>   | \LWR@skippingmcolrowcell (boolean) ..... | <a href="#">442</a>   |
| \LWR@printatbang .....                     | <a href="#">9018</a>  | \LWR@skippingmrowcell (boolean) .....    | <a href="#">442</a>   |
| \LWR@printbartag .....                     | <a href="#">9008</a>  | \LWR@spandepth (counter) .....           | <a href="#">361</a>   |
| \LWR@printchaptername .....                | <a href="#">7285</a>  | \LWR@spanwarnformat .....                | <a href="#">6095</a>  |
| \LWR@printcloselist .....                  | <a href="#">8206</a>  | \LWR@spanwarninvalid .....               | <a href="#">6103</a>  |
| \LWR@PrintLatexCmd .....                   | <a href="#">2013</a>  | \LWR@splitstarcontents .....             | <a href="#">8848</a>  |
| \LWR@printlength .....                     | <a href="#">1324</a>  | \LWR@splitstarcopies (counter) .....     | <a href="#">457</a>   |
| \LWR@printmccoldata .....                  | <a href="#">9458</a>  | \LWR@splitstarindex (counter) .....      | <a href="#">457</a>   |
| \LWR@printmccoltype .....                  | <a href="#">9401</a>  | \LWR@starcount (counter) .....           | <a href="#">457</a>   |
| \LWR@printopenlist .....                   | <a href="#">8207</a>  | \LWR@starredlongtable (boolean) .....    | <a href="#">445</a>   |
| \LWR@printpendingfootnotes .....           | <a href="#">6695</a>  | \LWR@startedrow (boolean) .....          | <a href="#">441</a>   |
| \LWR@printpendingmpfootnotes .....         | <a href="#">6707</a>  | \LWR@startingequation (counter) .....    | <a href="#">572</a>   |
| \LWR@printpercentlength .....              | <a href="#">828</a>   | \LWR@startingequationtag .....           | <a href="#">12019</a> |
| \LWR@printthetitle .....                   | <a href="#">7864</a>  | \LWR@startnewdepth .....                 | <a href="#">7274</a>  |
| \LWR@providelength .....                   | <a href="#">824</a>   | \LWR@startpars .....                     | <a href="#">6473</a>  |
| \LWR@ProvidesPackageDrop .....             | <a href="#">1540</a>  | \LWR@startref .....                      | <a href="#">10198</a> |
| \LWR@ProvidesPackageDropA .....            | <a href="#">1525</a>  | \LWR@stoppars .....                      | <a href="#">6494</a>  |
| \LWR@ProvidesPackageDropB .....            | <a href="#">1534</a>  | \LWR@stripperiod .....                   | <a href="#">10075</a> |
| \LWR@ProvidesPackagePass .....             | <a href="#">1494</a>  | \LWR@strresult .....                     | <a href="#">8518</a>  |
| \LWR@pushclose .....                       | <a href="#">5648</a>  | \LWR@subaddcmidruletrim .....            | <a href="#">9192</a>  |
| \LWR@pushoneclose .....                    | <a href="#">7270</a>  | \LWR@subaddtabularcellcolor .....        | <a href="#">9376</a>  |
| \LWR@quickfile .....                       | <a href="#">1547</a>  | \LWR@subcdashline .....                  | <a href="#">9160</a>  |
| \LWR@refwithsection .....                  | <a href="#">10244</a> | \LWR@subcmidrule .....                   | <a href="#">9142</a>  |
| \LWR@remembertag .....                     | <a href="#">12024</a> | \LWR@subcustomizedmathjax .....          | <a href="#">7007</a>  |
| \LWR@replacestrings .....                  | <a href="#">6933</a>  | \LWR@subhtmllementclass .....            | <a href="#">6223</a>  |
| \LWR@requesttoc .....                      | <a href="#">7729</a>  | \LWR@subHTMLsanitize .....               | <a href="#">6954</a>  |
| \LWR@requirepackagenames .....             | <a href="#">1342</a>  | \LWR@subhyperref .....                   | <a href="#">10293</a> |
| \LWR@restoreMathJaxformatting ...          | <a href="#">11097</a> | \LWR@subhyperrefclass .....              | <a href="#">10307</a> |

|                                                 |                     |                                                |                             |
|-------------------------------------------------|---------------------|------------------------------------------------|-----------------------------|
| \LWR@subhyperreftext . . . . .                  | <u>10302</u>        | LWR@unknownmathsize (boolean) . . . . .        | <u>548</u>                  |
| \LWR@subinlineimage . . . . .                   | <u>10356</u>        | \LWR@url . . . . .                             | <u>10343</u>                |
| \LWR@subnewref . . . . .                        | <u>10229</u>        | LWR@usedmultirow (boolean) . . . . .           | <u>442</u>                  |
| \LWR@subsingledollar . . . . .                  | <u>11507</u>        | LWR@validtablecol (boolean) . . . . .          | <u>443</u>                  |
| \LWR@subsingledollarsvg . . . . .               | <u>11425</u>        | LWR@verbtags (boolean) . . . . .               | <u>427</u>                  |
| \LWR@subtableofcontents . . . . .               | <u>10628</u>        | LWR@virtualpagedepth (counter) . . . . .       | <u>592</u>                  |
| \LWR@subtabularhtmlcolumns . . . . .            | <u>9693</u>         | \LWR@vspace . . . . .                          | <u>13240</u>                |
| \LWR@syncmathjax . . . . .                      | <u>11743</u>        | LWR@warnbaselinemarker (boolean) . . . . .     | <u>548</u>                  |
| \LWR@syncnotenames . . . . .                    | <u>11852</u>        | LWR@warnedcustomizemathjax (boolean) . . . . . | <u>387</u>                  |
| \LWR@syncnotenumbers . . . . .                  | <u>11846</u>        | \LWR@WPcell . . . . .                          | <u>9251</u>                 |
| \LWR@synconenotename . . . . .                  | <u>11847</u>        | \LWR@write@lwarplabel . . . . .                | <u>10105</u>                |
| \LWR@synconenotenumber . . . . .                | <u>11841</u>        | \LWR@writeconf . . . . .                       | <u>2115</u>                 |
| LWR@tablecolspec . . . . .                      | <u>444</u>          | \LWR@xcolorarrowHTMLcolor . . . . .            | <u>8965</u>                 |
| LWR@tablecolspecindex (counter) . . . . .       | <u>444</u>          | LWR@xfakebold (boolean) . . . . .              | <u>545</u>                  |
| LWR@tablecolspecwidth (counter) . . . . .       | <u>444</u>          | \LWR@xindex@modifyentry . . . . .              | <u>10841</u>                |
| \LWR@tabledatacolumntag . . . . .               | <u>9782</u>         | LWRcreatelwarpmk (environment) . . . . .       | <u>1188</u>                 |
| \LWR@tabledatasinglecolumntag . . . . .         | <u>9057</u>         | \LWRropquote . . . . .                         | <u>943</u>                  |
| LWR@tableLaTeXcolindex (counter) . . . . .      | <u>444</u>          | \LWRopseq . . . . .                            | <u>944</u>                  |
| LWR@tableparcell (boolean) . . . . .            | <u>442</u>          | \LWRPrintStack . . . . .                       | <u>5937</u>                 |
| LWR@tabletotalLaTeXcols (counter) . . . . .     | <u>444</u>          | \LWRsetnextfloat . . . . .                     | <u>10521</u>                |
| LWR@tabletotalLaTeXcolsnext (counter) . . . . . | <u>444</u>          | \LWRtexttitlecase . . . . .                    | <u>904</u>                  |
| \LWR@tabular@warpprintonly . . . . .            | <u>9901</u>         | lyluatex (package) . . . . .                   | <u>924</u>                  |
| LWR@tabularcelladded (boolean) . . . . .        | <u>442</u>          | \LyX . . . . .                                 | <u>13443</u>                |
| LWR@tabularDepth (counter) . . . . .            | <u>443</u>          |                                                |                             |
| \LWR@tabularendofline . . . . .                 | <u>8655</u>         | <b>M</b>                                       |                             |
| \LWR@tabularfinishrow . . . . .                 | <u>8606</u>         | Mac OS (program) . . . . .                     | <u>117, 224</u>             |
| \LWR@tabularhtmlcolumns . . . . .               | <u>9703</u>         | \macrotocname . . . . .                        | <u>898</u>                  |
| \LWR@tabularleftedge . . . . .                  | <u>9048</u>         | Madcap (program) . . . . .                     | <u>74</u>                   |
| LWR@tabularmutemods (boolean) . . . . .         | <u>443</u>          | magaz (package) . . . . .                      | <u>926</u>                  |
| LWR@tabularpardepth (counter) . . . . .         | <u>443</u>          | \mainmatter . . . . .                          | <u>7251</u>                 |
| \LWR@tdaddstyle . . . . .                       | <u>9179</u>         | make (program) . . . . .                       | <u>178</u>                  |
| \LWR@tdendstyles . . . . .                      | <u>9185</u>         | \makebox . . . . .                             | <u>12623</u>                |
| \LWR@tdstartstyles . . . . .                    | <u>9178</u>         | makeidx (package) . . . . .                    | <u>149, 150, 927, 1186</u>  |
| \LWR@tempcolor . . . . .                        | <u>13085</u>        | \MakeIndex . . . . .                           | <u>13421</u>                |
| \LWR@tempcolortwo . . . . .                     | <u>13085</u>        | makeindex (option) . . . . .                   | <u>106, 230</u>             |
| \LWR@tempheight (length) . . . . .              | <u>615</u>          | makeindex (program) . . . . .                  | <u>137, 147</u>             |
| \LWR@tempraise (length) . . . . .               | <u>615</u>          | makeindexStyle (option) . . . . .              | <u>106, 147, 228</u>        |
| \LWR@tempwidth (length) . . . . .               | <u>615</u>          | \makelabel . . . . .                           | <u>431</u>                  |
| \LWR@textcurrentcolor . . . . .                 | <u>24, 13090</u>    | \maketitle . . . . .                           | <u>48, 119, 7935</u>        |
| \LWR@textcurrentfont . . . . .                  | <u>12934, 13096</u> | manyfoot (package) . . . . .                   | <u>927</u>                  |
| \LWR@thirdoffive . . . . .                      | <u>858</u>          | marginal (package) . . . . .                   | <u>929</u>                  |
| \LWR@ThisAltText . . . . .                      | <u>11291</u>        | marginfit (package) . . . . .                  | <u>930</u>                  |
| LWR@thisautoid (counter) . . . . .              | <u>516</u>          | marginfix (package) . . . . .                  | <u>930</u>                  |
| LWR@thisautoidWP (counter) . . . . .            | <u>516</u>          | marginnote (package) . . . . .                 | <u>930</u>                  |
| \LWR@thiscmidrulewidth (length) . . . . .       | <u>469</u>          | \marginpar . . . . .                           | <u>124, 376, 6719</u>       |
| \LWR@thiscolspec . . . . .                      | <u>9056</u>         | \marginparBlock . . . . .                      | <u>124, 376, 6730, 6748</u> |
| \LWR@thisfilename . . . . .                     | <u>6776</u>         | \markboth . . . . .                            | <u>5996</u>                 |
| \LWR@thisnewfilename . . . . .                  | <u>6781</u>         | \markright . . . . .                           | <u>5997</u>                 |
| \LWR@titlingmaketitle . . . . .                 | <u>84, 7976</u>     | marvosym (package) . . . . .                   | <u>931</u>                  |
| \LWR@topnavigation . . . . .                    | <u>5891</u>         | math (environment) . . . . .                   | <u>11675</u>                |
| \LWR@traceinfo . . . . .                        | <u>1616</u>         | mathalpha (package) . . . . .                  | <u>931</u>                  |
| LWR@tracinglwarf (boolean) . . . . .            | <u>250</u>          | mathastext (package) . . . . .                 | <u>932</u>                  |
| LWR@trimlrrules . . . . .                       | <u>468</u>          | mathcomp (package) . . . . .                   | <u>933</u>                  |
| LWR@trimrrrules . . . . .                       | <u>468</u>          | mathdesign (package) . . . . .                 | <u>933</u>                  |
| \LWR@unknownengine . . . . .                    | <u>1975</u>         | mathdots (package) . . . . .                   | <u>935</u>                  |
|                                                 |                     | mathfixs (package) . . . . .                   | <u>935</u>                  |

|                                 |                |                               |           |
|---------------------------------|----------------|-------------------------------|-----------|
| \MathImageAltText               | 114, 11290     | multline* (environment)       | 75        |
| MathJax (program)               | 152, 153       | musicography (package)        | 982       |
| MathJax (program) [requirement] | 77             |                               |           |
| mathjax (boolean)               | 227            |                               |           |
| mathjax (option)                | 104, 228       |                               |           |
| \MathJaxFilename                | 112, 6557      | N                             |           |
| mathpazo (package)              | 936            | nameauth (package)            | 985       |
| mathptmx (package)              | 936            | \Nameref                      | 10271     |
| mathspec (package)              | 937            | \nameref                      | 10262     |
| mathsvg (option)                | 104, 227       | nameref (package)             | 986       |
| mathtools (package)             | 156, 939       | natbib (package)              | 987       |
| mattens (package)               | 945            | nccfancyhdr (package)         | 988       |
| maybemath (package)             | 947            | nccfoots (package)            | 989       |
| \mbox                           | 12596          | nccmath (package)             | 989       |
| mcaption (package)              | 947            | needspace (package)           | 990       |
| \mcolrowcell                    | 9859           | newclude (package)            | 172       |
| mdframed (package)              | 128, 947       | \newfloat                     | 5         |
| \mdseries                       | 12965          | newfloat (package)            | 240       |
| mdwmath (package)               | 956            | \newline                      | 13173     |
| media9 (package)                | 161, 957       | \newpage                      | 13170     |
| memhfixc (package)              | 959            | newpxmath (package)           | 991       |
| memoir (class)                  | 169, 171, 1215 | \newtheorem                   | 429       |
| menukeys (package)              | 959            | newtxmath (package)           | 991       |
| metalogo (package)              | 960            | newtxsf (package)             | 992       |
| metalogox (package)             | 960            | newunicodechar (package)      | 102       |
| mhchem (package)                | 961            | nextpage (package)            | 993       |
| microtype (package)             | 236, 964       | nfssext-cfr (package)         | 994       |
| midfloat (package)              | 964            | nicefrac (package)            | 157, 1000 |
| midpage (package)               | 965            | niceframe (package)           | 1001      |
| \MiKTeX                         | 13441          | nicematrix (package)          | 1001      |
| minibox (package)               | 965            | \noalign                      | 9869      |
| minipage (environment)          | 12491          | \nohyperpage                  | 11060     |
| \minipagefullwidth              | 12479          | noitcrl (package)             | 1004      |
| minitoc (package)               | 966            | nolbreaks (package)           | 1004      |
| minted (package)                | 966            | \nolinebreak                  | 13244     |
| mismath (package)               | 967            | nomencl (package)             | 136, 1004 |
| mlleftright (package)           | 971            | nonfloat (package)            | 1005      |
| mmap (package)                  | 102            | nonumonpart (package)         | 1005      |
| morefloats (package)            | 971            | \nopagebreak                  | 13248     |
| moreverb (package)              | 971            | \nopagecolor                  | 79        |
| movie15 (package)               | 161, 972       | nopageno (package)            | 1005      |
| mparhack (package)              | 974            | \normalcolor                  | 8         |
| \mrrowcell                      | 9856           | \normalfont                   | 13043     |
| MS-Windows (program)            | 117, 224       | \normalmarginpar              | 6745      |
| multibib (package)              | 974            | notes (package)               | 1006      |
| multicap (package)              | 974            | notespages (package)          | 1006      |
| multicol (package)              | 975            | nowidow (package)             | 1007      |
| multicolrule (package)          | 976            | ntheorem (package)            | 155, 1007 |
| \multicolumnrow                 | 45, 9726       | \numberline                   | 10741     |
| multimedia (package)            | 161, 976       | numindex (option) [tocbibind] | 150, 1186 |
| multiobjective (package)        | 977            | O                             |           |
| \multirow                       | 979            | octave (package)              | 1019      |
| multirow (package)              | 978            | OpenOffice (program)          | 74        |
| multitoc (package)              | 982            | option:                       |           |
| multiline (environment)         | 72             | --shell-escape                | 101       |
|                                 |                | [lwarpmk]:                    |           |
|                                 |                | htmlglossary                  | 135, 835  |

|                     |                    |                 |          |
|---------------------|--------------------|-----------------|----------|
| printglossary       | 135, 835           | adjmulticol     | 642      |
| [tocbibind]:        |                    | afterpage       | 644      |
| numindex            | 150, 1186          | algorithm2e     | 644      |
| [tocloft]:          |                    | algorithmicx    | 167, 648 |
| titles              | 133                | alltt           | 649      |
| BaseJobname         | 108, 228           | amscdx          | 649      |
| dvipdfm             | 104, 230           | amsmath         | 650      |
| dvipdfmx            | 104, 231           | amsthm          | 654      |
| dvips               | 104, 230           | anonchap        | 659      |
| GlossaryCmd         | 108, 135, 230, 835 | any size        | 660      |
| HomeHTMLFilename    | 104, 229           | appendix        | 134, 660 |
| HTMLFilename        | 104, 229           | ar              | 660      |
| HTMLIndexCmd        | 107, 230           | arabicfront     | 662      |
| HTMLLatexCmd        | 106, 175, 229      | array           | 662      |
| ImagesDirectory     | 104, 228           | arydshln        | 663      |
| ImagesName          | 104, 228           | asymptote       | 161, 665 |
| IndexRef            | 107, 230           | atbegshi        | 666      |
| latexmk             | 104, 230           | attachfile      | 666      |
| LatexmkIndexCmd     | 107, 230           | attachfile2     | 667      |
| lwarpmk             | 108, 229, 316      | authblk         | 133, 669 |
| makeindex           | 106, 230           | autobreak       | 670      |
| makeindexStyle      | 106, 147, 228      | autonum         | 671      |
| mathjax             | 104, 228           | awesomebox      | 672      |
| mathsvg             | 104, 227           | axessibility    | 673      |
| OSWindows           | 108, 117, 224, 229 | axodraw2        | 674      |
| pdftotextEnc        | 108, 229           | babel           | 172      |
| PrintIndexCmd       | 106, 230           | backnaur        | 674      |
| PrintLatexCmd       | 106, 175, 229      | backref         | 675      |
| warpHTML            | 108, 227           | balance         | 675      |
| warpprint           | 108, 227           | bbdng           | 676      |
| xindex              | 106, 230           | bilatex         | 680      |
| xindexConfig        | 106, 148, 229      | bibunits        | 685      |
| xindy               | 106, 230           | bigdelim        | 167, 685 |
| xindyCodepage       | 106, 228           | bigfoot         | 686      |
| xindyLanguage       | 106, 228           | bigstrut        | 687      |
| xindyStyle          | 106, 148, 228      | bitpattern      | 687      |
| orcidlink (package) | 1020               | blowup          | 688      |
| \OSPathSymbol       | 947                | bm              | 688      |
| OSWindows (option)  | 108, 117, 224, 229 | booklet         | 689      |
| overpic (package)   | 161, 1021          | bookmark        | 689      |
|                     |                    | booktabs        | 689      |
|                     |                    | bophook         | 691      |
| package:            |                    | bounddvi        | 692      |
| 2in1                | 633                | boxedminipage   | 692      |
| 2up                 | 633                | boxedminipage2e | 692      |
| a4                  | 633                | braket          | 693      |
| a4wide              | 634                | breakurl        | 693      |
| a5comb              | 634                | breqn           | 693      |
| abstract            | 133, 634           | bsheaders       | 695      |
| academicons         | 636                | bussproofs      | 695      |
| accents             | 637                | bxpapersize     | 696      |
| accessibility       | 638                | bytefield       | 696      |
| acccsupp            | 638                | calc            | 238      |
| acro                | 639                | cancel          | 696      |
| acronym             | 641                | canoniclayout   | 697      |
| addlines            | 643                |                 |          |

## P

|               |          |
|---------------|----------|
| package:      |          |
| 2in1          | 633      |
| 2up           | 633      |
| a4            | 633      |
| a4wide        | 634      |
| a5comb        | 634      |
| abstract      | 133, 634 |
| academicons   | 636      |
| accents       | 637      |
| accessibility | 638      |
| acccsupp      | 638      |
| acro          | 639      |
| acronym       | 641      |
| addlines      | 643      |

|                |               |                 |          |
|----------------|---------------|-----------------|----------|
| capt-of        | 521           | easy-todo       | 758      |
| caption        | 168, 521, 698 | ebook           | 759      |
| caption3       | 699           | econometrics    | 759      |
| cases          | 702           | ed              | 762      |
| ccicons        | 702           | ellipsis        | 763      |
| centernot      | 703           | embrac          | 763      |
| changebar      | 703           | emptypage       | 764      |
| changelayout   | 704           | endfloat        | 764      |
| changepage     | 704           | endheads        | 764      |
| changes        | 705           | endnotes        | 134, 765 |
| chappg         | 710           | engtlc          | 766      |
| chapterbib     | 710           | enotez          | 770      |
| chemfig        | 711           | enumerate       | 773      |
| chemformula    | 713           | enumitem        | 773      |
| chemgreek      | 718           | environ         | 240      |
| chemmacros     | 718           | epigraph        | 774      |
| chemnum        | 736           | epsf            | 774      |
| chkfloat       | 737           | epsfig          | 775      |
| chngpage       | 737           | epstopdf        | 159, 775 |
| cite           | 737           | epstopdf-base   | 776      |
| citeref        | 738           | eqlist          | 777      |
| CJK            | 738           | eqparbox        | 777      |
| CJKutf8        | 739           | errata          | 778      |
| classicthesis  | 739           | eso-pic         | 779      |
| cleveref       | 130, 740      | esvect          | 780      |
| clrdblp        | 743           | etoc            | 780      |
| cm-super       | 101           | etoolbox        | 202      |
| cmap           | 102           | eurosym         | 783      |
| cmbright       | 743           | everyhook       | 239      |
| cmdtrack       | 744           | everypage       | 783      |
| colonequals    | 744           | everyshi        | 783      |
| color          | 159, 745      | expl3           | 239      |
| colortbl       | 166, 745      | extarrows       | 784      |
| comment        | 233           | extramarks      | 784      |
| continue       | 747           | fancybox        | 127, 785 |
| copyrightbox   | 747           | fancyhdr        | 790      |
| crop           | 748           | fancyref        | 791      |
| ctable         | 748           | fancytabs       | 791      |
| cuted          | 751           | fancyvrb        | 792      |
| cutwin         | 751           | fbox            | 799      |
| dblfloatfix    | 752           | fewerfloatpages | 801      |
| dblfnote       | 752           | figcaps         | 801      |
| dcolumn        | 752           | figsize         | 802      |
| decimal        | 753           | filecontents    | 239      |
| dejavu         | 101           | fitbox          | 802      |
| diagbox        | 753           | fix2col         | 803      |
| dingbat        | 754           | fixmath         | 803      |
| ditaa          | 178           | fixme           | 173, 803 |
| DotArrow       | 755           | fixmetodonotes  | 805      |
| dotlessi       | 756           | flafter         | 805      |
| dprogress      | 756           | flippdf         | 805      |
| draftcopy      | 756           | float           | 167, 806 |
| draftfigure    | 757           | floatflt        | 807      |
| draftwatermark | 757           | floatpag        | 808      |
| drftcite       | 758           | floatrow        | 168, 809 |

|                 |               |                              |          |
|-----------------|---------------|------------------------------|----------|
| fltrace         | 814           | hyperxmp                     | 867      |
| flushend        | 814           | hyphenat                     | 868      |
| fnbreak         | 814           | idxlayout                    | 869      |
| fncychap        | 815           | ifoddpage                    | 870      |
| fnlineno        | 815           | ifplatform                   | 202      |
| fnpara          | 815           | imakeidx                     | 870      |
| fnpos           | 816           | impnattypo                   | 874      |
| fontawesome     | 816           | indentfirst                  | 366      |
| fontawesome5    | 817           | index                        | 874      |
| fontaxes        | 818           | inputenc                     | 102      |
| fontenc         | 102, 818      | inputenx                     | 102      |
| fontspec        | 101, 235      | inputrc                      | 876      |
| footmisc        | 819           | intopdf                      | 876      |
| footnote        | 820           | isomath                      | 877      |
| footnotebackref | 821           | isotope                      | 877      |
| footnotehyper   | 821           | jurabib                      | 878      |
| footnoterange   | 821           | karnaugh-map                 | 880      |
| footnpag        | 821           | keyfloat                     | 169, 883 |
| foreign         | 822           | keystroke                    | 888      |
| forest          | 822           | kotex                        | 174      |
| fouridx         | 822           | kpfonts                      | 889      |
| fourier         | 823           | kpfonts-otf                  | 891      |
| framed          | 824           | kvoptions                    | 227      |
| ftcap           | 827           | layaureo                     | 892      |
| ftnright        | 827           | layout                       | 892      |
| fullminipage    | 827           | layouts                      | 893      |
| fullpage        | 827           | leading                      | 895      |
| fullwidth       | 828           | leftidx                      | 896      |
| fvextra         | 828           | letltxmacro                  | 202      |
| fwlw            | 831           | letterspace                  | 896      |
| gensymb         | 832           | lettrine                     | 896      |
| gentombow       | 832           | libertinust1math             | 897      |
| geometry        | 236, 832      | lineno                       | 904      |
| getttitlestring | 239           | lips                         | 906      |
| ghsystem        | 833           | listings                     | 907      |
| gindex          | 138, 834      | listliketab                  | 913      |
| gloss           | 135, 834      | lltjext                      | 913      |
| glossaries      | 135, 835      | lmodern                      | 101, 102 |
| gmeometric      | 837           | longtable                    | 165, 914 |
| graphics        | 157, 837      | lpic                         | 917      |
| graphicx        | 157, 850      | lscape                       | 917      |
| grffile         | 159, 850      | ltablex                      | 917      |
| grid            | 850           | ltcaption                    | 918      |
| grid-system     | 850           | ltxgrid                      | 918      |
| gridset         | 851           | ltxtable                     | 919      |
| hang            | 851           | lua-check-hyphen             | 919      |
| hanging         | 853           | lua-visual-debug             | 919      |
| hepunits        | 854           | luacolor                     | 919      |
| hhline          | 855           | luamplib                     | 920      |
| httensor        | 855           | luatexko                     | 920      |
| hypbmsec        | 856           | luatodonotes                 | 173, 922 |
| hypcap          | 856           | luavlna                      | 924      |
| hypdestopt      | 857           | lwarp                        | 104      |
| hypernat        | 857           | lwarp-common-mathjax-letters | 1284     |
| hyperref        | 130, 509, 857 |                              |          |

|                            |                     |                  |           |
|----------------------------|---------------------|------------------|-----------|
| lwarpmathjax               | 1291                | multimedia       | 161, 976  |
| lwarpmathjaxnonunicode     | 1297                | multiobjective   | 977       |
| lwarpmathjaxoverlaysymbols | 1300                | multirow         | 978       |
| lwarpcommonmultimedia      | 1279                | multitoc         | 982       |
| lwarppatchkomascript       | 1249                | musicography     | 982       |
| lwarppatchmemoir           | 1251                | nameauth         | 985       |
| lyluatex                   | 924                 | nameref          | 986       |
| magaz                      | 926                 | natbib           | 987       |
| makeidx                    | 149, 150, 927, 1186 | nccfancyhdr      | 988       |
| manyfoot                   | 927                 | nccfoots         | 989       |
| marginal                   | 929                 | nccmath          | 989       |
| marginfit                  | 930                 | needspace        | 990       |
| marginfix                  | 930                 | newclue          | 172       |
| marginnote                 | 930                 | newfloat         | 240       |
| marvosym                   | 931                 | newpxmath        | 991       |
| mathalpha                  | 931                 | newtxmath        | 991       |
| mathastext                 | 932                 | newtxsf          | 992       |
| mathcomp                   | 933                 | newunicodechar   | 102       |
| mathdesign                 | 933                 | nextpage         | 993       |
| mathdots                   | 935                 | nfssextcfr       | 994       |
| mathfixs                   | 935                 | nicefrac         | 157, 1000 |
| mathpazo                   | 936                 | niceframe        | 1001      |
| mathptmx                   | 936                 | nicematrix       | 1001      |
| mathspec                   | 937                 | noitcrl          | 1004      |
| mathtools                  | 156, 939            | nolbreaks        | 1004      |
| mattens                    | 945                 | nomencl          | 136, 1004 |
| maybemath                  | 947                 | nonfloat         | 1005      |
| mcaption                   | 947                 | nonumonpart      | 1005      |
| mdframed                   | 128, 947            | nopageno         | 1005      |
| mdwmath                    | 956                 | notes            | 1006      |
| media9                     | 161, 957            | notespages       | 1006      |
| memhfixc                   | 959                 | nowidow          | 1007      |
| menukeys                   | 959                 | ntheorem         | 155, 1007 |
| metalogo                   | 960                 | octave           | 1019      |
| metalogox                  | 960                 | orcidlink        | 1020      |
| mhchem                     | 961                 | overpic          | 161, 1021 |
| microtype                  | 236, 964            | pagegrid         | 1022      |
| midfloat                   | 964                 | pagenote         | 134, 1022 |
| midpage                    | 965                 | pagesel          | 1022      |
| minibox                    | 965                 | paralist         | 1022      |
| minitoc                    | 966                 | parallel         | 1023      |
| minted                     | 966                 | parcolumns       | 1025      |
| mismath                    | 967                 | parnotes         | 1027      |
| mlleftright                | 971                 | parskip          | 1028      |
| mmap                       | 102                 | pbox             | 1028      |
| morefloats                 | 971                 | pdfcol           | 1029      |
| moreverb                   | 971                 | pdfcolfoot       | 1029      |
| movie15                    | 161, 972            | pdfcolmk         | 1029      |
| mparhack                   | 974                 | pdfcolparallel   | 1030      |
| multibib                   | 974                 | pdfcolparcolumns | 1030      |
| multicap                   | 974                 | pdfcomment       | 1031      |
| multicol                   | 975                 | pdfcrypt         | 1031      |
| multicolrule               | 976                 | pdflscape        | 1032      |
|                            |                     | pdfmarginpar     | 1032      |
|                            |                     | pdfpages         | 1032      |

|                    |           |                     |                |
|--------------------|-----------|---------------------|----------------|
| pdfprivacy         | 1035      | rterface            | 177            |
| pdfrender          | 1035      | rviewport           | 1063           |
| pdfsync            | 1035      | sagetex             | 177            |
| pdftricks          | 160, 1036 | savetrees           | 1063           |
| pdfx               | 1036      | scalefnt            | 1063           |
| perltex            | 177       | scalerel            | 1064           |
| perpage            | 1036      | schemata            | 1064           |
| pfnote             | 1038      | scrextend           | 1065           |
| phfqt              | 1038      | scrhack             | 1069           |
| physics            | 157, 1038 | scrlayer            | 1069           |
| physunits          | 1039      | scrlayer-notecolumn | 1071           |
| picinpar           | 1040      | scrlayer-scrpage    | 1071           |
| pifont             | 1042      | scrpage2            | 1072           |
| pinlabel           | 1043      | section             | 1073           |
| placeins           | 1043      | sectionbreak        | 1074           |
| plarydshln         | 1043      | sectsty             | 1074           |
| plexit             | 1043      | selectp             | 1075           |
| plexitydshln       | 1044      | semantic-markup     | 1075           |
| plextblcolortbl    | 1045      | seqsplit            | 1076           |
| plimsoll           | 1045      | setspace            | 1077           |
| polyglossia        | 172       | shadethm            | 1078           |
| prelim2e           | 1045      | shadow              | 1079           |
| prettyref          | 1046      | shapepar            | 1079           |
| preview            | 1046      | showidx             | 1079           |
| printlen           | 241       | showkeys            | 1080           |
| psfrag             | 160, 1046 | showtags            | 1080           |
| psfragx            | 1047      | shuffle             | 1080           |
| pst-eps            | 1047      | sidecap             | 1081           |
| pstool             | 160, 1048 | sidenotes           | 1082           |
| pstricks           | 160, 1048 | simplebnf           | 1084           |
| pxatbegshi         | 1049      | SIunits             | 1085           |
| pxeveryshi         | 1049      | siunitx             | 156, 583, 1093 |
| pxfonts            | 1049      | skmath              | 1107           |
| pxftnright         | 1050      | slantsc             | 1113           |
| pxjahyper          | 1050      | slashed             | 1113           |
| pythontex          | 177       | soul                | 1114           |
| quotchap           | 1050      | soulpos             | 1115           |
| quoting            | 1051      | soulutf8            | 1116           |
| ragged2e           | 1052      | splitbib            | 1116           |
| realscripts        | 1052      | splitidx            | 1117           |
| refcheck           | 1055      | srcltx              | 1119           |
| refcount           | 240       | srctex              | 1119           |
| register           | 1056      | stabular            | 1119           |
| relsize            | 124, 1057 | stackengine         | 1120           |
| repeatindex        | 1058      | stackrel            | 1122           |
| repltext           | 1059      | statex2             | 1122           |
| resizegather       | 1059      | statistics          | 1126           |
| returntogrid       | 1059      | statmath            | 1132           |
| rlepsf             | 1060      | steinmetz           | 1133           |
| rmathbr            | 1060      | stfloats            | 1134           |
| rmpage             | 1060      | struktex            | 1134           |
| romanbar           | 1061      | subcaption          | 168, 1135      |
| romanbarpagenumber | 1061      | subfig              | 168, 1135      |
| rotating           | 1061      | subfigure           | 1140           |
| rotfloat           | 1062      | subsubscripts       | 1140           |

|                  |                     |                        |                 |
|------------------|---------------------|------------------------|-----------------|
| supertabular     | 166, 1142           | typearea               | 1202            |
| svg              | 1143                | typicons               | 1203            |
| swffigure        | 1144                | ulem                   | 1204            |
| sympytex         | 177                 | umoline                | 1205            |
| syntonly         | 1144                | underscore             | 1206            |
| tabfigures       | 1145                | unicode-math           | 1206            |
| tablefootnote    | 1145                | units                  | 157, 1210       |
| tabs             | 1145                | unitsdef               | 1211            |
| tabularx         | 1145                | upgreek                | 1212            |
| tabulary         | 1146                | upref                  | 1212            |
| tagpdf           | 1146                | url                    | 130, 1213       |
| tascmac          | 1149                | ushort                 | 1213            |
| tcolorbox        | 128, 1150           | uspace                 | 1213            |
| tensor           | 1156                | variorref              | 130, 1214       |
| termcal          | 1157                | varwidth               | 241             |
| textarea         | 1158                | verbatim               | 240             |
| textcomp         | 102, 123, 1158      | verse                  | 171, 1214, 1215 |
| textfit          | 1162                | versonotes             | 1216            |
| textpos          | 1162                | vertbars               | 1216            |
| theorem          | 1163                | vmargin                | 1217            |
| thinsp           | 1167                | vowel                  | 1217            |
| thm-listof       | 1167                | vpe                    | 1218            |
| thm-restate      | 1168                | vwcol                  | 1218            |
| thmbox           | 1168                | wallpaper              | 1220            |
| thmtools         | 1169                | watermark              | 1220            |
| threadcol        | 1169                | widetable              | 1221            |
| threeparttable   | 1170                | widows-and-orphans     | 1221            |
| threeparttablex  | 166, 1170           | witharrows             | 1221            |
| thumb            | 1171                | wrapfig                | 1223            |
| thumbs           | 1172                | xbmks                  | 1224            |
| tikz             | 158, 1172           | xcolor                 | 159, 586, 1224  |
| tikz-imagelabels | 1174                | xchangebar             | 1235            |
| titleps          | 1174                | xellipsis              | 1235            |
| titleref         | 1177                | xetexko                | 1236            |
| titlesec         | 1177                | xevlina                | 1236            |
| titletoc         | 1179                | xfakebold              | 1236            |
| titling          | 133, 1181           | xfrac                  | 1237            |
| tocbasic         | 1185                | xifthen                | 240             |
| tocbibind        | 150, 1186           | xtabular               | 1239            |
| tocdata          | 1187                | xtltxtra               | 1240            |
| toccenter        | 1189                | xmpincl                | 1240            |
| tocloft          | 133, 150, 659, 1189 | xparse                 | 238             |
| tocstyle         | 1195                | xpatch                 | 202             |
| todo             | 1195                | xpiano                 | 1241            |
| todonotes        | 173, 1196           | xpinyin                | 1241            |
| topcapt          | 1198                | xr                     | 1243            |
| tram             | 1198                | xr-hyper               | 1243            |
| transparent      | 1199                | xstring                | 240             |
| trimclip         | 1199                | xtab                   | 166, 1243       |
| trivfloat        | 167, 1200           | xunicode               | 1245            |
| truncate         | 1201                | xurl                   | 1246            |
| turnthepage      | 1201                | xy                     | 1246            |
| twoup            | 1201                | zhlineskip             | 1247            |
| txfonts          | 1201                | zwpagelayout           | 1248            |
| txgreeks         | 1202                | \PackageDiagramAltText | 114, 11295      |

|                                     |            |                                  |                 |
|-------------------------------------|------------|----------------------------------|-----------------|
| \pagebreak                          | 13245      | Plastex (program)                | 73              |
| \pagecolor                          | 78         | plex (package)                   | 1043            |
| pagegrid (package)                  | 1022       | plextrydshln (package)           | 1044            |
| pagenote (package)                  | 134, 1022  | plexcolortbl (package)           | 1045            |
| \pagenumbering                      | 6002       | plimsoll (package)               | 1045            |
| \pageref                            | 10257      | \PN@parnotes@auto                | 6402            |
| \pagerefPageFor                     | 10256      | polyglossia (package)            | 172             |
| pagesel (package)                   | 1022       | \postbookname                    | 7466            |
| \pagestyle                          | 5994       | \postchaptername                 | 7470            |
| Pandoc (program)                    | 74         | \postpartname                    | 7468            |
| \paragraph                          | 7519       | \postsectionname                 | 7472            |
| paralist (package)                  | 1022       | \prebookname                     | 7466            |
| parallel (package)                  | 1023       | \prechaptername                  | 7470            |
| \parbox                             | 12587      | prelim2e (package)               | 1045            |
| parcolumns (package)                | 1025       | \prepartname                     | 7468            |
| parnotes (package)                  | 1027       | \preselectionname                | 7472            |
| \parsemulticolumnalignment          | 9494       | prettyref (package)              | 1046            |
| parskip (package)                   | 1028       | preview (package)                | 1046            |
| \part                               | 7486       | \printauthor                     | 415, 7872, 7891 |
| pbox (package)                      | 1028       | \printdate                       | 415, 7883, 7893 |
| pdfcol (package)                    | 1029       | printglossary (option) [!warpmk] | 135, 835        |
| pdfcolfoot (package)                | 1029       | \printindex                      | 2               |
| pdfcolmk (package)                  | 1029       | PrintIndexCmd (option)           | 106, 230        |
| pdfcolparallel (package)            | 1030       | PrintLatexCmd (option)           | 106, 175, 229   |
| pdfcolparcolumns (package)          | 1030       | printlen (package)               | 241             |
| pdfcomment (package)                | 1031       | \printhanks                      | 415, 7849       |
| pdfcrop (program) [requirement]     | 77         | \printtitle                      | 415, 7856, 7890 |
| pdfcrypt (package)                  | 1031       | program:                         |                 |
| pdfLaTeX (program) [requirement]    | 77         | [requirement]:                   |                 |
| pdflscape (package)                 | 1032       | LuaTeX                           | 77              |
| pdfmarginpar (package)              | 1032       | MathJax                          | 77              |
| pdfpages (package)                  | 1032       | pdfcrop                          | 77              |
| pdfprivacy (package)                | 1035       | pdfLaTeX                         | 77              |
| pdfrender (package)                 | 1035       | pdfseparate                      | 77, 82          |
| pdfseparate (program) [requirement] | 77, 82     | pdftocairo                       | 77, 82          |
| pdfsync (package)                   | 1035       | pdftotext                        | 77, 82          |
| pdftocairo (program)                | 157, 585   | perl                             | 82              |
| pdftocairo (program) [requirement]  | 77, 82     | XeLaTeX                          | 77              |
| pdftotext (program) [requirement]   | 77, 82     | Adobe                            | 74              |
| pdftotextEnc (option)               | 108, 229   | AsciiDoc                         | 74              |
| pdftricks (package)                 | 160, 1036  | AsciiDoctor                      | 74              |
| pdfx (package)                      | 1036       | Asciidoctor-LaTeX                | 74              |
| perl (program) [requirement]        | 82         | epstopdf                         | 158, 585        |
| perltex (package)                   | 177        | Flare                            | 74              |
| perpage (package)                   | 1036       | FrameMaker                       | 74              |
| pfnote (package)                    | 1038       | GELLMU                           | 73              |
| phfqit (package)                    | 1038       | GladTeX                          | 73              |
| physics (package)                   | 157, 1038  | Hevea                            | 73              |
| physunits (package)                 | 1039       | htlatex                          | 73              |
| picinpar (package)                  | 1040       | imakeidx                         | 140             |
| picture (environment)               | 591, 12456 | InDesign                         | 74              |
| pifont (package)                    | 1042       | index                            | 138             |
| pinlabel (package)                  | 1043       | LaTeX2HTML                       | 73              |
| placeins (package)                  | 1043       | latexmk                          | 176             |
| plarydshln (package)                | 1043       | LaTeXML                          | 73              |

|                            |           |                              |            |
|----------------------------|-----------|------------------------------|------------|
| LibreOffice                | 74        | refcount (package)           | 240        |
| Linux                      | 117, 224  | \reflectbox                  | 389        |
| lwarpmk                    | 189, 316  | register (package)           | 1056       |
| lwarpmk epstopdf           | 158, 585  | relsize (package)            | 124, 1057  |
| lwarpmk pdftosvg           | 158, 585  | repeatindex (package)        | 1058       |
| Mac OS                     | 117, 224  | repltext (package)           | 1059       |
| Madcap                     | 74        | [requirement]:               |            |
| make                       | 178       | LuaLaTeX (program)           | 77         |
| makeindex                  | 137, 147  | MathJax (program)            | 77         |
| MathJax                    | 152, 153  | pdfcrop (program)            | 77         |
| MS-Windows                 | 117, 224  | pdfLaTeX (program)           | 77         |
| OpenOffice                 | 74        | pdfseparate (program)        | 77, 82     |
| Pandoc                     | 74        | pdftocairo (program)         | 77, 82     |
| pdftocairo                 | 157, 585  | pdftotext (program)          | 77, 82     |
| Plastex                    | 73        | perl (program)               | 82         |
| splitidx                   | 139       | XeLaTeX (program)            | 77         |
| TeX2page                   | 73        | \RequirePackage              | 1436       |
| TeX4ht                     | 73        | \resizebox                   | 398        |
| TeXMaths                   | 183       | resizegather (package)       | 1059       |
| TtH                        | 73        | \ResumeTabular               | 9771       |
| Unix                       | 117, 224  | returntogrid (package)       | 1059       |
| Windows                    | 117, 224  | \reversemarginpar            | 6744       |
| Word                       | 74        | \rightline                   | 12265      |
| xindex                     | 137, 148  | rlepsf (package)             | 1060       |
| xindy                      | 137, 147  | rmathbr (package)            | 1060       |
| project.css (file)         | 116       | \rmfamily                    | 12985      |
| project.lwarpmkconf (file) | 269       | rmpage (package)             | 1060       |
| psfrag (package)           | 160, 1046 | romanbar (package)           | 1061       |
| psfrags (package)          | 1047      | romanbarpagenumber (package) | 1061       |
| pst-eps (package)          | 1047      | \rotatebox                   | 347        |
| pstool (package)           | 160, 1048 | rotating (package)           | 1061       |
| pstricks (package)         | 160, 1048 | rotfloat (package)           | 1062       |
| pxatbegshi (package)       | 1049      | \rowcolor                    | 8970       |
| pxeveryshi (package)       | 1049      | \rownum                      | 8962       |
| pxfonts (package)          | 1049      | rterface (package)           | 177        |
| pxftnright (package)       | 1050      | \rule                        | 122, 13252 |
| pxjahyper (package)        | 1050      | rviewport (package)          | 1063       |
| pythontex (package)        | 177       |                              |            |

## S

|                         |            |                               |          |
|-------------------------|------------|-------------------------------|----------|
|                         |            | sagetex (package)             | 177      |
| \qquad                  | 614, 13193 | sample_project.css (file)     | 116, 310 |
| \quad                   | 614, 13188 | savetrees (package)           | 1063     |
| quotation (environment) | 8058       | \sb                           | 13063    |
| quotchap (package)      | 1050       | \scalebox                     | 370      |
| quote (environment)     | 8050       | scalefnt (package)            | 1063     |
| quoting (package)       | 1051       | scalerel (package)            | 1064     |
|                         |            | schemata (package)            | 1064     |
|                         |            | scrcextend (package)          | 1065     |
|                         |            | scrhack (package)             | 1069     |
| R                       |            | scrlayer (package)            | 1069     |
| ragged2e (package)      | 1052       | scrlayer-notecolumn (package) | 1071     |
| \raggedbottom           | 5998       | scrlayer-scrpage (package)    | 1071     |
| \raggedleft             | 12251      | scrpage2 (package)            | 1072     |
| \raggedright            | 12257      | \scshape                      | 13010    |
| \raisebox               | 12775      | \section                      | 7510     |
| realscripts (package)   | 1052       | section (package)             | 1073     |
| \ref                    | 10235      |                               |          |
| refcheck (package)      | 1055       |                               |          |

|                                     |                |                                    |                |
|-------------------------------------|----------------|------------------------------------|----------------|
| sectionbreak (package) . . . . .    | 1074           | subfigure (package) . . . . .      | 1140           |
| sectsty (package) . . . . .         | 1074           | \subparagraph . . . . .            | 7522           |
| selectp (package) . . . . .         | 1075           | \subsection . . . . .              | 7513           |
| semantic-markup (package) . . . . . | 1075           | \subsubsection . . . . .           | 7516           |
| seqsplit (package) . . . . .        | 1076           | \subsubscripts (package) . . . . . | 1140           |
| \SetHTMLFileName . . . . .          | 5803           | \supertabular (package) . . . . .  | 166, 1142      |
| setspace (package) . . . . .        | 1077           | svg (package) . . . . .            | 1143           |
| \sffamily . . . . .                 | 12990          | swfimage (package) . . . . .       | 1144           |
| \sfrac . . . . .                    | 1237           | sympytex (package) . . . . .       | 177            |
| shadethm (package) . . . . .        | 1078           | syntonly (package) . . . . .       | 1144           |
| shadow (package) . . . . .          | 1079           |                                    |                |
| shapepar (package) . . . . .        | 1079           | <b>T</b>                           |                |
| showidx (package) . . . . .         | 1079           | tabbing (environment) . . . . .    | 8162           |
| showkeys (package) . . . . .        | 1080           | tabfigures (package) . . . . .     | 1145           |
| showtags (package) . . . . .        | 1080           | tablefootnote (package) . . . . .  | 1145           |
| shuffle (package) . . . . .         | 1080           | \tableofcontents . . . . .         | 113, 10647     |
| sidecap (package) . . . . .         | 1081           | tbls (package) . . . . .           | 1145           |
| sidenotes (package) . . . . .       | 1082           | tabular (environment) . . . . .    | 9918           |
| SideTOCDepth (counter) . . . . .    | 109, 525       | \TabularMacro . . . . .            | 9769           |
| \sidetocname . . . . .              | 111, 10717     | tabularx (package) . . . . .       | 1145           |
| simplebnf (package) . . . . .       | 1084           | tabulary (package) . . . . .       | 1146           |
| \simplechapterdelim . . . . .       | 7281           | tagpdf (package) . . . . .         | 1146           |
| \sishape . . . . .                  | 13025          | tascmac (package) . . . . .        | 1149           |
| SIunits (package) . . . . .         | 1085           | tcolorbox (package) . . . . .      | 128, 1150      |
| siunitx (package) . . . . .         | 156, 583, 1093 | tensor (package) . . . . .         | 1156           |
| skmath (package) . . . . .          | 1107           | termcal (package) . . . . .        | 1157           |
| slantsc (package) . . . . .         | 1113           | \TeX . . . . .                     | 13357          |
| slashed (package) . . . . .         | 1113           | \TeX2page (program) . . . . .      | 73             |
| \sloppy . . . . .                   | 6000           | \TeX4ht (program) . . . . .        | 73             |
| \slshape . . . . .                  | 13036          | \TeXMaths (program) . . . . .      | 183            |
| soul (package) . . . . .            | 1114           | textarea (package) . . . . .       | 1158           |
| soulpos (package) . . . . .         | 1115           | \textbf . . . . .                  | 12802          |
| soulutf8 (package) . . . . .        | 1116           | \textcolor . . . . .               | 65             |
| \sp . . . . .                       | 13062          | \textcomp (package) . . . . .      | 102, 123, 1158 |
| splitbib (package) . . . . .        | 1116           | \texteb . . . . .                  | 12810          |
| splitidx (package) . . . . .        | 1117           | \textfit (package) . . . . .       | 1162           |
| splitidx (program) . . . . .        | 139            | \textgreater . . . . .             | 5796           |
| srcltx (package) . . . . .          | 1119           | \textit . . . . .                  | 12858          |
| srctex (package) . . . . .          | 1119           | \textless . . . . .                | 5794           |
| \sscsshape . . . . .                | 13041          | \textlg . . . . .                  | 12818          |
| stabular (package) . . . . .        | 1119           | \textmd . . . . .                  | 12794          |
| stackengine (package) . . . . .     | 1120           | \textnormal . . . . .              | 12909          |
| stackrel (package) . . . . .        | 1122           | \textpos (package) . . . . .       | 1162           |
| \StartDefiningMath . . . . .        | 5761           | \textrm . . . . .                  | 12826          |
| \StartDefiningTabulars . . . . .    | 5751           | \textsc . . . . .                  | 12866          |
| statex2 (package) . . . . .         | 1122           | \textsf . . . . .                  | 12834          |
| statistics (package) . . . . .      | 1126           | \textsi . . . . .                  | 12882          |
| statmath (package) . . . . .        | 1132           | \textsl . . . . .                  | 12899          |
| steinmetz (package) . . . . .       | 1133           | \textssc . . . . .                 | 12907          |
| stffloats (package) . . . . .       | 1134           | \textsubscript . . . . .           | 13068          |
| \StopDefiningMath . . . . .         | 5765           | \textsuperscript . . . . .         | 13064          |
| \StopDefiningTabulars . . . . .     | 5755           | \texttt . . . . .                  | 12842          |
| struktex (package) . . . . .        | 1134           | \textulc . . . . .                 | 12874          |
| subcaption (package) . . . . .      | 168, 1135      | \textup . . . . .                  | 12850          |
| subfig (package) . . . . .          | 168, 1135      | \tfl@chapter@fix . . . . .         | 1200           |
|                                     |                | \thanks . . . . .                  | 120            |

|                               |                      |
|-------------------------------|----------------------|
| \thanksmarkseries             | 92                   |
| \theauthor                    | 415                  |
| thebibliography (environment) | 11073                |
| \thedate                      | 415                  |
| \theHTMLSection               | 7556                 |
| \theHTMLTitleSection          | 7555                 |
| \theHTMLTitleSeparator        | 7532                 |
| theindex (environment)        | 10814                |
| \thempfootnote                | 6675                 |
| theorem (package)             | 1163                 |
| \thetitle                     | 415                  |
| thinsp (package)              | 1167                 |
| \ThisAltText                  | 113, 11292           |
| \thispagestyle                | 5995                 |
| thm-listof (package)          | 1167                 |
| thm-restate (package)         | 1168                 |
| thmbox (package)              | 1168                 |
| thmtools (package)            | 1169                 |
| threadcol (package)           | 1169                 |
| threeparttable (package)      | 1170                 |
| threeparttablex (package)     | 166, 1170            |
| thumb (package)               | 1171                 |
| thumbs (package)              | 1172                 |
| tikz (package)                | 158, 1172            |
| tikz-imagelabels (package)    | 1174                 |
| \title                        | 119, 6567            |
| titlepage (environment)       | 119, 7837            |
| titleps (package)             | 1174                 |
| titleref (package)            | 1177                 |
| titles (option) [tocloft]     | 133                  |
| titlesec (package)            | 1177                 |
| titletoc (package)            | 1179                 |
| titling (package)             | 133, 1181            |
| titlingpage (environment)     | 14, 119              |
| tocbasic (package)            | 1185                 |
| [tocbibind]:                  |                      |
| numindex (option)             | 150, 1186            |
| tocbibind (package)           | 150, 1186            |
| tocdata (package)             | 1187                 |
| tocdepth (counter)            | 109                  |
| toccenter (package)           | 1189                 |
| [tocloft]:                    |                      |
| titles (option)               | 133                  |
| tocloft (package)             | 133, 150, 659, 1189  |
| tocstyle (package)            | 1195                 |
| todo (package)                | 1195                 |
| todonotes (package)           | 173, 1196            |
| topcapt (package)             | 1198                 |
| \tracinglwarp                 | 197, 1615            |
| tram (package)                | 1198                 |
| transparent (package)         | 1199                 |
| trimclip (package)            | 1199                 |
| trivfloat (package)           | 167, 1200            |
| truncate (package)            | 1201                 |
| \ttfamily                     | 12995                |
| TtH (program)                 | 73                   |
| turnthepage (package)         | 1201                 |
| tutorial.tex (file)           | 83                   |
| twoup (package)               | 1201                 |
| txfonts (package)             | 1201                 |
| txgreeks (package)            | 1202                 |
| typearea (package)            | 1202                 |
| typicons (package)            | 1203                 |
| <b>U</b>                      |                      |
| \ulcshape                     | 13017                |
| ulem (package)                | 1204                 |
| umoline (package)             | 1205                 |
| \underline                    | 13074                |
| underscore (package)          | 1206                 |
| unicode-math (package)        | 1206                 |
| units (package)               | 157, 1210            |
| unitsdef (package)            | 1211                 |
| Unix (program)                | 117, 224             |
| \up                           | 13072                |
| upgreek (package)             | 1212                 |
| upref (package)               | 1212                 |
| \upshape                      | 13000                |
| url (package)                 | 130, 1213            |
| \UseMinipageWidths            | 125, 592, 12480      |
| ushort (package)              | 1213                 |
| usingOSWindows (boolean)      | 226                  |
| uspace (package)              | 1213                 |
| <b>V</b>                      |                      |
| varioref (package)            | 130, 1214            |
| varwidth (package)            | 241                  |
| \verb                         | 8093                 |
| verbatim (environment)        | 8144                 |
| verbatim (package)            | 240                  |
| \VerbatimHTMLWidth (length)   | 426                  |
| \verbatiminput                | 8136                 |
| verse (environment)           | 2, 8068              |
| verse (package)               | 171, 1214, 1215      |
| versionotes (package)         | 1216                 |
| vertbars (package)            | 1216                 |
| \vleftmargini (length)        | 171, 425, 1214       |
| \vleftskip (length)           | 171, 425, 1214, 1215 |
| vmargin (package)             | 1217                 |
| vowel (package)               | 1217                 |
| vpe (package)                 | 1218                 |
| \vrule                        | 123                  |
| \vspace                       | 122                  |
| vwcol (package)               | 1218                 |
| <b>W</b>                      |                      |
| wallpaper (package)           | 1220                 |
| warpall (environment)         | 118, 1172            |
| warpHTML (environment)        | 114, 117, 1173       |
| warpHTML (option)             | 108, 227             |
| \warpHTMLonly                 | 115, 118, 1130       |

|                                           |                |                                  |               |  |
|-------------------------------------------|----------------|----------------------------------|---------------|--|
| warpingHTML (boolean) . . . . .           | 227            | xfakebold (package) . . . . .    | 1236          |  |
| warpingprint (boolean) . . . . .          | 227            | xfrac (package) . . . . .        | 1237          |  |
| warpMathJax (environment) . . . . .       | 118, 1179      | \xfracHTMLfontsize . . . . .     | 2             |  |
| warpprint (environment) . . . . .         | 114, 118, 1176 | xifthen (package) . . . . .      | 240           |  |
| warpprint (option) . . . . .              | 108, 227       | xindex (option) . . . . .        | 106, 230      |  |
| \warpprintonly . . . . .                  | 114, 118, 1129 | xindex (program) . . . . .       | 137, 148      |  |
| watermark (package) . . . . .             | 1220           | xindexConfig (option) . . . . .  | 106, 148, 229 |  |
| widetable (package) . . . . .             | 1221           | xindy (option) . . . . .         | 106, 230      |  |
| widows-and-orphans (package) . . . . .    | 1221           | xindy (program) . . . . .        | 137, 147      |  |
| Windows (program) . . . . .               | 117, 224       | xindyCodepage (option) . . . . . | 106, 228      |  |
| witharrows (package) . . . . .            | 1221           | xindyLanguage (option) . . . . . | 106, 228      |  |
| Word (program) . . . . .                  | 74             | xindyStyle (option) . . . . .    | 106, 148, 228 |  |
| WPMarkFloats (boolean) . . . . .          | 182, 256       | xltabular (package) . . . . .    | 1239          |  |
| WPMarkLOFT (boolean) . . . . .            | 183, 256       | xltextra (package) . . . . .     | 1240          |  |
| WPMarkMath (boolean) . . . . .            | 183, 257       | xmpincl (package) . . . . .      | 1240          |  |
| WPMarkMinipages (boolean) . . . . .       | 183, 256       | xparse (package) . . . . .       | 238           |  |
| WPMarkTOC (boolean) . . . . .             | 183, 256       | xpatch (package) . . . . .       | 202           |  |
| WPTitleHeading (boolean) . . . . .        | 184, 257       | xpiano (package) . . . . .       | 1241          |  |
| wrapfig (package) . . . . .               | 1223           | xpinyin (package) . . . . .      | 1241          |  |
| <b>X</b>                                  |                |                                  |               |  |
| xbmks (package) . . . . .                 | 1224           | xr (package) . . . . .           | 1243          |  |
| xcolor (package) . . . . .                | 159, 586, 1224 | xr-hyper (package) . . . . .     | 1243          |  |
| xexchangebar (package) . . . . .          | 1235           | xstring (package) . . . . .      | 240           |  |
| \XeTeX . . . . .                          | 13404          | xtab (package) . . . . .         | 166, 1243     |  |
| XeLaTeX (program) [requirement] . . . . . | 77             | xunicode (package) . . . . .     | 1245          |  |
| xellipsis (package) . . . . .             | 1235           | xurl (package) . . . . .         | 1246          |  |
| \XeTeX . . . . .                          | 13404          | xy (package) . . . . .           | 1246          |  |
| <b>Z</b>                                  |                |                                  |               |  |
| xetexko (package) . . . . .               | 1236           | zhlineskip (package) . . . . .   | 1247          |  |
| xevlna (package) . . . . .                | 1236           | zwpagelayout (package) . . . . . | 1248          |  |

# General Index

This is an index of instructions and concepts. Look here when wondering how to do something, and check the Troubleshooting Index when something goes wrong.

|                                     |          |
|-------------------------------------|----------|
| <b>Symbols</b>                      |          |
| \@ifnextchar with MATHJAX . . . . . | 153      |
| \@ifstar with MATHJAX . . . . .     | 153      |
| \, . . . . .                        | 122      |
| \~ . . . . .                        | 122      |
| A                                   |          |
| accents                             |          |
| in section & file names . . . . .   | 394      |
| accessibility . . . . .             | 99       |
| adapting                            |          |
| class . . . . .                     | 189      |
| document . . . . .                  | 98       |
| package . . . . .                   | 188      |
| affiliation                         |          |
| multiple authors . . . . .          | 132      |
| algorithmicx                        |          |
| with newfloat, trivfloat . . . . .  | 1200     |
| alt text . . . . .                  | 99       |
| ARIA . . . . .                      | 99       |
| array                               |          |
| mhchem . . . . .                    | 961      |
| audio . . . . .                     | 161      |
| author                              |          |
| HTML meta tag . . . . .             | 120, 369 |
| multiple . . . . .                  | 132      |
| B                                   |          |
| baseline                            |          |
| tabular . . . . .                   | 459      |
| bibliography                        |          |
| HTML page and toc . . . . .         | 133      |
| bitmapped fonts . . . . .           | 101      |
| bugs . . . . .                      | 191      |
| C                                   |          |
| Calibre . . . . .                   | 179      |
| chemistry                           |          |
| Greek symbols . . . . .             | 718      |
| class                               |          |
| modifying for l warp . . . . .      | 189      |
| code listings . . . . .             | 122      |
| compiling                           |          |
| custom . . . . .                    | 175      |
| Computer Modern . . . . .           | 101      |
| converting                          |          |
| class . . . . .                     | 189      |
| D                                   |          |
| document                            |          |
| package . . . . .                   | 188      |
| CSS                                 |          |
| class . . . . .                     | 117      |
| file selection . . . . .            | 116      |
| l warp.css . . . . .                | 116      |
| per HTML page . . . . .             | 116      |
| project-specific changes . . . . .  | 116      |
| span . . . . .                      | 117      |
| ctable . . . . .                    | 167      |
| E                                   |          |
| danger icon . . . . .               | 201      |
| debugging . . . . .                 | 191      |
| HTML debug comments . . . . .       | 249      |
| tracing log . . . . .               | 249      |
| Deja Vu . . . . .                   | 101      |
| description                         |          |
| HTML meta tag . . . . .             | 120, 369 |
| display math                        |          |
| complicated objects . . . . .       | 155      |
| document                            |          |
| convert existing . . . . .          | 98       |
| documentation                       |          |
| compile . . . . .                   | 187      |
| DVI LATEX . . . . .                 | 93, 101  |
| dynamic math . . . . .              | 154, 155 |
| dynamic math expressions . . . . .  | 340      |
| F                                   |          |
| endnotes                            |          |
| HTML page and toc . . . . .         | 133      |
| EPS image                           |          |
| converting . . . . .                | 95       |
| using . . . . .                     | 157, 585 |
| EPUB                                |          |
| conversion software . . . . .       | 179      |
| HTML conversion settings . . . . .  | 179, 255 |
| equation numbering                  |          |
| MATHJAX . . . . .                   | 152      |
| error messages . . . . .            | 191      |
| export                              |          |
| to word processor . . . . .         | 181      |
| FAQ . . . . .                       |          |

|                                  |               |
|----------------------------------|---------------|
| filename                         |               |
| accent in                        | 394           |
| hashed                           | 553, 574      |
| international languages          | 171           |
| length                           | 111           |
| simplify                         | 129           |
| underscore in                    | 104, 124      |
| unique                           | 111           |
| font                             |               |
| Computer Modern                  | 101           |
| Deja Vu                          | 101           |
| ligatures                        | 102           |
| packages                         | 102           |
| selection                        | 101           |
| size                             |               |
| <code>lateximage</code>          | 151, 570      |
| <code>math, SVG</code>           | 151, 570      |
| <code>xfrac</code>               | 1237          |
| type 1 vector                    | 101           |
| type 3 bitmapped                 | 101           |
| footnotes                        | 370           |
| <code>MATHJAX</code>             | 131           |
| numbering                        | 131           |
| foreign                          |               |
| section names                    | 171           |
| framed objects                   | 125           |
| Frequently Asked Questions       | 191           |
| <b>G</b>                         |               |
| generator                        |               |
| HTML meta tag                    | 407           |
| GIF images                       | 158, 585      |
| <code>gindex</code>              | 138           |
| <code>gloss</code>               | 135           |
| glossaries                       |               |
| HTML page and toc                | 133           |
| language                         | 135           |
| options                          | 135           |
| processing                       | 94            |
| graphics                         |               |
| file formats                     | 157, 585      |
| Greek                            |               |
| chemistry symbols                | 718           |
| <b>H</b>                         |               |
| hash                             |               |
| SVG image filename               | 553, 574      |
| heading, word processor          | 184           |
| horizontal and vertical space    | 122           |
| horizontal rule                  | 123           |
| horizontal space                 |               |
| between minipages                | 614           |
| \hrule                           | 123           |
| HTML                             |               |
| <code>alt text</code>            | 99            |
| <code>class</code>               | 117           |
| conversion settings              | 109           |
| debug comments                   | 249           |
| EPUB                             | 179, 255      |
| word processor                   | 181, 256      |
| conversion suggestions           | 121           |
| <div>                            | 117           |
| entities, conversion             | 122           |
| filename generation              | 115           |
| headings                         | 200           |
| meta tag                         |               |
| author                           | 120, 369      |
| description                      | 120, 369      |
| generator                        | 407           |
| title                            | 112, 120, 369 |
| viewport                         | 407           |
| selecting print/HTML definitions | 250           |
| <span>                           | 117           |
| style                            | 117           |
| tabular column conversion        | 459           |
| verbatim, in                     | 122           |
| <b>hyperref</b>                  |               |
| and <i>xindy</i>                 | 136           |
| title text                       | 99            |
| <b>I</b>                         |               |
| icon                             |               |
| warning                          | 201           |
| \@ifnextchar with MATHJAX        | 153           |
| \@ifnextstar with MATHJAX        | 153           |
| image                            |               |
| <code>alt text</code>            | 99            |
| file formats                     | 157, 585      |
| GIF                              | 158, 585      |
| graphicx package                 | 584           |
| hashed filename                  | 553, 574      |
| PDF or EPS                       |               |
| converting                       | 95, 158, 585  |
| using                            | 157, 585      |
| PNG and JPG                      | 158, 585      |
| processing                       | 316           |
| \includegraphics                 |               |
| using                            | 157, 585      |
| index                            |               |
| custom display styles            | 149           |
| formatting                       | 535           |
| <code>gindex</code>              |               |
| setup                            | 138           |
| HTML page and toc                | 133           |
| <code>imakeidx</code>            |               |
| setup                            | 140           |
| <code>index</code>               |               |
| setup                            | 138           |
| letter headings                  | 870           |
| <code>makeindex</code>           |               |
| custom style file                | 147           |
| setup                            | 137           |

|                                  |               |
|----------------------------------|---------------|
| memoir                           |               |
| setup                            | 144           |
| placement                        | 149           |
| placement and toc options        | 149, 1186     |
| processing                       | 87, 88, 136   |
| see, seealso, ranges             | 136           |
| source code                      | 136           |
| <i>splitidx</i>                  |               |
| setup                            | 139           |
| table of contents                | 149, 1186     |
| tocbibind                        | 149           |
| UTF-8                            | 103           |
| xindex                           |               |
| custom configuration file        | 148           |
| setup                            | 137           |
| xindy                            |               |
| custom style file                | 147           |
| and hyperref                     | 136           |
| setup                            | 137           |
| inline math                      |               |
| complicated objects              | 154           |
| international                    |               |
| section names                    | 171           |
| item                             |               |
| empty                            | 431           |
| J                                |               |
| JAVASCRIPT                       |               |
| MATHJAX                          | 150           |
| JPG images                       | 158, 585      |
| L                                |               |
| language                         |               |
| glossaries                       | 135           |
| localization                     | 99            |
| language HTML metadata           | 405           |
| latextimage                      |               |
| font size                        | 151, 570      |
| processing                       | 316           |
| Latin Modern font                | 101           |
| LIBREOFFICE                      |               |
| conversion recommendations       | 184           |
| import into                      | 181           |
| section headings                 | 184           |
| ligatures                        | 102, 236      |
| line numbers                     | 201           |
| link                             |               |
| home/previous/next page          | 113           |
| title text                       | 99            |
| list                             |               |
| empty item                       | 431           |
| filename                         | 124           |
| listings, program code           | 122           |
| locale                           | 178           |
| localization                     | 99            |
| Lua <sup>LaTeX</sup>             |               |
| detection                        | 202           |
| file & section names             | 394           |
| l warp                           |               |
| compiling documentation          | 187           |
| loading                          | 104           |
| options                          | 104           |
| <i>l warp.ist</i>                |               |
| customizing                      | 147           |
| <i>l warp.xdy</i>                |               |
| customizing                      | 147           |
| <i>l warpmk</i>                  |               |
| customizing                      | 189           |
| M                                |               |
| make utility                     | 178           |
| makeindex                        |               |
| customizing                      | 147           |
| margin                           |               |
| numbers                          | 201           |
| tags                             | 201           |
| markup languages                 | 74            |
| math                             |               |
| alt text                         | 99            |
| display with complicated objects | 155           |
| dynamic                          | 154, 155, 340 |
| MATHJAX                          | 152           |
| font size – SVG                  | 151, 570      |
| inline with complicated objects  | 154           |
| MATHJAX custom functions         | 152           |
| MATHJAX summary                  | 152           |
| mathjax option                   | 228           |
| mathsvg option                   | 227           |
| mhchem                           | 961           |
| SVG summary                      | 151           |
| word processor conversion        | 183           |
| MATHJAX                          |               |
| \@ifnextchar macros              | 153           |
| \@ifstar macros                  | 153           |
| accessibility                    | 99            |
| custom functions                 | 152           |
| custom script                    | 312           |
| equation numbering               | 152           |
| mathjax option                   | 228           |
| starred macros                   | 153           |
| summary                          | 152           |
| \mcolrowcell                     | 164           |
| MD5 hash                         |               |
| SVG image filename               | 553, 574      |
| memoir                           |               |
| framewithtitle, titledframe      | 170           |
| meta tag, HTML                   |               |
| author                           | 120, 369      |
| description                      | 120, 369      |
| generator                        | 407           |
| title                            | 120, 369      |

|                                  |          |                                     |          |
|----------------------------------|----------|-------------------------------------|----------|
| viewport                         | 407      | file names                          | 129      |
| minipage                         |          | heading, word processor             | 184      |
| framed                           | 125      | international languages             | 171      |
| horizontal space between         | 614      | settings                            |          |
| modifying                        |          | accessibility                       | 99       |
| class                            | 189      | CSS project-specific                | 116      |
| document                         | 98       | CSS selection                       | 116      |
| package                          | 188      | filenames                           | 109      |
| \mrowcell                        | 164      | HTML conversion                     | 109      |
| \multicolumn                     |          | language                            | 99       |
| with \multirow                   | 164      | \l warp package options             | 104      |
| multimedia                       | 161      | selecting print/HTML output         | 117      |
| multiple projects in a directory | 95       | title page                          | 119      |
| \multirow                        |          | shell escape                        | 101      |
| with \multicolumn                | 164      | sideroc                             |          |
| multirow                         |          | name                                | 99       |
| \mrowcell and \mcolrowcell       | 164      | sideroc                             |          |
|                                  |          | depth                               | 109      |
| N                                |          | siunitx                             |          |
| navigation                       |          | with <i>TeXMaths</i>                | 183      |
| link to home/previous/next page  | 113      | space                               |          |
| newfloat                         |          | horizontal                          |          |
| with trivfloat, algorithmicx     | 1200     | between minipages                   | 614      |
| nomenc                           | 136      | horizontal and vertical             | 122      |
| numbers                          |          | stack depths                        | 200      |
| left margin                      | 201      | starred macros                      | 153      |
| P                                |          | \StartDefiningTabulars              | 163, 439 |
| package                          |          | \subtitle                           | 422      |
| modifying for \l warp            | 188      | SVG                                 |          |
| required                         | 235      | converting from PDF or EPS          | 95       |
| \par                             |          | dynamic math                        | 340      |
| hooks                            | 365      | image processing                    | 316      |
| PDF image                        |          | math summary                        | 151      |
| converting                       | 95       | mathsvg option                      | 227      |
| using                            | 157, 585 | T                                   |          |
| PERL                             | 82       | tabular                             |          |
| PNG images                       | 158, 585 | baseline                            | 459      |
| POPPLE                           | 77, 82   | HTML columnn conversion             | 459      |
| print                            |          | in environments, catcode of &       | 163, 439 |
| selecting print/HTML definitions | 250      | macros inside                       | 163, 439 |
| problems                         | 191      | \multicolumn with \multirow         | 164      |
| program listings                 | 122      | multirow \mrowcell and \mcolrowcell |          |
| programs                         |          | .....                               | 164      |
| utility                          | 76       | \StartDefiningTabulars              | 163, 439 |
| projects                         | 95       | tikz                                |          |
| \published                       | 422      | catcodes                            | 1172     |
| R                                |          | dollar redefined                    | 1172     |
| roles                            |          | title                               |          |
| ARIO                             | 99       | HTML meta tag                       | 120, 369 |
| rule                             |          | titlepage                           |          |
| horizontal                       | 123      | \subtitle and \published            | 422      |
| S                                |          | tracing log                         | 249      |
| section                          |          | trivfloat                           |          |
| depths                           | 200      | with newfloat, algorithmicx         | 1200     |
|                                  |          | troubleshooting                     | 191      |

|                              |          |                                  |          |
|------------------------------|----------|----------------------------------|----------|
| HTML debug comments .....    | 249      | vertical space .....             | 122      |
| tracing log .....            | 249      | video .....                      | 161      |
| type 1 vector fonts .....    | 101      | viewport                         |          |
| type 3 bitmapped fonts ..... | 101      | HTML meta tag .....              | 407      |
| <b>U</b>                     |          |                                  |          |
| underscore                   |          |                                  |          |
| filename .....               | 104, 124 | warning icon .....               | 201      |
| Unicode                      |          | word processor                   |          |
| enhanced coverage .....      | 101      | conversion recommendations ..... | 184      |
| file & section names .....   | 394      | HTML conversion settings .....   | 181, 256 |
| input characters .....       | 218      | section headings .....           | 184      |
| selection .....              | 101      | <b>W</b>                         |          |
| UTF-8                        |          |                                  |          |
| enhanced coverage .....      | 101      | xcite .....                      | 95       |
| file & section names .....   | 394      | Xe <sup>L</sup> T <sub>E</sub> X |          |
| index .....                  | 103      | detection .....                  | 202      |
| locale .....                 | 178      | file & section names .....       | 394      |
| selection .....              | 101      | <i>xindex</i> .....              | 137      |
| utility                      |          | customizing .....                | 148      |
| programs .....               | 76       | <i>xindy</i> .....               | 137      |
| <b>V</b>                     |          |                                  |          |
| vector fonts .....           | 101      | and hyperref .....               | 136      |
| verbatim                     |          | customizing .....                | 147      |
| code and HTML tags .....     | 122      | xr .....                         | 95       |
| <b>X</b>                     |          |                                  |          |
|                              |          | xr-hyper .....                   | 95       |

# Troubleshooting Index

This index is a sorted reference of problems and solutions. In order to make it easier to locate a solution, the same issue may be addressed by more than one entry.

Entries with higher page numbers are often duplicates of entries with lower page numbers, as the same warning may occur within the user manual and again within the source code for a given package.

| A                                  |                     |
|------------------------------------|---------------------|
| abstract                           |                     |
| missing TOC                        | 133, 634            |
| accents                            |                     |
| file names                         | 394                 |
| acro                               | 173                 |
| acronym                            |                     |
| multiply-defined labels            | 641                 |
| \AddSubtitlePublished              | 422                 |
| affiliation                        | 416                 |
| alt tags                           | 155, 195            |
| amscdx                             | 649                 |
| AMSSmath                           |                     |
| ntheorem                           |                     |
| numbering                          | 155, 1008           |
| appendix                           |                     |
| incorrect toc link                 | 134, 660            |
| array                              |                     |
| chemformula                        | 173                 |
| MATHJAX                            | 153                 |
| arydshln                           | 663                 |
| audio                              | 161                 |
| authblk                            |                     |
| \theauthor                         | 415, 416            |
| titling                            | 133, 415, 669, 1181 |
| author                             |                     |
| affiliation                        | 416                 |
| formatting                         | 119                 |
| autonum                            | 671                 |
| B                                  |                     |
| babel                              |                     |
| French                             | 172                 |
| backref                            | 675                 |
| backref                            | 131                 |
| bibliography                       |                     |
| HTML page and toc                  | 133                 |
| bibtex                             |                     |
| \etalchar                          | 134                 |
| Improper \prevdepth                | 134                 |
| bigdelim                           | 167, 685            |
| bigfoot                            | 132, 927            |
| booktabs                           | 689                 |
| C                                  |                     |
| Calibre                            |                     |
| EPUB conversion                    | 179                 |
| caption                            |                     |
| numbering                          | 168                 |
| options                            | 121                 |
| changes                            | 705                 |
| chemfig                            | 173                 |
| chemformula                        |                     |
| MATHJAX                            | 173, 713            |
| chemgreek                          |                     |
| fontspec mapping                   | 718                 |
| text-mode symbols                  | 718                 |
| chemmacros                         |                     |
| \makopolymerdelims                 | 719                 |
| redox reactions                    | 719                 |
| Chinese                            |                     |
| font                               | 122                 |
| CJK                                |                     |
| font                               | 122                 |
| cleveref                           |                     |
| cref reference format undefined    | 155                 |
| cmbright                           | 743                 |
| colortbl                           | 166, 745            |
| Command \textquoteright invalid in |                     |
| math mode                          | 195                 |
| comment                            | 170, 1252           |
| compiling                          |                     |
| slow MATHJAX                       | 152                 |
| cref reference format undefined    | 155                 |
| cross reference                    |                     |
| incorrect link                     | 196                 |
| MATHJAX                            | 154                 |
| missing                            | 195                 |
| CSS                                | 197                 |
| ctable                             | 167                 |
| D                                  |                     |
| ditaa                              | 178                 |

|                                               |               |
|-----------------------------------------------|---------------|
| documentation                                 |               |
| index cross-references                        | 187           |
| dotless j                                     | 102           |
| dotlessj                                      | 193           |
| duplicate filename                            | 129           |
|                                               |               |
| <b>E</b>                                      |               |
| \endhead, etc.                                | 165           |
| endnotes                                      |               |
| HTML page and toc                             | 133           |
| numbering                                     | 134           |
| \ensuremath                                   | 194           |
| epstopdf                                      | 159, 776      |
| EPUB                                          |               |
| encoding                                      | 179           |
| page order                                    | 179           |
| search order                                  | 179           |
| section breaks                                | 180           |
| equation numbering                            |               |
| MATHJAX                                       | 152           |
| error messages                                | 191           |
| \etalchar                                     | 134           |
|                                               |               |
| <b>F</b>                                      |               |
| fancybox                                      |               |
| \VerbatimFootnotes                            | 132, 786, 792 |
| fancyvrb                                      |               |
| \VerbatimFootnotes                            | 132, 786, 792 |
| figure                                        |               |
| macro in name                                 | 194           |
| file                                          |               |
| inaccessible                                  | 111           |
| multiple projects in directory                | 95            |
| File ended while scanning use of \next        | 193           |
| filename                                      |               |
| accents                                       | 394           |
| corrupted                                     | 129, 171      |
| duplicate                                     | 129           |
| international, UTF-8                          | 171           |
| Korean                                        | 174           |
| macro in name                                 | 129           |
| math in                                       | 98, 129, 150  |
| Missing \$ inserted                           | 194           |
| fixme                                         | 173, 803      |
| float                                         |               |
| alignment                                     | 123, 167      |
| numbering                                     | 168           |
| out of sequence                               | 196           |
| floatrow                                      |               |
| \FBwidth and \FBheight                        | 169, 809      |
| with subfig                                   | 168, 809      |
| floatrow                                      |               |
| \ttabbox                                      | 162, 438      |
| font                                          |               |
| CJK                                           | 122           |
| JETBRAIN MONO                                 | 102           |
| ligatures                                     | 102           |
| missing symbols                               | 123, 1158     |
| monospace                                     | 102           |
| package conflicts                             | 101           |
| selection                                     | 101           |
| small caps                                    | 122           |
| UTF-8                                         | 101           |
| fontspec                                      |               |
| with monospaced fonts                         | 102           |
| with Xe $\text{\LaTeX}$ , Lua $\text{\LaTeX}$ | 101           |
| footmisc                                      | 131, 370      |
| footnote                                      |               |
| displaymath                                   | 132, 786, 792 |
| in math                                       | 132           |
| in sectioning command                         | 131           |
| MATHJAX                                       | 131           |
| memoir                                        | 131, 370      |
| numbering                                     | 131           |
| paragraph tags                                | 132, 786, 792 |
| sectioning, footmisc                          | 131, 370      |
| sectioning, verbatim                          | 132, 786, 792 |
| title                                         | 415           |
| verbatim                                      | 132           |
| \VerbatimFootnotes                            | 132, 786, 792 |
| forest                                        | 822           |
| formatting                                    |               |
| \bfseries etc.                                | 122, 602      |
| fourier                                       | 823           |
| frames                                        | 125           |
| framewithtitle                                | 170           |
|                                               |               |
| <b>G</b>                                      |               |
| gloss                                         | 135           |
| glossaries                                    |               |
| HTML page and toc                             | 133           |
| makeglossaries not found                      | 135, 835      |
| page numbers                                  | 135, 836      |
| style                                         | 135, 836      |
| graphics                                      |               |
| \rotatebox, \scalebox, \reflectbox            |               |
|                                               | 158, 586      |
| image format priorities                       | 158, 585      |
| images out of order                           | 89, 196       |
| multimedia                                    | 161           |
| optional arguments                            | 158, 585      |
| scale option                                  | 98, 157, 584  |
| scaled                                        | 838           |
| viewport                                      | 158, 585      |
| Greek packages                                | 718           |
| grffile                                       | 159, 850      |
|                                               |               |
| <b>H</b>                                      |               |
| \hrule                                        | 123           |
| HTML                                          |               |
| &, <, >                                       | 122, 602      |
| alt tags                                      | 155           |

|                                             |                         |                                               |                          |          |
|---------------------------------------------|-------------------------|-----------------------------------------------|--------------------------|----------|
| author . . . . .                            | 369                     | J                                             | \j . . . . .             | 102      |
| corrupted . . . . .                         | 102, 119, 124, 193, 197 | Japanese                                      | font . . . . .           | 122      |
| entities . . . . .                          | 122, 602                | JETBRAIN MONO . . . . .                       | 102                      |          |
| image appear as HTML code . . . . .         | 89, 196                 | K                                             |                          |          |
| inaccessible pages . . . . .                | 111, 113                | keyfloat . . . . .                            | 169, 883                 |          |
| starred section . . . . .                   | 133                     | Korean                                        | font . . . . .           | 122      |
| invalid . . . . .                           | 122                     | kpfonts . . . . .                             | 889                      |          |
| missing pages                               |                         | kpfonts-otf . . . . .                         | 891                      |          |
| filename not unique . . . . .               | 111                     | L                                             |                          |          |
| recompile . . . . .                         | 197                     | label                                         | \nameref empty . . . . . | 130, 195 |
| SideTOCDepth and FileDepth . . . . .        | 111                     | characters . . . . .                          | 130, 195                 |          |
| SideTOCDepth and tocdepth . . . . .         | 111                     | Label(s) may have changed . . . . .           | 194                      |          |
| page did not update . . . . .               | 111, 197                | LaTeX was unable to guess the total . . . . . | 194                      |          |
| settings                                    |                         | \LateximageFontSizeName . . . . .             | 571                      |          |
| changed . . . . .                           | 109                     | Leaders not followed by proper glue . . . . . | 194                      |          |
| undefined . . . . .                         | 193                     | LibreOffice                                   |                          |          |
| validation . . . . .                        | 122                     | import . . . . .                              | 181                      |          |
| \HTMLAuthor . . . . .                       | 369                     | ligatures . . . . .                           | 102                      |          |
| HTMLIndexCmd                                |                         | link                                          |                          |          |
| filenames . . . . .                         | 107                     | empty . . . . .                               | 130, 195                 |          |
| hyperref                                    |                         | Linux . . . . .                               | 117, 224                 |          |
| backref . . . . .                           | 131                     | list                                          |                          |          |
| comments between arguments . . . . .        | 130                     | empty item . . . . .                          | 123, 431                 |          |
| incorrect link . . . . .                    | 196                     | listings . . . . .                            | 196                      |          |
| Token not allowed in a PDF string . . . . . | 195                     | lists                                         |                          |          |
| I                                           |                         | label formatting . . . . .                    | 431                      |          |
| image                                       |                         | locale . . . . .                              | 178                      |          |
| appears as HTML code . . . . .              | 89, 196                 | longtable                                     |                          |          |
| format priorities . . . . .                 | 158, 585                | \endhead, etc. . . . .                        | 165                      |          |
| incorrect . . . . .                         | 89, 196                 | lrbox . . . . .                               | 124                      |          |
| SVG math size and baseline . . . . .        | 151                     | ltxtable                                      |                          |          |
| viewport . . . . .                          | 158, 585                | numbering . . . . .                           | 919                      |          |
| Improper \prevdepth                         |                         | luatATEX . . . . .                            | 101                      |          |
| bibtex . . . . .                            | 134                     | \LWRbackslash . . . . .                       | 175                      |          |
| boxes . . . . .                             | 194                     | \LWRdollar . . . . .                          | 175                      |          |
| \includegraphics                            |                         | \LWRhash . . . . .                            | 175                      |          |
| optional arguments . . . . .                | 158, 585                | \LWRopquote . . . . .                         | 175                      |          |
| scale . . . . .                             | 98, 157, 584            | \LWRopseq . . . . .                           | 175                      |          |
| index                                       |                         | \LWRpercent . . . . .                         | 175                      |          |
| ?? and non-functional link . . . . .        | 108                     | M                                             |                          |          |
| documentation references . . . . .          | 187                     | MAC OS . . . . .                              | 117, 224                 |          |
| empty . . . . .                             | 149                     | makeglossaries                                |                          |          |
| empty link . . . . .                        | 130, 195                | not found . . . . .                           | 135, 835                 |          |
| formatting . . . . .                        | 108, 535                | \makelabel . . . . .                          | 431                      |          |
| HTML page and toc . . . . .                 | 133                     | manyfoot . . . . .                            | 132, 927                 |          |
| missing entries . . . . .                   | 136                     | \marginpar . . . . .                          | 124, 376                 |          |
| numbers, not links . . . . .                | 240                     | math                                          |                          |          |
| reference ranges . . . . .                  | 149                     | \@ifnextchar macros and MATHJAX . . . . .     | 153                      |          |
| see andseealso . . . . .                    | 149                     | \@ifstar macros and MATHJAX . . . . .         | 153                      |          |
| styling references . . . . .                | 149                     |                                               |                          |          |
| xindy                                       |                         |                                               |                          |          |
| and hyperref . . . . .                      | 149                     |                                               |                          |          |
| xstring bug . . . . .                       | 240                     |                                               |                          |          |
| isomath . . . . .                           | 877                     |                                               |                          |          |

|                                                 |                |                                     |                 |
|-------------------------------------------------|----------------|-------------------------------------|-----------------|
| alt tags                                        | 195            | captions                            | 169, 1251       |
| appears as HTML code                            | 89, 196        | comment                             | 170, 1252       |
| baseline incorrect                              | 151            | footmisc                            | 131, 370        |
| chemformula                                     | 173            | options clash                       | 169, 1251       |
| Command \textquoteright invalid in<br>math mode | 195            | page notes                          | 170, 1252       |
| custom macros                                   | 194            | verse                               |                 |
| dynamic                                         | 340            | margin                              | 172, 425, 1215  |
| equation numbering                              |                | version clash                       | 170, 1251       |
| MATHJAX                                         | 152            | mhchem                              |                 |
| ntheorem                                        | 155, 1008      | MATHJAX                             | 961             |
| file name                                       | 98, 129, 150   | nested dollar signs                 | 961             |
| footnote                                        | 132            | minipage                            |                 |
| MATHJAX                                         | 131            | alignment                           | 125, 592        |
| in TeX boxes                                    | 152            | horizontal space between            | 614             |
| incorrect                                       | 89, 196, 340   | in a span                           | 125, 591        |
| non-math contents                               | 195            | inline                              | 124, 591        |
| section name                                    | 98, 129, 150   | multicols, width in                 | 125, 592        |
| size incorrect                                  | 151            | size                                | 125, 591        |
| slow or failed compile                          | 195            | tabular, width in                   | 125, 592        |
| MATHJAX                                         | 153            | minted                              | 966             |
| tabbing                                         | 162, 429       | Misplaced \noalign                  | 165, 914        |
| Tikz                                            | 155            | tabular                             |                 |
| mathalpha                                       | 931            | rules                               | 164, 440        |
| mathdesign                                      | 933            | Misplaced \omit                     |                 |
| MATHJAX                                         |                | tabular                             | 253             |
| \@ifnextchar macros                             | 153            | Misplaced alignment tab character & |                 |
| \@ifstar macros                                 | 153            | ctable                              | 167, 748        |
| arydshln                                        | 663            | floatrow                            | 168, 809        |
| booktabs                                        | 689            | frames                              | 126             |
| chemformula                                     | 173, 713       | supertabular                        | 166, 1142, 1243 |
| custom script                                   | 312            | tabular                             |                 |
| equation numbering                              | 152            | macros                              | 162, 339, 438   |
| errors                                          | 155, 195, 340  | Missing \$ inserted                 |                 |
| footnotes                                       | 131            | filename or URL                     | 194             |
| mathtools                                       | 156, 939       | Missing \begin{document}            |                 |
| mhchem                                          | 961            | package options                     | 121             |
| \multicolumn                                    | 153            | morewrites                          | 149, 194        |
| \multirow                                       | 153, 165, 978  | movie15                             | 161             |
| physics                                         | 157            | \mrowcell                           | 164             |
| references                                      | 154            | MS-WINDOWS                          | 117, 224        |
| siunitx                                         | 156, 583, 1094 | multicol                            |                 |
| slow compilation                                | 152            | \linewidth                          | 125, 592        |
| starred macros                                  | 153            | \multicolumn                        |                 |
| unicode-math                                    | 1206           | MATHJAX                             | 153             |
| unsupported packages                            | 154, 195       | multimedia                          | 161             |
| mathpazo                                        | 936            | multiple projects in a directory    | 95              |
| mathptmx                                        | 936            | multiply-defined labels             |                 |
| mathspec                                        | 937            | acronym                             | 641             |
| mathtools                                       | 156, 939       | \multirow and \multicolumn          | 165, 978        |
| maybemath                                       | 947            | multirow                            |                 |
| \mcolrowcell                                    | 164            | MATHJAX                             | 153, 165, 978   |
| media9                                          | 161            | \mrowcell and \mcolrowcell          | 164             |
| memoir                                          |                | N                                   |                 |
| framewithtitle, titledframe                     | 170            | newclude                            | 172             |
|                                                 |                | newpxmath                           | 991             |

|                                 |           |                                 |                |
|---------------------------------|-----------|---------------------------------|----------------|
| newtxmath                       | 991       | missing or incorrect            | 195            |
| newtxsf                         | 992       | page number                     | 130, 195, 740  |
| nicefrac                        | 157       | undefined                       |                |
| nicematrix                      | 1001      | tcolorbox                       | 129            |
| No room for a new \write        | 194       | repeatindex                     | 1058           |
| nomenc                          | 136       | rlepsf                          | 1060           |
| ntheorem                        | 1008      | rterface                        | 177            |
| cref reference format undefined | 155       | Runaway argument? File ended    | 193            |
| font                            | 155, 1008 |                                 |                |
| numbering                       | 155, 1008 |                                 |                |
|                                 |           | <b>S</b>                        |                |
|                                 |           | sample_projects.css             |                |
|                                 |           | overwritten                     | 116            |
|                                 |           | \savebox                        | 124            |
|                                 |           | \sbox                           | 124            |
|                                 |           | scale (\includegraphics option) | 98, 157, 584   |
|                                 |           | sectioning                      |                |
|                                 |           | accents                         | 394            |
|                                 |           | duplicate name                  | 129            |
|                                 |           | international language          | 171            |
|                                 |           | macro in name                   | 129, 194       |
|                                 |           | math in name                    | 98, 129, 150   |
|                                 |           | missing                         | 111            |
|                                 |           | starred section                 | 133            |
|                                 |           | word processor import           | 184            |
|                                 |           | seqsplit                        | 1076           |
|                                 |           | sidenotes                       |                |
|                                 |           | numbering                       | 131            |
|                                 |           | siunitx                         | 156, 583, 1093 |
|                                 |           | MATHJAX                         | 156, 583, 1094 |
|                                 |           | S column                        | 164, 440       |
|                                 |           | tabular S and s columns         | 156, 583, 1093 |
|                                 |           | with TeXMaths                   | 183            |
|                                 |           | small caps                      | 122            |
|                                 |           | splitidx                        |                |
|                                 |           | \thepage and \AtWriteToIndex    | 139, 1117      |
|                                 |           | statistics                      | 1126           |
|                                 |           | subcaption                      |                |
|                                 |           | numbering                       | 168            |
|                                 |           | subfig                          |                |
|                                 |           | inline                          | 168, 1135      |
|                                 |           | numbering                       | 168, 1135      |
|                                 |           | options                         | 168, 1135      |
|                                 |           | with floatrow                   | 168, 809       |
|                                 |           | subtable                        |                |
|                                 |           | numbering                       |                |
|                                 |           | subfig                          | 168, 1135      |
|                                 |           | SVG image                       |                |
|                                 |           | appears as HTML code            | 89, 196        |
|                                 |           | incorrect                       | 89, 196        |
|                                 |           | math incorrect                  | 340            |
|                                 |           | math size and baseline          | 151            |
|                                 |           | out of order                    | 89, 196        |
|                                 |           | sympytex                        | 177            |
|                                 |           | Syntax Warning (ligature)       | 816            |

| T                                       |                     |
|-----------------------------------------|---------------------|
| tabbing                                 |                     |
| math                                    | 162, 429            |
| table                                   |                     |
| macro in name                           | 194                 |
| numbering                               |                     |
| ltxtable                                | 919                 |
| subfig                                  | 168, 1135           |
| Table of Contents                       |                     |
| missing                                 | 113                 |
| tabular                                 |                     |
| baselines                               | 458                 |
| corrupt rows                            | 162, 438, 490       |
| \endhead, \endfoot, \endlastfoot        |                     |
| .....                                   | 165, 914            |
| inside an environment                   | 162, 438, 490       |
| \kill                                   | 165, 914            |
| macro inside                            | 163, 439            |
| Misplaced \noalign                      | 164, 440            |
| Misplaced alignment tab character &     |                     |
| macros                                  | 162, 438            |
| rules                                   | 339                 |
| \multicolumn with \multirow             | 164                 |
| multirow \mrowcell and \mcrowcell       |                     |
| .....                                   | 164                 |
| \newcolumntype                          | 163, 439            |
| numbering                               | 1239                |
| row corruption                          | 163, 439            |
| rules                                   | 164, 440            |
| S column                                | 164, 440            |
| tcolorbox                               | 128                 |
| Temporary page ... unable to guess      | 194                 |
| tensor                                  | 1156                |
| TeX capacity exceeded                   |                     |
| Text input levels equals 15             | 194                 |
| TeXMaths                                | 183                 |
| text                                    |                     |
| &, <, >                                 | 122, 602            |
| \bfseries etc.                          | 122, 602            |
| corrupted                               | 101                 |
| Text input levels equals 15             | 194                 |
| textcomp                                |                     |
| missing symbols                         | 123, 1158           |
| \textquoteright invalid in math mode    | 195                 |
| \theauthor and authblk                  | 415, 416            |
| theorem                                 |                     |
| cref reference format undefined         | 155                 |
| threeparttablex                         | 166                 |
| tikz                                    |                     |
| in math                                 | 155                 |
| matrices, &                             | 158, 1172           |
| title                                   |                     |
| affiliation                             | 416                 |
| newlines                                | 119                 |
| \thanks                                 | 415                 |
| titledframe                             | 170                 |
| titling                                 |                     |
| authblk                                 | 133, 415, 669, 1181 |
| hooks                                   | 422                 |
| tocloft                                 |                     |
| chapter titles                          | 133, 150, 659, 1189 |
| todonotes                               | 173, 922, 1196      |
| Token not allowed in a PDF string       | 195                 |
| tracing lwarf                           | 197                 |
| tram                                    | 1198                |
| transparent                             | 1199                |
| U                                       |                     |
| Undefined control seq ... begindocument |                     |
| polyglossia                             | 172, 628            |
| Unicode                                 |                     |
| fonts                                   | 101                 |
| UTF-8 locale                            | 178                 |
| unicode-math                            | 1206                |
| units                                   | 157                 |
| UNIX                                    | 117, 224            |
| URL                                     |                     |
| Missing \$ inserted                     | 194                 |
| \usebox                                 | 124                 |
| UTF-8                                   |                     |
| locale                                  | 178                 |
| V                                       |                     |
| varioref                                | 130                 |
| verbatim                                |                     |
| footnote                                | 132                 |
| framed                                  | 127, 785            |
| VerbatimFootnotes                       | 132, 786, 792       |
| verse                                   |                     |
| spacing                                 | 171, 425, 1215      |
| verse                                   |                     |
| margin                                  | 172, 425, 1215      |
| version numbers                         |                     |
| with memoir                             | 170, 1251           |
| video                                   | 161                 |
| viewport                                | 158, 585            |
| W                                       |                     |
| warning messages                        | 191                 |
| warpall                                 | 118, 193            |
| warpHTML                                | 118, 193            |
| warpMathJax                             | 118, 193            |
| warpprint                               | 118, 193            |
| WINDOWS                                 | 117, 224            |
| word processor                          |                     |
| import                                  | 181                 |
| sectioning headings                     | 184                 |
| X                                       |                     |
| xcite                                   | 95                  |
| xelatex                                 | 101                 |

|                        |       |      |                      |       |      |
|------------------------|-------|------|----------------------|-------|------|
| <i>xfakebold</i>       | ..... | 1236 | <i>PrintIndexCmd</i> | ..... | 106  |
| <i>xfrac</i>           | ..... | 1237 | <i>xltabular</i>     |       |      |
| <i>xindy</i>           |       |      | <i>numbering</i>     | ..... | 1239 |
| and <i>hyperref</i>    | ..... | 149  | <i>xr</i>            | ..... | 95   |
| options                |       |      | <i>xr-hyper</i>      | ..... | 95   |
| <i>HTMLIndexCmd</i>    | ..... | 107  | <i>xstring</i>       | ..... | 240  |
| <i>LatexmkIndexCmd</i> | ..... | 107  |                      |       |      |

## **Index of Indexes**

|                          |      |                                 |      |
|--------------------------|------|---------------------------------|------|
| <b>C</b>                 |      | <b>I</b>                        |      |
| Change History . . . . . | 1301 | Index of Objects . . . . .      | 1340 |
|                          |      |                                 |      |
| <b>G</b>                 |      | <b>T</b>                        |      |
| General Index . . . . .  | 1364 | Troubleshooting Index . . . . . | 1369 |