

# Lwarp

## LATEX HTML5

### The lwarp package

LATEX to HTML

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#### 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 60 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 `latexmk`. 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 TEX 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.

TEX 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 TEX. 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.**

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## 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 [1258](#).

**v0.89:** Additional MATHJAX support.

- `core`
  - Adapted to upcoming L<sup>A</sup>T<sub>E</sub>X kernel changes.
  - Allows load of `amsmath` before `l warp`.
- `l warpmk`
  - Also removes `*.bbl` when cleaning aux files.
- `MATHJAX`
  - MATHJAX: Neutralized `\protect`, `\mathcode` and related, ligatures. Fixed nested environments.
- `packages`
  - `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 `\rule`.
  - Fixed: Use `\chaptername` where appropriate.
  - Fixed: Inline links causing extraneous paragraphs.
- `l warpmk`
  - Added `l warpmk -v` to print the version number.
- `indexing`
  - 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 `.bbl` file. Previously the HTML bibliography relied on the print version's `.bbl`, thus would fail if the print document had not yet been created.
- 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`.

**MATHJAX** Removed\DeclareIfstar  
packages**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 TeX 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** acro formats

- `fontspec`: Fixed core font change macros for world languages.
- `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 <span>s. See section 7.8.
  - Added \LinkPrevious, \LinkNext page links. See section 7.6.
  - Added \FirstPageBottom. Home page no longer shares \PageBottom. See section 7.6.
- ⚠ home page footer changed
  - core
    - 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 lateximage 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 <span> containing a float, caption, section, mdframed, or other <div> object.
    - Only warn about XE~~T~~E<sup>X</sup> 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
  - memoir: Various fixes and updates.
  - physunits: Updated to v1.0.4.

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

- MATHJAX
  - Improved footnotes with MATHJAX.
  - Added MATHJAX emulation for endnotes, marginnote, nccfoots, pagenote, parnotes, sidenotes.
- packages
  - xpinyin: Added pinyin with modern HTML.
  - luatexko: Added \dotemph, \ruby, \uline, etc.
  - soul: Fixed \<.
  - chemfig: Updated to v1.5.
  - draftwatermark: Updated to v2.0.
  - ulem: Fixed: \dashuline.
  - amsmath: Fixed: \intertext 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
  - Improved warning regarding svg math sizing / baselines and graphics / graphicx. See section [8.7](#).
- MATHJAX
  - Improved MATHJAX emulation processing speed.
  - Added MATHJAX emulation for accsupp, axessibilty, colonequals, decimal, dotlessi, econometrics, engtlc, multiobjective, physunits, Slunits, stackrel, statmath.
- packages
  - axessibility: Updated to 2020/01/08 version.
  - gridset: Updated to v0.3.
  - Slunits: Fixed for math mode.
  - Added DotArrow, nolbreaks, luamplib, returntogrid, statex2, tagpdf.
  - Verified to work as-is with icomma, mathpunctspace, textualicomma.

**v0.80:** MATHJAX, biblatex.

- MATHJAX
  - Added docs and warning/info messages re: avoiding slow MATHJAX compilation. See section [8.7.5, Customizing MATHJAX](#).
  - Added MATHJAX emulation for accessibility, autobreak, centernot, extarrows, fouridx, gensymb, leftidx, mathcomp, mathdots, mathfixs, mismath, nccmath, noitcrl, pdfcomment, relsize, rmathbr, subsupscripts, xfrac.
  - Improved MATHJAX emulation for unicode-math.
- packages
  - 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, ghsystem, hhline, mismath, nccmath.

**v0.79:** MATHJAX, nested tabular.

- MATHJAX**
  - Added or improved MATHJAX emulation for amsmath, ar, arydshln, bm, bigdelim, bigstrut, booktabs, braket, mathtools, multirow, physics, siunitx, slashed, unicode-math, xfakebold.
  - Warn if using certain packages not supported by MATHJAX.
- core**
  - tabular: Now may be nested.
  - minipage, \parbox, fminipage, \makebox, \framebox: Fix: Adjust for virtual page size.
  - Uses new iftex.
- packages**
  - graphicx: Fix: Negative angles.
  - caption: Fix: \captionlistentry with longtable.
  - multirow: Fix: Centered vertical alignment.
  - siunitx: Fix: \square, \cubed.
  - booktabs: Fix: memoir with lateximage.
  - babel and polyglossia: Added troubleshooting warnings.
  - fontawesome, fontawesome5: Supports text color and size.
  - transparent: Fix: lateximages.
  - epigraph: Updated to v1.5e.
  - xurl: Updated to v0.08.
  - subcaption: Fixed with memoir.
  - floatrow: Fix: \linewidth. No longer require float, graphics.
  - floatflt, wrapfig, niceframe: Fix: Adjust for virtual page size.
  - Added widetable, witharrows, steinmetz.
  - Added awesomebox, catoptions.
  - Added svg, supports svg-extract.
  - Added parcolumns, pdfcolparcolumns,
  - Added parallel, pdfcolparallel.
  - Added pdfcol, pdfcolfoot, pdfcolmk.

**v0.78:** Fixes for support files, alt tags, hyperlinks, and the 2019/10 L<sup>A</sup>T<sub>E</sub>X release.

- docs**
  - Docs: Improved documentation regarding package options. See section 8.1.
  - Fix to overwrite existing support files using new filecontents environment.
- packages**
  - breqn: Previously broken by the 2019/10 L<sup>A</sup>T<sub>E</sub>X update, but now working again.
  - graphics: Fix for \includegraphics alt tags.
  - babel-french: Fix for hyperlinks.
  - media9, movie15, multimedia: Fix for the 2019/10 L<sup>A</sup>T<sub>E</sub>X update.
  - accessibility: Added.

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

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

**v0.76:** MATHJAX, updates for LATEX 2019/10 release.

<code>docs</code>	• Docs: Expanded documentation regarding the use of multiple projects in the same directory. See section <a href="#">5.17</a> .
<code>MATHJAX</code>	• MATHJAX: Updated to v2.7.6.
<code>packages</code>	<ul style="list-style-type: none"> <li>• <code>xr</code>: Updated to v5.05.</li> <li>• <code>xr-hyper</code>: Updated to v6.1.</li> <li>• Verified works as-is with <code>xcite</code>.</li> <li>• <code>acro</code>: Updated to v2.10.</li> </ul>
<span style="color: red;">⚠️</span> <code>broken</code>	• Currently broken in print mode by the 2019/10 LATEX update, and waiting for fixes: <code>breqn</code> , <code>grffile</code> , <code>multimedia</code> , <code>movie15</code> .

**v0.75:** `keyfloat`, `wrapfig`

- |                       |  |
|-----------------------|--|
| <code>packages</code> | <ul style="list-style-type: none"> <li>• <code>\minipage</code>: Fix for <code>\linewidth</code>.</li> <li>• <code>keyfloat</code>: Improved color control.</li> <li>• <code>wrapfig</code>: Fix for <code>\linewidth</code>.</li> </ul> |
|-----------------------|--|

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

- |                   |   |
|-------------------|---|
| <code>docs</code> | <ul style="list-style-type: none"> <li>• Added to the tutorial the section <a href="#">What next?</a>. See section <a href="#">5.19</a>.</li> <li>• Added documentation about localization options. See section <a href="#">7.1</a>.</li> <li>• Added documentation about accessibility options. See section <a href="#">7.2</a>.</li> <li>• Renamed and updated HTML alt text macros:</li> </ul> |
|-------------------|---|

⚠️ `HTML alt text changed names`

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

- |                       |   |
|-----------------------|---|
| <code>svg math</code> | <ul style="list-style-type: none"> <li>• Added <code>\ImageAltText</code> for the default HTML alt text for an image. See section <a href="#">7.6</a>.</li> <li>• Added <code>\ThisAltText</code>, which may be used to assign a one-time HTML alt tag to the very next image generated by <code>l warp</code>, such as a <code>lateximage</code>, <code>picture</code>, <code>tikzpicture</code>, 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 <a href="#">7.6</a>.</li> </ul> |
| <code>misc</code>     | <ul style="list-style-type: none"> <li>• Adjusted <code>\LateximageFontSizeScale</code> default from .75 to 1.</li> <li>• Fix: Font control for SVG math.</li> <li>• Fix: Ignores negative <code>\hspace</code>.</li> <li>• Warning if <code>SideTOCDepth &lt; FileDepth</code>.</li> </ul>   |
| <code>lwarpmk</code>  | • <code>lwarpmk</code> : <code>lwarpmk clean</code> 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 `<span>`.
  - `\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 `<span>`.
- **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 373.

- **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 `\minipagewidth`.
- **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 `\mcolrowcell` 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*, *bbding*, *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 job-name, 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 l warp.
  - [△ Possible filename changes](#)
    - Improved filename generation when special characters or macros are used in section names.
  - [WINDOWS](#)
    - Fix for `l warpmk cleanimages` with WINDOWS.
  - [floats](#)
    - Fixes for floats in the home page.
  - [lists, table notes](#)
    - Improved css for definition lists, table notes.
  - [tabular](#)
    - tabular: Fixes for `\par` in column specifier, minipage inside tabular.
  - [indexing](#)
    - Indexing: Fix for a long line of multiple entries.
  - [minipage](#)
    - `\minipagefullwidth`: Fix for global changes.
    - Added `\UseMinipageWidths` and `\IgnoreMinipageWidths`. See section [8.3.3](#).
  - [colors](#)
    - Improved `\fbox`, `\fboxBlock`, `\fminipage` to use current text color.
  - [HTML](#)
    - Improved HTML output formatting.
  - [docs](#)
    - 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](#).
  - [packages](#)
    - 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 l warp 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, lltjtext, plarydshln, plect, plectarydshln, plectcolortbl, pxatbegshi, pxeveryshi, pxftnright, pxjahyper, tascmac.
  - Verified to work with plarray, plutopatch, plectarray, plectdelarray, pxgentombow, plsiunitx, pxpdfpages, pxpgfrcs, pxpgfmark.
  - Added support for fontspec \textsi 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 CTEX 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, upzhkinsoku, zhspacing.
  - Verified to work with zxjatype, luateja, luateja-fontspec.
  - Added bxjsarticle and related classes.
  - Added ltjsarticle and related classes.
  - Added pLATEX, upLATEX, ujarticle and related classes.
  - Prevented utarticle and related classes.
  - Prevented bxcjkatype.
  - Verified to work with kotex, xetexko, luateko.

**v0.62:** MiK<sub>T</sub>E<sub>X</sub> docs, HTML title, C<sub>T</sub>E<sub>X</sub>, xeCJK, bitpattern.

- docs
  - Docs: Setting a UTF-8 locale. See section 9.8.
  - MiK<sub>T</sub>E<sub>X</sub>: Docs for *MiK<sub>T</sub>E<sub>X</sub> Console* and *miktex-poppler-bin*.
  - HTML <title>: Added \HTMLTitleBeforeSection and \HTMLTitleAfterSection to select whether the HTML <title> displays the website name before or after the section name. See section 7.6.
- MiK<sub>T</sub>E<sub>X</sub>
  - HTML <title>
- HTML <title>
  - docs
    - Docs: Setting a UTF-8 locale. See section 9.8.
    - MiK<sub>T</sub>E<sub>X</sub>: Docs for *MiK<sub>T</sub>E<sub>X</sub> Console* and *miktex-poppler-bin*.
    - 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.
  - fixes
    - Fix for package options handling.
    - Fixes for horizontal white space between fminipage, fcolorminipage, colorboxBlock, fcolorboxBlock.
    - Logos: Fix for X<sub>E</sub>T<sub>E</sub>X logo, improved css, made robust, improved search-engine optimization.
    - \\[\$1]: Additional HTML <br> if \$1 > 0 pt.
    - Fixes for \includgraphics filename, and with FormatWP.
    - Fix: css for \textup.
    - Fix: Added \slshape.
- Chinese
  - docs
    - 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 lwarp-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, twoup.

**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 34.
  - 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 **lwarpmk print** and **lwarpmk html**, allowing the use of lwarp with perltex, pythontex, etc. If not specified, these are set automatically depending on the L<sub>A</sub>T<sub>E</sub>X engine, --shell-escape, and lwarp 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 LATEX `\includegraphics` EPS images.
- Fix: `newfloat` lists.
- Fix: css footnotes text align, `minipage` `tabular` and footnote margins.

packages

- Added `epsfig`, `psfrag`, `psfrags`, `pstool`.
- Added `copyrightbox`, `pdfprivacy`, `thinspace`, `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 `lwarfpmk`, **recompile any existing project a single time using `pdflatex filename.tex`** or similar, after which `lwarfpmk` may then be used with the new configuration files.

`lwarfpmk`

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

`lwarfpmk 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.

`latexmk`

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

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.
- [packages](#)
  - 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`: 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`.
- 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](#).

[index and glossary](#)

- Fix for index entries with `\see`, `\seealso`, `\emph`, `\textbf`, etc.

[misc. fixes](#)

- Replaced each `\csuse` with `\@nameuse` for improved error detection.

- Additional internal print/HTML macro selection improvements.

- Fix: `\printindex` finishes pending `\index` writes first.

[packages](#)

- 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.
- math macros
- dynamic math
- ⚠ new name**
- latexitimage alt tags
  - Improved localization for latexitimage 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.
- packages

**v0.56:** Shell escape, tabular packages.

- lwarfmk
  - Added  
`lwarfmk pdftosvg <list-of-PDF-files>`  
 to quickly convert a document's PDF images to SVG, for use with HTML. See section 8.8.
- tabular
  - Added support for --shell-escape. See section 7.3.
  - 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 latexitimage 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 `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**
- `lwarpmk limages` checks for the presence of the HTML version of the document and valid image references before attempting to create the `lateximages`.
- `lwarpmk`: Improved error message if configuration file does not exist.
- BiBTeX**
- 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.
- 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 with `\centering`, etc.**
- 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`.
- L<sup>A</sup>T<sub>E</sub>X core verse environment: line spacing.
-  • Removed `\citetitle`, adjusted `\attribution`.
- `memoir`: Minor update for v3.7g.
- Added `inputenx`, `bibunits`, `chngpage`, `forest`, `magaz`, `gridset`.
- Prevents loading `ae`, `aecc`, `t1enc`, and `wasysym`.

**packages**

**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 XeL<sup>A</sup>T<sub>E</sub>X or LuaL<sup>A</sup>T<sub>E</sub>X 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 82.3.
- 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.

**v0.51:** Improved svg math, added numerous chemistry packages.

[documentation](#)

- Docs: Added [Things to avoid](#).
- Docs: Added to [Converting an existing document](#).
- Docs: Multiple authors and affiliations with custom classes. See section [8.6.1](#).
- Docs: `tikz` with matrices. See section [8.8.1](#).

[SVG math](#)

- Improved svg math baseline.
- Improved svg math font and color.
- Faster svg math rendering.
- Improved support for display math containing complicated math objects, such as `tikz-cd`. See section [8.7.9](#).
- Fix: `\addcontentsline` inside svg math.
- Fix: SVG math containing an embedded `lateximage`.

[MathJax](#)

- MathJax now handles `\ensuremath` in expressions.

[misc. fixes](#)

- Fix: Added `alignat` environment.

- Fix: `afterpackage` no longer required, which conflicted with `scrlfile`.

- Fix: `titling` `\thanks` mark.

- Fix: `fancybox` improvements.

- Fix: `tikz` `\tikz` macro. (Previously only the `tikzpicture` environment worked.)

- Fix: `tikz` with optional argument.

[packages](#)

- Added `mhchem`, `chemfig`, `chemformula`, `chemmacros`, `chemnum`, `chemgreek`, `epstopdf-base`, `grid`, `ltxgrid`.

## 2 Introduction

The `lwarp` project aims to allow a rich L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X to provide for every HTML-related possibility, and HTML cannot exactly render every possible L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X, `lwarp` has some advantages over other methods of HTML conversion. T<sub>E</sub>X itself is still used, allowing a wider range of T<sub>E</sub>X trickery to be understood. Lua expressions are still available with LuaT<sub>E</sub>X. Entire categories of L<sup>A</sup>T<sub>E</sub>X 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.<sup>1</sup>

---

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.

---

<sup>1</sup>An 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-ridden<sup>2</sup> 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 LATEX source for the expression, allowing it to be copy/pasted into other documents.<sup>3</sup> Custom LATEX macros may be used as-is in math expressions, since the math is evaluated entirely inside LATEX. 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.<sup>4</sup> lwarf maintains LATEX 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 LATEX-generated PDF file which happens to have HTML5 tags, to a number of HTML5 plain-text files and accompanying images.

lwarf 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, lwarf first looks to see if it has its own modified version to use instead of the standard LATEX version. These lwarf-packagename.sty files contain code used to emulate or replace functions for HTML output.

---

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

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

<sup>4</sup>One 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

<b>package</b>	L <small>A</small> T <small>E</small> X package.
<i>program</i>	Program's executable name.
<i>option</i>	Program or package option.
<b>filename</b>	File name in the operating system.
<b>BRAND NAME</b>	Proper name for a program, operating system, etc.
<b>commands</b>	Commands to be entered by the user.
<i>code</i>	Program code.
\macro	L <small>A</small> T <small>E</small> X macro.
<b>environment</b>	L <small>A</small> T <small>E</small> X environment.
<b>counter</b>	L <small>A</small> T <small>E</small> X counter.
<b>boolean</b>	L <small>A</small> T <small>E</small> X boolean.
<b>&lt;element&gt;</b>	HTML element.
<b>attribute</b>	HTML attribute.
<b>User Interface</b>	A user-interface item.
<b>ACRO</b>	Acronym.

## 2.2 Supported packages and features

Table 2 lists some of the various L<sup>A</sup>T<sub>E</sub>X 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.

Table 2: L<sup>A</sup>T<sub>E</sub>X l warp package — Supported features

Category	Status and supported features.
Engines:	DVI L <sup>A</sup> T <sub>E</sub> X, pdfL <sup>A</sup> T <sub>E</sub> X, X <sub>E</sub> L <sup>A</sup> T <sub>E</sub> X, LuaL <sup>A</sup> T <sub>E</sub> X, upL <sup>A</sup> T <sub>E</sub> 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>polyglossia</i> , <i>cjkpunct</i> , <i>xeCJK</i> .
Chinese:	C <sub>T</sub> E <sub>X</sub> , <i>ctex</i> , <i>upzhkinsoku</i> , <i>xpinyin</i> , <i>zhlineskip</i> , <i>zhspacing</i> .
Japanese:	upL <sup>A</sup> T <sub>E</sub> X, LuaT <sub>E</sub> X-ja, gentombow, <i>lltjext</i> , <i>plarray</i> , <i>plarydshln</i> , <i>plautopatch</i> , <i>plex</i> , <i>plexarray</i> , <i>plexarydshln</i> , <i>plextcolortbl</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, ltxgrid, nccfancyhdr, notespages, nowidow, pagegrid, pagesel, parallel, parcolumns, pdfcolparallel, pdfcolparcolumns, pdfcrypt, pdfprivacy, preview, ragged2e, returntogrid, rmpage, scrlayer-scrpage, scrpage2, setspace, 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 file-names. 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, tocbind, tocdata, tocloft, tocstyle, tocvsec2.
Title page:	\maketitle, titlepage, authblk, authoraftertitle, titling.
Front & back matter:	abstract, appendix.
Indexing:	makeindex, xindy, and xindex are supported, with hyperlinks. gindex, hvindex, idxlayout, imakeidx, index, makeidx, repeatindex, splitidx, varindex, xindex.
Glossary:	gloss, glossaries and xindy, nomencl.
Bibliography:	babelbib, bibtopic, backref, biblatex, bibunits, chapterbib, cite, citeref, colref, drftcite, hypernat, jurabib, mcite, mciteplus, multibib, natbib, notes2bib, splitbib, showtags.

## l warp Supported Functions — continued

Category	Status
Cross-references:	bookmark, <code>breakurl</code> , <code>cleveref</code> , <code>fancyref</code> , <code>hypdestopt</code> , <code>hyperref</code> , <code>perpage</code> , <code>prettyref</code> , <code>titleref</code> , <code>url</code> , <code>varioref</code> , <code>xcite</code> , <code>xr</code> , <code>xr-hyper</code> , <code>xurl</code> , <code>zref</code> .
Margin notes:	marginal, marginfit, marginfix, <b>scrlayer-notecolumn</b> , <b>versonotes</b> .
Footnotes:	Adds <code>FootnoteDepth</code> to print footnotes at section breaks. MATHJAX emulation for <code>\footnote</code> , and also as marked in the following: <code>bigfoot</code> , <code>dblfnote</code> , <code>endheads</code> , <code>endnotes</code> <sup>MJ</sup> , <code>fixfoot</code> , <code>fnbreak</code> , <code>fnpara</code> , <code>fnpos</code> , <code>footmisc</code> , <code>footnote</code> , <code>footnotebackref</code> , <code>footnoterange</code> , <code>footnpag</code> , <code>manyfoot</code> , <code>marginnote</code> <sup>MJ</sup> , <code>nccfoots</code> <sup>MJ</sup> , <code>pagenote</code> <sup>MJ</sup> , <code>parnotes</code> <sup>MJ</sup> , <code>pdfcolfoot</code> , <code>pfnote</code> , <code>sepfootnotes</code> , <code>sidenotes</code> <sup>MJ</sup> , <code>tablefootnote</code> .
Math:	Converted to SVG images with HTML <code>&lt;alt&gt;</code> tags containing the LATEX source for the math expression. MATHJAX supported as an alternative. <code>amsmath</code> <sup>MJ</sup> : $\mathcal{M}$ S environments are supported. User-defined macros are available during conversion, due to native LATEX processing.
Theorems:	Native LATEX theorems, <code>amsthm</code> , <code>ntheorem</code> , <code>shadethm</code> , <code>theorem</code> , <code>thmbox</code> , <code>thmtools</code> .
Additional math:	Math fonts via SVG images, <code>accents</code> <sup>MJ</sup> , <code>amscd</code> , <code>autobreak</code> <sup>MJ</sup> , <code>autonum</code> , <code>backnaur</code> , <code>bm</code> <sup>MJ</sup> , <code>braket</code> <sup>MJ</sup> , <code>breqn</code> , <code>cases</code> , <code>centernot</code> <sup>MJ</sup> , <code>colonequals</code> <sup>MJ</sup> , <code>decimal</code> <sup>MJ</sup> , <code>delarray</code> , <code>DotArrow</code> <sup>MJ</sup> , <code>dotlessi</code> <sup>MJ</sup> , <code>dotlessj</code> <sup>MJ</sup> , <code>extarrows</code> <sup>MJ</sup> , <code>fouridx</code> <sup>MJ</sup> , <code>guass</code> , <code>hhtensor</code> <sup>MJ</sup> , <code>icomma</code> <sup>MJ</sup> , <code>jkmath</code> , <code>leftidx</code> <sup>MJ</sup> , <code>mathalpha</code> <sup>MJ</sup> , <code>mathcomp</code> <sup>MJ</sup> , <code>mathdesign</code> <sup>MJ</sup> , <code>mathdots</code> <sup>MJ</sup> , <code>mathfixs</code> <sup>MJ</sup> , <code>mathpunctspace</code> <sup>MJ</sup> , <code>mathspec</code> , <code>mathtools</code> <sup>MJ</sup> , <code>mismath</code> <sup>MJ</sup> , <code>mleftright</code> <sup>MJ</sup> , <code>multiobjective</code> <sup>MJ</sup> , <code>nccmath</code> <sup>MJ</sup> , <code>nicematrix</code> , <code>noitcru</code> <sup>MJ</sup> , <code>newpxmath</code> <sup>MJ</sup> , <code>newtxmath</code> <sup>MJ</sup> , <code>newtxsf</code> <sup>MJ</sup> , <code>pb-diagram</code> , <code>resizegather</code> , <code>rmathbr</code> <sup>MJ</sup> , <code>shuffle</code> <sup>MJ</sup> , <code>stackrel</code> <sup>MJ</sup> , <code>statex2</code> <sup>MJ</sup> , <code>statmath</code> <sup>MJ</sup> , <code>subsupscripts</code> <sup>MJ</sup> , <code>textualicomma</code> <sup>MJ</sup> , <code>unicode-math</code> <sup>MJ</sup> , <code>ushort</code> <sup>MJ</sup> , <code>witharrows</code> <sup>MJ</sup> , <code>xfakebold</code> <sup>MJ</sup> , <code>xy</code> . Many others work as-is.
Display math with <code>\displaymathother</code> :	Complicated math objects in display math, such as <code>tikz-cd</code> , etc.
Units and fractions:	<code>nicefrac</code> <sup>MJ</sup> , <code>Slunits</code> <sup>MJ</sup> , <code>siunitx</code> <sup>MJ</sup> , <code>units</code> <sup>MJ</sup> , <code>unitsdef</code> , <code>xfrac</code> <sup>MJ</sup> .

## l warp Supported Functions — continued

Category	Status
Floats:	Appear where declared. <code>capt-of</code> , <code>caption</code> , <code>cutwin</code> , <code>dblfloatfix</code> , <code>endfloat</code> , <code>fewerfloatpages</code> , <code>fix2col</code> , <code>flafter</code> , <code>float</code> , <code>floatflt</code> , <code>floatrow</code> , <code>fltrace</code> , <code>ftcap</code> , <code>hypcap</code> , <code>keyfloat</code> , <code>morefloats</code> , <code>multicap</code> , <code>newfloat</code> , <code>nonfloat</code> , <code>placeins</code> , <code>rotfloat</code> , <code>stfloats</code> , <code>subcaption</code> , <code>subfig</code> , <code>subfigure</code> , <code>subfloat</code> , <code>topcapt</code> , <code>trivfloat</code> , <code>wrapfig</code> .
Tabular:	<code>tabular</code> environment, <code>array<sup>MJ</sup></code> , <code>arydshln<sup>MJ</sup></code> , <code>bigdelim<sup>MJ</sup></code> , <code>bigstrut<sup>MJ</sup></code> , <code>booktabs<sup>MJ</sup></code> , <code>colortbl</code> , <code>ctable</code> , <code>diagbox</code> , <code>hhline<sup>MJ</sup></code> , <code>longtable</code> , <code>ltablex</code> , <code>ltxtabular</code> , <code>multirow<sup>MJ</sup></code> , <code>supertabular</code> , <code>tabularx</code> , <code>tabulary</code> , <code>threeparttable</code> , <code>threeparttablex</code> , <code>widetable</code> , <code>xltabular</code> , <code>xtab</code> .
Graphics:	<code>graphics</code> and <code>graphicx</code> . <code>\includegraphics</code> supports <code>width</code> , <code>height</code> , <code>origin</code> , <code>angle</code> , and <code>scale</code> tags, and adds <code>class</code> . References to PDF files are changed to SVG, other image types are accepted as well. <code>\rotatebox</code> and <code>\scalebox</code> are supported as well as HTML can handle. <code>rotating</code> is emulated but all objects are unrotated. <code>picture</code> , <code>tikz</code> , and <code>xy</code> are converted to an SVG image. <code>asymptote</code> , <code>curves</code> , <code>datatool</code> , <code>eepic</code> , <code>epsfig</code> , <code>epstopdf</code> , <code>figsize</code> , <code>fitbox</code> , <code>grffile</code> , <code>luamplib</code> , <code>media9</code> , <code>movie15</code> , <code>multimedia</code> , <code>overpic</code> , <code>pict2e</code> , <code>psfrag</code> , <code>psfragx</code> , <code>pst-eps</code> , <code>pstool</code> , <code>pstricks</code> , <code>rviewport</code> , <code>svg</code> , <code>svg-extract</code> , <code>tikz-3dplot</code> .
<code>xcolor</code> :	Full package color names, any color models, and mixing. <code>\textcolor</code> , <code>\colorbox</code> , <code>\fcolorbox</code> . Enhanced for HTML compatibility.
Lists:	Standard L <sup>A</sup> T <sub>E</sub> X environments, <code>enumerate</code> , <code>enumitem</code> , <code>eqlist</code> , <code>hang</code> , <code>listliketab</code> , <code>paralist</code> .
Environments:	Standard L <sup>A</sup> T <sub>E</sub> X environments.
<code>minipage</code> , <code>\parbox</code> :	Some HTML5-imposed limitations. Nested minipages are supported. <code>eqparbox</code> , <code>minibox</code> , <code>pbox</code> , <code>shapepar</code> .
Quotations:	<code>copyrightbox</code> , <code>csquotes</code> , <code>epigraph</code> , <code>quoting</code> , <code>verse</code> .
Verbatim:	<code>fancyvrb</code> , <code>moreverb</code> , <code>shortvrb</code> , <code>verbatim</code> .
Frames:	<code>boxedminipage</code> , <code>boxedminipage2e</code> , <code>fancybox</code> , <code>fbox<sup>MJ</sup></code> , <code>framed</code> , <code>mdframed</code> , <code>niceframe</code> , <code>shadow</code> , <code>tcolorbox<sup>MJ</sup></code> , <code>verbbars</code> .
Multi-columns:	<code>adjmulticol</code> , <code>multicol</code> , <code>multicolrule</code> , <code>vwcol</code> .

## lwarf Supported Functions — continued

Category	Status
Margins:	<code>fullwidth</code> , <code>hanging</code> , <code>midpage</code> .
Line numbering:	<code>fnlineno</code> , <code>lineno</code> .
Direct formatting:	<code>\emph</code> , <code>\textsuperscript</code> , <code>\textbf</code> , etc are supported. <code>\bfseries</code> , etc. are only supported in some cases. <code>cancel</code> <sup>MJ</sup> , <code>ellipsis</code> , <code>embrac</code> , <code>enparen</code> , <code>hyphenat</code> , <code>letrine</code> , <code>lips</code> , <code>lua-check-hyphen</code> , <code>luacolor</code> , <code>magaz</code> , <code>nolbreaks</code> , <code>normalcolor</code> , <code>pdfcol</code> , <code>pdfcolmk</code> , <code>pdfrender</code> , <code>realscripts</code> , <code>relsize</code> <sup>MJ</sup> , <code>scalefont</code> , <code>soul</code> , <code>soulpos</code> , <code>soulutf8</code> , <code>stackengine</code> , <code>textfit</code> , <code>thinsp</code> , <code>trimclip</code> , <code>truncate</code> , <code>ulem</code> , <code>umoline</code> , <code>underscore</code> , <code>uspace</code> , <code>xellipsis</code> .
Acronyms:	<code>acro</code> , <code>acronym</code> .
Ordinals:	<code>engord</code> , <code>fmtcount</code> , <code>nth</code> .
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 <code>thin-unbreakable</code> , <code>unbreakable</code> , <code>\enskip</code> , <code>\quad</code> , <code>\qquad</code> , <code>\hspace</code> .
Rules:	<code>\rule</code> with width, height, raise, text color.
HTML reserved characters:	<code>\&amp;</code> , <code>\textless</code> , and <code>\textgreater</code> are converted to HTML entities.
Fonts:	Used as-is. Appear in SVG math expressions or embedded image environments. <code>fontaxes</code> , <code>nfssext-cfr</code> , <code>slantsc</code> , <code>tabfigures</code> . Tested to work as-is: Special font macros in <code>cfr-lm</code> and others which use <code>nfssext-cfr</code> .
Symbols:	Native L <sup>A</sup> T <sub>E</sub> X diacriticals, <code>academicons</code> , <code>amssymb</code> <sup>MJ</sup> , <code>bbding</code> , <code>chemgreek</code> , <code>dingbat</code> , <code>euro</code> , <code>eurosym</code> , <code>fontawesome</code> , <code>fontawesome5</code> , <code>gensymb</code> <sup>MJ</sup> , <code>latexsym</code> <sup>MJ</sup> , <code>marvosym</code> , <code>mathcomp</code> <sup>MJ</sup> , <code>mathpazo</code> <sup>MJ</sup> , <code>mathptmx</code> <sup>MJ</sup> , <code>metalogo</code> , <code>metalogox</code> , <code>pifont</code> , <code>pxfonts</code> <sup>MJ</sup> , <code>textalpha</code> , <code>textcomp</code> , <code>textgreek</code> , <code>txfonts</code> <sup>MJ</sup> , <code>typicons</code> , <code>upgreek</code> <sup>MJ</sup> , <code>xunicode</code> .
Files:	<code>attachfile</code> , <code>attachfile2</code> , <code>hyperxmp</code> , <code>inputrc</code> , <code>intopdf</code> , <code>pdfpages</code> , <code>pdfx</code> , <code>xmpincl</code> .

## l warp Supported Functions — continued

Category	Status
Science and engineering:	algorithm2e, algorithmicx, ar <sup>MJ</sup> , askmaps, axodraw2, bitpattern, blochsphere, bodegraph, bohr, bytefield, chemfig, chemformula, chemgreek, chemmacros, chemnum, circuitikz, econometrics <sup>MJ</sup> , elements, engtlc <sup>MJ</sup> , fast-diagram, ghsystem, hepnicenames, heppennames, hepunits <sup>MJ</sup> , karnaughmap, karnaugh-map, listings, listingsutf8, linop, mhchem <sup>MJ</sup> , pgfgantt, phfqit, physics <sup>MJ</sup> , physunits <sup>MJ</sup> , qcircuit, register, simpler-wick, slashed <sup>MJ</sup> , steinmetz <sup>MJ</sup> , structmech, struktex, tikz-karnaugh, tikzcodeblocks
Arts and humanities:	foreign, forest, lyluatex, musicography, nameauth, octave, phonrule, piano, schemata, semantic-markup, tikz-dependency, vowel, xpiano
Calendars:	termcal
Admonitions:	awesomebox, notes.
Editorial:	changebar, changelog, changes, easy-todo, easyReview, ed, errata, fixme, fixmetodonotes, pdfcomment <sup>MJ</sup> , pdfmarginpar, todo, todonotes, tram, xchangebar.
Accessibility:	accessibility <sup>MJ</sup> , accsupp <sup>MJ</sup> , axessibility <sup>MJ</sup> , pdfcomment <sup>MJ</sup> , tagpdf.
Package handling:	catoptions.
Debug:	chkfloat, cmdtrack, dprogress, lua-visual-debug, refcheck, srcltx, srctex, vpe, xbmks.
Working as-is:	Various utility, calculation, file, and text-only packages, such as calc, fileerr, somedefs, trace, xspace. 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 L<sup>A</sup>T<sub>E</sub>X or other document to HTML. Where an existing L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X syntax into HTML. Search for each on CTAN (<http://ctan.org>).

<b>Prog</b>	<b>Hevea</b>	<b>H<sup>E</sup>v<sup>F</sup>a:</b> <a href="http://hevea.inria.fr/">http://hevea.inria.fr/</a> (not on CTAN)
<b>Prog</b>	<b>TtH</b>	<b>T<sub>T</sub>H:</b> <a href="http://hutchinson.belmont.ma.us/tth/">http://hutchinson.belmont.ma.us/tth/</a>
<b>Prog</b>	<b>GELLMU</b>	<b>GELLMU:</b> <a href="http://www.albany.edu/~hammond/gellmu/">http://www.albany.edu/~hammond/gellmu/</a>
<b>Prog</b>	<b>LaTeXML</b>	<b>L<sup>A</sup>TeXML:</b> <a href="http://dlmf.nist.gov/LaTeXML/">http://dlmf.nist.gov/LaTeXML/</a>
<b>Prog</b>	<b>Plastex</b>	<b>PlasTeX:</b> <a href="https://github.com/tiarno/plastex">https://github.com/tiarno/plastex</a>
<b>Prog</b>	<b>LaTeX2HTML</b>	<b>L<sup>A</sup>TeX2HTML:</b> <a href="http://www.latex2html.org/">http://www.latex2html.org/</a> and <a href="http://ctan.org/pkg/latex2html">http://ctan.org/pkg/latex2html</a> .
<b>Prog</b>	<b>TeX2page</b>	<b>TeX2page:</b> <a href="http://ds26gte.github.io/tex2page/index.html">http://ds26gte.github.io/tex2page/index.html</a>

Finally, GladTeX may used to directly insert L<sup>A</sup>T<sub>E</sub>X math into HTML:

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

### 3.4 ASCII DOC 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 **Asciidoc:** <http://asciidoc.org/> (More active.)

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

#### 3.4.1 ASCIIDOCTOR-LATEX

The Asciidoc-LaTeX project is developing additional LATEX-related features.

##### Asciidoc-LaTeX:

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

Prog Asciidoc-LaTeX <https://github.com/asciidoc/asciidoc-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 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 areas of typesetting, cross-referencing, and HTML generation. See ADOBE® *FrameMaker*®, ADOBE *InDesign*®, and MADCAP *Flare*™.

Prog InDesign

Prog Flare

Prog Madcap

### 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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X is comparably easy to learn, while L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X back end, yielding high-quality results especially when the L<sup>A</sup>T<sub>E</sub>X template is adjusted, but they lose the ability to use L<sup>A</sup>T<sub>E</sub>X macros and other L<sup>A</sup>T<sub>E</sub>X source-document features.

The effort required to customize the output of each markup system varies. For print output, L<sup>A</sup>T<sub>E</sub>X 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 lwarp, css is used, and much HTML output is adjusted through the usual L<sup>A</sup>T<sub>E</sub>X optional macro parameters, but further customization may require patching L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X distribution:**

From T<sub>E</sub>XLive: <http://tug.org/texlive/>.

**L<sup>A</sup>T<sub>E</sub>X:** *pdflatex*, *xelatex*, or *lualatex*.

**The l warp package:** This package.

**The *lwarpmk* 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 *lwarpmk* called *lwarpmk.lua*. See table 4.

***luatex*:** Used by the *lwarpmk* program to simplify and automate document generation.

***xindy*:** The *xindy* program is used by l warp to create indexes. On a MiK<sup>T</sup>E<sub>X</sub> system this may have to be acquired separately, but it is part of the regular installer as of mid 2015.

***latexmk*:** Optionally used by *lwarpmk* to compile L<sup>A</sup>T<sub>E</sub>X code. On a MiK<sup>T</sup>E<sub>X</sub> system, *Perl* may need to be installed first.

***pdfcrop*:** Used to pull images out of the L<sup>A</sup>T<sub>E</sub>X PDF.

**POPPLE PDF utilities:**

***pdftotext*:** Used to convert PDF to text.

***pdfseparate*:** Used to pull images out of the L<sup>A</sup>T<sub>E</sub>X PDF.

***pdftocairo*:** Used to convert images to SVG.

These might be provided by your operating-system package manager, and MiK<sup>T</sup>E<sub>X</sub> provides *miktex-poppler-bin-\** packages.

From POPPLER: [poppler.freedesktop.org](http://poppler.freedesktop.org).

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

Enter ⇒ **brew install poppler**

For WINDOWS, see Mik<sup>T</sup>E<sub>X</sub> *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](http://strawberryperl.com) (recommended), [perl.org](http://perl.org)

**Automatically downloaded from the internet as required:**

**MATHJAX:** Optionally used to display math. From: [mathjax.org](http://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.

**TEX Live:** If using a TEX Live distribution, try installing via *t lmgr*:

Enter ⇒ **t lmgr install l warp**

**MiKTeX:**

1. For newer versions of MiKTeX, install or update l warp using the *MiKTeX Console* program.
2. For older versions of MiKTeX, to install l warp the first time, use the *MiKTeX Package Manager (Admin)*. To update l warp, use *MiKTeX 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 TEX-related packages.

**CTAN TDS archive:** l warp may be downloaded from the Comprehensive TEX 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 TEX local directory:

**TEX Live:**

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

**MiKTeX:**

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 MiKTeX, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

**CTAN .dtx and .ins files:** Another form of TEX 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 T E X 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 ⇒ **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**.
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<sub>T</sub>E<sub>X</sub>, 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 *TEX Live* or MiK<sub>T</sub>E<sub>X</sub> 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 *TEX 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 *TEX Live*:** Create a new *lwarpmk.exe* file:

- (a) Locate the *TEX 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<sub>T</sub>E<sub>X</sub>:** Create a new *lwarpmk.bat* file:

- (a) Locate the MiK<sub>T</sub>E<sub>X</sub> binaries. These will be in a directory such as:

*C:\Program Files\MiK<sub>T</sub>E<sub>X</sub> 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<sub>T</sub>E<sub>X</sub> 2.9\scripts\lwarplwarp.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 `l warp` package:

```
\usepackage[lwarpmk]{l warp}
```

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 74.

```
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 74.
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`.

⚠ **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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X. 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<sup>A</sup>T<sub>E</sub>X 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:** lwarp.css, lwarp\_formal.css, lwarp\_sagebrush.css These files are standard for lwarp, 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 lwarp defaults.

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

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

**lwarp\_one\_limage.txt:** For WINDOWS only. Used to process SVG images in the background. Copied to lwarp\_one\_limage.cmd when images are generated.

**lwarp\_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 lwarp to conditionally process blocks of text. These files may be ignored.

When the *lwarpmk* option is given to the *lwarp* package:

**lwarpmk.lua:** A local copy of the *lwarpmk* utility.

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

```
chmod u+x lwarpmk.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.<sup>5</sup>

5. Process the index.<sup>6</sup> <sup>7</sup>

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.

---

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

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

<sup>7</sup>Also see section 8.6.15 for index options.

### 5.3 Compiling the HTML version with *lwarpmk*

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

1. Compile the HTML version:

Enter ⇒ **lwarpmk html**

- (a) *lwarpmk* uses L<sup>A</sup>T<sub>E</sub>X 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) *lwarpmk* 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`<sup>8</sup>, `Some-math.html`, and the document's index in `_Index.html`.<sup>9</sup>

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<sup>A</sup>T<sub>E</sub>X 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 ⇒ **lwarpmk again**

Enter ⇒ **lwarpmk html**

Enter ⇒ **lwarpmk print**

4. Process the HTML index and recompile:<sup>10</sup><sup>11</sup>

Enter ⇒ **lwarpmk htmlindex**

Enter ⇒ **lwarpmk html**

`_Index.html` is updated for the new L<sup>A</sup>T<sub>E</sub>X 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 ⇒ **lwarpmk html1**

---

<sup>8</sup>`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`.

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

<sup>10</sup>The command `lwarpmk htmlglossary` is also available to process a glossary produced with the `glossaries` package. See section 8.6.12.

<sup>11</sup>Also 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 L<sup>A</sup>T<sub>E</sub>X source included in alt attributes. In this way, the math is displayed as it was drawn by L<sup>A</sup>T<sub>E</sub>X, and the L<sup>A</sup>T<sub>E</sub>X 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 ⇒ **lwarpmk limages**

Enter ⇒ **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 L<sup>A</sup>T<sub>E</sub>X 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.<sup>12</sup> 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 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.

### ⚠️ 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 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>12</sup>This 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 `lwarf`:

```
mathjax, % Use MathJax to display math.
```

2. Recompile

Enter ⇒ `lwarfmk 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 LATEX source.

While using MATHJAX has many advantages, it may not be able to represent complex expressions or spacing adjustments as well as LATEX, 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{lwarp}
...
\CSSFilename{lwarp_formal.css}
...
\begin{document}
```

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

```
\CSSFilename{lwarp_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<sup>A</sup>T<sub>E</sub>X 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<sub>E</sub>LATEX or LuaLATEX

X<sub>E</sub>LATEX or LuaLATEX may be used instead of LATEX.

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<sub>E</sub>LATEX or LuaLATEX 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 LATEX

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

lwarp 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 ⇒ **lwarpmk printglossary**

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

To process the glossary for the HTML version:

Enter ⇒ **lwarpmk htmlglossary**

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

Enter ⇒ **lwarpmk html1**

Enter ⇒ **lwarpmk html**

Enter ⇒ **lwarpmk print1**

Enter ⇒ **lwarpmk 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 cleanimages**

## 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 28, [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:
  - (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 file-name.) 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}}
```
  - (b) Avoid using the \includegraphics scale option. Change:
 

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

 to:
 

```
\includegraphics[width=<yy>\linewidth]{...}
```
  - (c) Possible changes to tabular environments include: \* columns, multirow, longtable, supertabular, xtab, bigdelim. See section 8.10.1.
  - (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.
  - (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.

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.

Table 5: Localization settings

**Object names:** L<sup>A</sup>T<sub>E</sub>X 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. HTML provides the alt text attribute for images, which is used by lwarp as described below. HTML also provides the title attribute, which usually generates a pop-up text. lwarp can add this to a reference or hyperlink. MATHJAX also has provisions for improved accessibility as well. See table 6.

Table 6: Accessibiliiy 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<sup>A</sup>T<sub>E</sub>X math expression in the alt text, so that the L<sup>A</sup>T<sub>E</sub>X 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, l warp detects and remembers whether shell escape is enabled. If so, it will also be enabled when the document is recompiled with *l warpmk*.

### 7.4 Font and UTF-8 support

#### ⚠ type 3 bitmapped fonts

l warp 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 l warp option `pdftotextEnc` may be useful in some situations. See section 7.5.

#### vector fonts

#### Computer Modern

##### ⚠ *pdflatex*

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.

##### ⚠ 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*, l warp automatically loads `fontenc` with T1 encoding. `fontenc` may be loaded with an additional encoding after l warp. `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<sup>E</sup>L<sup>A</sup>T<sup>E</sup>X and Lua<sup>L</sup>AT<sup>E</sup>X 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{l warp}`.

#### ⚠ package conflicts

In some cases, a package conflict may require that a font package be loaded after l warp, 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<sup>E</sup>L<sup>A</sup>T<sup>E</sup>X or Lua<sup>L</sup>AT<sup>E</sup>X:

Pkg fontspec

- fontspec and font choices

ligatures

lwarp 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[\sffamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
```

---

- For pdflatex:

Pkg lmodern

(a) \usepackage{lmodern}, or other font-related packages

Pkg fontenc

(b) \usepackage[T1]{fontenc}

Pkg inputenc

(c) \usepackage[utf8]{inputenc}, or latin1, etc. Or use inputenx.

Pkg inputenx

(d) \usepackage{newunicodechar} along with related definitions.

Pkg newunicodechar

(e) To assist with the PDF-HTML conversion:

i. \input glyptounicode.tex

ii. \input glyptounicode-cmr.tex% from the pdfx package

iii. \pdffgentounicode=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 lwarp.

4. \usepackage{lwarp} (section 7.5) is placed after any of the above, followed by:

5. \setmonofont{TeX Gyre Cursor} or similar may be required if using X<sub>E</sub>L<sub>A</sub>T<sub>E</sub>X or L<sub>A</sub>U<sub>L</sub><sub>A</sub>T<sub>E</sub>X 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 lwarp 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.

#### 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 **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 **dvipdfm**: Tells *lwarfmk* to use *dvipdfm* to convert DVI output to PDF.  
 Default: false

Opt dvipdfmx **dvipdfmx**: Tells *lwarfmk* to use *dvipdfmx* to convert DVI output to PDF.  
 Default: false

Opt HomeHTMLFilename **HomeHTMLFilename**:

Default: \BaseJobname  
 Filename of the homepage, without the ".html" suffix. Defaults to the \BaseJobname. A common setting is:

```
HomeHTMLFilename=index
```

**filename underscores** 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 **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.  
 Default: <empty>

Opt ImagesName **ImagesName**: The prefix for the images automatically generated by lwarf for objects such as SVG math and lateximages.  
 Default: image-

Opt ImagesDirectory **ImagesDirectory**: The directory for the images automatically generated by lwarf for  
 Default: \jobname-images

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 <b>lwarpmk print</b> .
HTMLLatexCmd	The shell commands for <b>lwarpmk html</b> .
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 <b>lwarpmk printindex</b> .
HTMLIndexCmd	Shell commands executed by <b>lwarpmk htmlindex</b> .
LatexmkIndexCmd	Shell commands executed by <i>latexmk</i> .
IndexRef	How to format index links.
GlossaryCmd	Shell command executed by <b>lwarpmk printglossary</b> and <b>lwarpmk htmlglossary</b> .
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.

objects such as `svg` math and `lateximages`. By default, these images will appear in a 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, Default: `<automatic>` will automatically be set according to the detected L<sup>A</sup>T<sub>E</sub>X engine and the use of `--shell-escape`.

Opt `HTMLLatexCmd` **HTMLLatexCmd:** Sets the shell commands executed by `lwarpmk html`. If not specified, Default: `<automatic>` will automatically be set according to the detected L<sup>A</sup>T<sub>E</sub>X 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: `lwarf.ist`

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

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

Opt `xindyLanguage` **xindyLanguage:** If using an index or glossary, see section 28.  
Default: `english`

Opt `xindyCodepage` **xindyCodepage:** If using an index, see section 28.  
Default: `utf8`

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

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

Opt `PrintIndexCmd` **PrintIndexCmd:** Sets the shell commands executed by `lwarpmk printindex`. If not Default: `<automatic>` 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:

<code>makeindex -s lwarf.ist</code> <code>xindy -M lwarf.xdy -L english -C utf8</code>	<code>(makeindex)</code> <code>(xindy)</code>
---	--

#### automatic setting

The use of the `makeindex` or `xindy` options sets `LatexmkIndexCmd` to either of the two settings shown above. `lwarf`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `latextmk` 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 `lwarf` `xindyLanguage` and `xindyCodepage` options are not used for the `LatexmkIndexCmd` option when it is set manually.

Opt `IndexRef` **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 `lwarf` 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 `lwarpmk printglossary` and `lwarpmk htmlglossary`. The print or `HTML` glossary filename is appended to this command. See section [8.6.12](#).

Opt `OSWindows` **OSWindows:** `lwarf` 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.

Opt `lwarpmk` **lwarpmk:** If you wish to have `lwarf` generate a local copy of `lwarpmk.lua` for archival or local-installation purposes, compile the print version with the `lwarpmk` option set. See section [28](#).

---

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

---

Opt `warpprint` **warpprint** and **warpHTML**: Usually controlled by `lwarpmk`, and not set in the docu-

Opt `warpHTML`

ment. 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 `lwarp` 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{lwarp}` 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 `lwarp` when creating the  
Default: `\jobname`   `*_html.tex` file used to compile the HTML version. See section 28.

## 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<sup>A</sup>T<sub>E</sub>X 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

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 sideroc.
\sidetocname	P	Name of the sideroc.
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.

or

`SideTOCDepth=FileDepth+1`

### ⚠️ inaccessible pages

`\sidetocname`  
Default: `Contents`

Ctr `FileDepth`  
Default: -5



**\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 foot-

notes 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<sup>A</sup>T<sub>E</sub>X 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**  
**Default:** \HTMLTitleBeforeSection

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

\HTMLTitleAfterSection	\HTMLTitleAfterSection: Sets subpage <title> tags to show the section name followed by the website title.
custom <title>	To customize subpage <title>s, redefine \theHTMLTitleSection, which defaults to: <pre>\def\theHTMLTitleSection{%   \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection% }</pre>
\HTMLAuthor Default: \theauthor	\HTMLAuthor: {<author>} The HTML header's meta author. Defaults to \theauthor, which is set by \author if using the titling package, but is empty otherwise. There are several ways to represent the author and affiliations, especially if using the authblk 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: {<description>} Sets the HTML description tag for the following files. May be changed before each each sectioning command which would cause a file split.
\HTMLPageTop Default: <empty>	\HTMLPageTop: {<contents>} 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: {<contents>} 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:`** `{<text>}` `\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 `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.

`\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:** {<contents>} 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.<sup>13</sup>

---

```
\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}
```

---

<sup>13</sup>See \SetHTMLFileName to number in groups by chapter, for example.

## 7.7 Customizing the css

\CSSFilename  
Default: lwarf.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:

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

The styles provided by lwarf include:

**lwarf.css:** A default style if \CSSFilename is not used. This style is comparable to a plain L<sup>A</sup>T<sub>E</sub>X document. To set this style, you may use \CSSFilename{lwarf.css}, or no \CSSFilename call at all.

**lwarf\_formal.css:** A formal style with a serif fonts and a traditional look.

**lwarf\_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 lwarf 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 lwarf.css, and this entry may be changed to load lwarf\_formal.css or lwarf\_sagebrush.css if desired. Additional changes to the css may be made by making entries later in the <project>.css file.

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

---

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

/* Uncomment one of the following: */
@import url("lwarf.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 assinged a css class and optional css style using the \InlineClass macro. The result is placed inside a <span>. \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 If MS-WINDOWS is not correctly detected, use the lwarp option OSWindows.

Prog Windows 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.

Opt OSWindows

## 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<sup>A</sup>T<sub>E</sub>X print-formatted PDF generation, or to HTML generation, or to HTML with MATHJAX.

For most of built-in L<sup>A</sup>T<sub>E</sub>X 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.

**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:

`\warpprionly {<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.

⚠️ \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 67.8.

\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` `{<title>}`

 **HTML corrupted** Avoid newlines in the `\title`; these will interfere with the file break and css detection.

 **newlines** Use a `\subtitle` command instead (section 67.8). 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` `{<author>}`

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 `l warp`.

`\date` `{<date>}`

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

`\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<sup>A</sup>T<sub>E</sub>X 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 xetoolbox, xparse, 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<sup>A</sup>T<sub>E</sub>X, 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 fbb, and some packages such as embrac, 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 \qquad.

\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 \hskip *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<sup>A</sup>T<sub>E</sub>X accents such as \" will work, but many more kinds of accents are available when using Unicode-aware X<sup>E</sup>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X. If using accents in section names which will become file names, it is recommended to use the L<sup>A</sup>T<sub>E</sub>X accents such as \" and \v instead of Unicode accents. The L<sup>A</sup>T<sub>E</sub>X 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 \textsuperscript{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 `<br />` 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 `<span>`. 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 <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 × 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 <span> items during HTML output, but HTML cannot place a block element such as a <div> for a minipage or a list inside of a <span>. 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 <span> 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.

For inline minipage and lists:

**To frame the contents on their own line with improved formatting in HTML:** 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<sup>A</sup>T<sub>E</sub>X code, the result in HTML is problematic since a table is a <div> not a <span>, 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.

For display tabular, minipages, and lists:

**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 87 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 609 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 245 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
```

⚠ Misplaced alignment tab character &

---

```
\warpprintonly{\hrule} % only appears in print output
Contents
\warpprintonly{\hrule} % only appears in print output
\end{BlockClass}
```

---

### 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 `lwarp`'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 `lwarp`, 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

`lwarp` 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** \Verbatim, \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.  
Use a `tcolorbox` with regular math inside it. `\tcboxmath` and `\tcbhighmath` are supported in SVG math, and emulated in MATHJAX.
- Fitting features: `\tcboxfit` becomes `\tcbox` in HTML.
- Footnote numbering does not match the printed output.
- MathJax emulation is provided for common macros.

⚠ **math**

⚠ **footnotes**

⚠ **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 {⟨text⟩}
```

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 {⟨macros⟩}
```

⚠ **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*{\macroname}[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 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.

### 8.5.1 Page references

**⚠ LATEX 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 504.

### 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 728 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. lwarf 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` lwarf 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 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, \footnotemark** If using MATHJAX, after each math expression with a \footnotemark, adjust the footnote counter by the number of \footnotemarks:

---

```
\[ (math expression with two instances of \footnotemark) \]
\warpHTMLonly{\addtocounter{footnote}{2}}
```

Similarly for `endnotes`, but *not* `sidenotes`.

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.

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+verbtim+.}
```

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** 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 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 `pdflATEX`. 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 `XeLATEX` or `LuaLATEX` instead of `pdflATEX`.

### 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.

**Pkg** abstract **\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 warpprint environment.

For print output, \ForceHTMLTOC and \ForceHTMLPage have no effect.

### 8.6.3 abstract package

**Pkg** abstract **\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.

### 8.6.4 titling and authblk

**Pkg** titling  
**Pkg** authblk

#### package support

**\load order**

\published and \subtitle

lwarp supports the native LATEX titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.

If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 67.8.

### 8.6.5 tocloft package

**Opt [tocloft]** titles

**Pkg** tocloft

**Pkg** tocloft

If using tocloft with tocbbind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard LATEX commands to create the titles, allowing other packages to work with it.

#### ⚠ tocloft & other packages

### 8.6.6 appendix package

**Pkg** appendix

**\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.

### 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:

#### table of contents

```
\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`.

### 8.6.9 BibTeX

`\etalchar` Displays a superscript “+” to indicate “and others”.

 **Modify \*.bib** When enough authors are cited for a source, BIBTeX 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

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.

**⚠ makeglossaries not found** 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 `lwarp`, so the style is forced to `index` instead.

**⚠ number list** The page number list in the printed form would become `\namerefs` 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<sup>A</sup>T<sub>E</sub>X document, including native L<sup>A</sup>T<sub>E</sub>X 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 105.

**source code** See section 77 for *lwarf*'s core index and glossary code, section 320 for `index`, section 516 for `splitidx`, section 319 for `imakeidx`, section 565 for `tocbibind`, and section 629.17 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.

*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.

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.

*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.

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.

*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.

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
]{lwarp}
```

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
    }
]{lwarp}
\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 629.17 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 lwarp.ist
    },
    HTMLIndexCmd={
        splitindex <projectname>_html -- -s lwarp.ist
    }
]{lwarp}
\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 lwarp.xdy
        -L english -C utf8                                <optional>
    },
    HTMLIndexCmd={
        splitindex -m xindy <projectname>_html -- -M lwarp.xdy
        -L english -C utf8                                <optional>
    }
]{lwarp}
\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 *lwarp*'s special *lwarp.ist* or *lwarp.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 *lwarp*'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] {lwarf}
\usepackage[makeindex, splitindex]{imakeidx}
...
\makeindex[options={-s lwarf.ist}]
\makeindex[name=secondname, options={-s lwarf.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*. lwarf 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 **lwarfmk print** and **lwarfmk 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 *lwarf.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] {lwarf}
\usepackage[xindy, splitindex]{imakeidx}
...
\makeindex[
  options={ -M lwarf.xdy -L english -c utf8 }
]
\makeindex[
  name=secondname,
  options={ -M lwarf.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*. lwarf 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*:**

*lwarf*'s options are used, and are passed to *latexmk*.

```
\usepackage[
    xindy,
    xindyLanguage=english,                                <optional>
    xindyCodepage=utf8,                                 <optional>
    latexmk,
]{lwarf}
\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 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}
\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.ist} ]  
]  
\makeindex[  
    name=secondname,  
    options={ -s lwarp.ist} ]  
]
```

#### ⚠ 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 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]{lwarp}  
...  
\makeindex
```

The usual .idx and .ind files will be used, along with the *lwarp.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:**

*lwarpmk* 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 ⇒ lwarpmk printindex
Enter ⇒ lwarpmk 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>
]{lwarp}
...
\xindyindex
\makeindex
```

The usual .idx and .ind files will be used, along with the `lwarp.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.

**For multiple indexes with memoir and xindy, using latexmk:**

`lwarp`'s options are used, and are passed to `latexmk`.

```
\documentclass{memoir}
\usepackage[
    xindy,
    xindyLanguage=english,                                <optional>
    xindyCodepage=utf8,                                 <optional>
    latexmk
]{lwarp}
...
\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 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}
...
\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.  
File *lwarp.ist*

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.  
File lwarp.xdy

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<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.

**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

## 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<sup>A</sup>T<sub>E</sub>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<sup>A</sup>T<sub>E</sub>X into the initial PDF file using the current font<sup>14</sup>, 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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X code which generated the math, allowing copy/paste of the L<sup>A</sup>T<sub>E</sub>X 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 \LateximageFontSize, which defaults to:

```
\newcommand*{\LateximageFontSize}{.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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X 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.

**⚠ 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** The popular MATHJAX alternative ([mathjax.org](http://mathjax.org)) may be used to display math.

Prog MathJax

---

<sup>14</sup>See section 614 regarding fonts and fractions.

When MATHJAX is enabled, math is rendered twice:

1. As regular LATEX PDF output placed inside an HTML comment, allowing equation numbering and cross referencing to be almost entirely under the control of LATEX, and
2. As detokenized printed LATEX 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 LATEX values, and the MATHJAX cross-referencing system is ignored in favor of the LATEX internal system, seamlessly integrating with the rest of the LATEX code.

### 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{\mu\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 366, [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\nostarredaction
% (Do not place anything after!)
}}
```

`\ifnextchar` For `MATHJAX`, use `\ifnextchar` instead of `\@ifnextchar`:

```
\CustomizeMathJax{csdef\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 8.7.12.

#### physics

- For physics, see [physics package](#), section 8.7.14.

#### 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.

#### other macros and packages

- Other math-related macros and packages are not directly supported by MATHJAX, including \ensuremath and bigdelim, and occasionally-used macros such as \relax. While using MATHJAX, l warp provides emulation for footnotes, bm, mathtools, nicefrac, siunitx, and units.

### 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

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 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. The macro \inlinemathother may be used before a dynamic math expression, and \inlinemathnormal after. Doing so tells l warp to use an unhashed SVG math image, even if MathJax is in use. See section 43.

#### changing contents

#### complicated alt tag

### 8.7.9 Complicated display math objects

#### \displaymathnormal

By default, or when selecting \displaymathnormal, MATHJAX math display environ-

ments print their contents as text into HTML, 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 ntheorem package

Pkg `ntheorem`

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.

⚠ `cref` reference format  
**undefined**

If the print version does not use `cleveref`, place all `\theoremstyle` and `\newtheorem` declarations in the preamble inside `\AtBeginDocument`.<sup>15</sup> For some theorems, it may also be required to add inside `\AtBeginDocument` something such as:

```
\AtBeginDocument{ % if not using cleveref package
    \theoremstyle{definition}
    \newtheorem{dtheorem}{Definition}
    ...
    \usepackage{etoolbox} % for \ifdef
    \ifdef{\cref}{%
        \crefname{Proof}{Proof}{Proofs}
    }{%
    }
}
```

⚠ `Equation numbering`

`ntheorem` has a bug with equation numbering in  $\mathcal{M}\mathcal{S}$  environments when the option `thref` is used. `lwarf` does not share this bug, so equations with `\split`, etc, are numbered correctly with `lwarf`'s HTML output, but not with the print output. It is recommended to use `cleveref` instead of `ntheorem`'s `thref` option.

### 8.7.11 mathtools package

Pkg `mathtools`

`showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by `lwarf`. 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:

<sup>15</sup>`lwarf` uses `cleveref` for the HTML conversion, and loads `cleveref` `\AtEndPreamble`, just before `\AtBeginDocument`.

---

```
\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 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}`.

### 8.7.12 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`.

⚠ **MathJax** For math mode with SVG display, the original `siunitx` code is used while generating the SVG image. For text mode, `lwarp` 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. `siunitx` macros with more than one optional value cannot absorb the second optional value, and complicated parsing such as for `\ang` is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

`lwarp`'s MATHJAX emulation for `siunitx` is meant to be a stop-gap measure until an extension is included in MATHJAX. As of this writing, the third-party `siunitx` extension for MATHJAX is not currently hosted at any public CDN, thus `siunitx` is not usable with this extension unless a local copy of this extension is created first. See `\MathJaxFilename` to select a custom MathJax script, but `lwarp`'s emulation would have to be disabled as well.

Document modifications required for MATHJAX:

**custom units**

- Custom units may be added with `\CustomizeMathJax`. See the `lwarp-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.

### 8.7.13 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`.

### 8.7.14 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 ⇒ **l warpmk pdftosvg \*.pdf      (or a list of filenames)**

Prog **l warpmk epstopdf** For EPS images converted to PDF using the package `epstopdf`, use

Prog **epstopdf**  
**epstopdf package** Enter ⇒ **l warpmk pdftosvg \*.PDF**

to convert to SVG images.

**DVI latex** 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** 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.

⚠ **viewport**

⚠ **viewport units**

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, the document must be modified as follows:

⚠️ **displaymath and matrices**

```
\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` 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 `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 Images with an `.eps` extension will be converted to `.pdf`. The HTML output uses the

⚠ convert to .svg .svg version, so use

Enter ⇒ **lwarpmk 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

⚠ convert image files missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

Enter ⇒ **lwarpmk pdftosvg <jobname>-fig\*.pdf**

### 8.8.8 psfrag package

Pkg psfrag The psfrags environment is modified to use lateximage to encapsulate the image.

⚠ use psfrags 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 lwarp.

⚠ 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 ⇒ **lwarpmk html**

followed by

Enter ⇒ **lwarpmk 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 The macros `\overpic[fontsize]` and `\overpic[fontskip]` 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.



`HTML5 <audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

Pkg movie15

`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/...`

## 8.9 Tabbing

The tabbing environment works, except that `svg` math and `latexitimages` do not yet work inside the environment.

 **math in tabbing** If math is used inside tabbing, place tabbing inside a `latexitimage` 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 % because & is used in a
definition
\newenvironment{outerenvironment}
{
\begin{tabular}{cc}
left & right \\
\end{tabular}
}
\TabularMacro\ResumeTabular
left & right \\
\end{tabular}
}
\StopDefiningTabulars
```

**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:****vertical 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 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 \warphHTML environment, if a “Misplaced \noalign” error occurs, change

This & That \endhead

to

\warpprintonly{This & That \endhead}

**⚠ \warpprintonly****⚠ Misplaced \noalign**

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 `lwarp`'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<sup>A</sup>T<sub>E</sub>X, 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.

#### 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.

- See section 391.2 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.

#### with \multicolumn

##### ⚠ \multicolumn & \multirow

##### ⚠ skipped cells

##### ⚠ empty cells

---

```
    . . . & \multicolumn{2}{c}{\multirow{3}{*}{\begin{array}{|c|c|} \hline 0pt \\ \hline \end{array}}}
```

```
    . . . & \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, `lwarf` 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}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}
```

---

<->	a    b			
left {	<table style="margin-left: auto; margin-right: auto;"> <tr><td style="padding-right: 10px;">c    d</td></tr> <tr><td style="padding-right: 10px;">e    f</td></tr> <tr><td style="padding-right: 10px;">g    h</td></tr> </table>	c    d	e    f	g    h
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.

## 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 576.1.

Pkg trivfloat

Pkg algorithmicx

⚠ package conflicts

Pkg caption

Package options may cause problems with lwrap, 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 lwrap:

```
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{lwrap}
...
\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

 **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

 **Misplaced alignment tab character & subfig package** Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.

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. `lwrap` 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 `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.)

## 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` `lwarp` uses `caption`, which causes a warning from `memoir`. This is normal. Adjust captions via `caption`, instead of `memoir`.

⚠ options clash While emulating `memoir`, `lwarp` pre-loads a number of packages (section 629.1). 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 `lwarp`:

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\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** l warp 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 *l warpmk*. 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
  \fbox{\#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) 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**

### 8.15.2 newclude package

Pkg newclude newclude modifies \label in a non-adaptive way, so newclude must be loaded before l warp is loaded:

```
\documentclass{article}
. . . <font setup>
\usepackage{newclude}
\usepackage[warpHTML]{l warp}
. . .
```

### 8.15.3 babel package

Pkg babel 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.

⚠ customized spacing

### 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. . . . \@begindocumenthook
```

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

Pkg luatodonotes

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 373.

### 8.15.11 xparse package

Pkg xparse To remove from the log any warnings about redeclaring objects, place the following before l warp is loaded:

```
\usepackage[log-declarations=false]{xparse}
```

### 8.15.12 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`.

`Opt HTMMLatexCmd` `PrintLatexCmd` should be set to shell commands which take `project.tex` and generate `project.pdf`.

`HTMMLatexCmd` 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={ ... } ,
    HTMMLatexCmd={ ... }
]{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
  },
  HTMMLatexCmd=
  {
    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 perltex 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

⚠ HTML look-alike 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`,

Pkg rterface

and the same warnings would apply.

## 9.7 *make* program

- Prog make To use *lwarp* with the *make* program, have the *makefile* take *project.tex* and generate the print version *project.pdf*, as normal. `\usepackage{lwarp}` 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 *lwarp*’s custom compilation options to add a locale change:

```
\usepackage{lwarp}[
  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 *dita*a The only example seen so far where this is required is the *dita*a package, where the locale change allows the use of UTF-8 with Xe<sup>L</sup>A<sub>E</sub>T<sub>X</sub> and *dita*a. To use Lu<sup>A</sup>L<sub>E</sub>T<sub>X</sub> instead, the locale change would have to be made inside the *dita*a package where its calls the *dita*a 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 ⇒ lwarpmk cleanall
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk 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:

- 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 LATEX and TEX 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 LATEX 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 LATEX 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.

---

Table 10: Section HTML headings for word-processor conversion

Section	HTML headings*			
	With \chapter		Without \chapter	
	WPTitleHeading	WPTitleHeading	true	false
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 201.

### WPTitleHeading

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 185.

## 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  
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  
Cross references are not actual LIBREOffice linked cross references.

LIST OF FIGURES AND LIST OF TABLES  
The List of Figures and List of Tables are not linked. The pasted pseudo LOF and LOT match the numbering of the L<sup>A</sup>T<sub>E</sub>X and HTML versions.

EQUATION NUMBERING  
Equation numbering is not automatic, but the equation numbers in SVG math will match the L<sup>A</sup>T<sub>E</sub>X 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  
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.

LIMITATIONS WITH FRAMES AND BACKGROUNDS  
LIBREOffice 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 lwarp

locating something	To quickly find the source for a package in <code>lwarp.dtx</code> , search for <code>*packagename</code> , such as <code>*siunitx</code> .
	Likewise, to quickly find the source for a file in <code>lwarp.dtx</code> , search for <code>*filename</code> , such as <code>*lwarp.css</code> .
	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 <code>\lateximage</code> then displayed with an image of the resulting L <sup>A</sup> T <sub>E</sub> X output. See section 91 for an example of the <code>picture</code> environment.
css classes	To create a custom HTML block or inline css class, see section 51.9.
print/HTML macros	To create print and HTML versions of the same macro or environment, see section 35.
⚠ TEX boxes	Any TeX boxes must be undone, as SVG math or <code>\lateximages</code> require <code>\newpage</code> , which will not work in a TeX box.

### 12.1 Creating a development system

The following creates a local development system for `lwarp` on a TeXLive system in a UNIX-like environment. Doing so allows anything requesting `lwarp` to use the development version instead of whichever version is installed in TeXLive.

#### Create a development directory:

Place into this directory `lwarp.dtx` and `lwarp.ins`.

To create `lwarp.sty`, execute

Enter ⇒ `pdflatex lwarp.ins`

which creates `lwarp.sty` and several hundred additional `lwarp-*.sty` files for the various packages which are supported.

To create the initial documentation `lwarp.pdf`, execute

Enter ⇒ `pdflatex lwarp.dtx`

#### To make the development files visible to other projects:

Create the directory

```
/usr/local/texlive/texmf-local/tex/latex/local/lwarp
```

Inside this directory, create the file `update`, containing:

---

```
rm lwarp-*.sty
ln -s /path_to_dev_directory/lwarp*.sty .
ln -s /path_to_dev_directory/lwarp_baseline_marker.png .
ln -s /path_to_dev_directory/lwarp_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 LATEX 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 417 (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 `lwarp.dtx` file

When adding a package to `lwarp.dtx` for permanent including in `lwarp`, provide the `lwarp-<packagename>` code in `lwarp.dtx`, add its entry into `lwarp.ins`, and also remember to add

```
\LWR@loadafter{<packagename>}
```

to `lwarp.dtx` in section 20.1. This causes `lwarp` to stop with an error if `packagename` is loaded before `lwarp`. Finally, add an entry in table 2, [Supported packages and features](#), and also the Updates section.

## 12.3 Modifying a class for `lwarp`

If a class loads additional packages, it will be required to modify the class for `lwarp`, since `lwarp` must be loaded before most other packages.

To work with `lwarp`, 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 `lwarp`, then finally load and adjust any other required packages.

## 12.4 Testing `lwarp`

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 `lwarp.dtx`:

1. Change the source in `lwarp.dtx`.
2. `pdflatex lwarp.ins`
3. `pdflatex lwarp.dtx`
4. If modifying `lwarpmk` the new version should now be active.
5. If modifying css files:
  - (a) For the document, `lwarpmk` prints 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    `lwarpmk`  
File    `lwarpmk.lua`    In most installations, `lwarpmk.lua` is an executable file located somewhere the operating 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 lwarf package error conditions and warnings

lwarf 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 lwarf. So far only Unix and Windows are supported.

**Incorrect delimiter characters.** Older versions of `lwarpmk` used a different delimiter.

**Source name is set to lwarf:** lwarf has recently been recompiled in this directory, which overwrote the project's configuration files. This also occurs if `lwarpmk` is executed in lwarf'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:** lwarf 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:** lwarf 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, XE<sup>L</sup>L<sup>A</sup>T<sub>E</sub>X, L<sup>A</sup>U<sup>L</sup>TEX, 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.

**l warpmk epstopdf \*** or **l warpmk pdftosvg \***: Errors if filenames are not found.

### 13.1.3 Default bitmapped font

l warp requires the use of a vector font. If l warp 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 l warp:** Some packages and classes must be loaded before l warp. These include input and font encoding, morewrites and newclude, and a number of CJK-related packages and classes.

**Loaded after l warp:** Most packages which are modified by l warp must be loaded after l warp.

**Loaded never:** Some packages do not work with l warp. 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:** l warp tries to patch some packages using xpatch. If the original package has been updated more recently than l warp, a patch may not work. It may be necessary to use an older version of the package until l warp is updated.

**longtable:** l warp’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 langauges 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:** l warp 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**
- Mutirow:** 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>T</sup>E<sub>X</sub> 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<sup>A</sup>T<sub>E</sub>X.

## 13.2 Using the lwarp 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** **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<sup>A</sup>T<sub>E</sub>X 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 lwarp 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 `\@fleattype` 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. . . . \begindocumenthook”:**  
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 35 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 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 lwarf'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 `lwarfmk` again followed by `lwarfmk html` or `lwarfmk print` to compile the document one more time.
- 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). `\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 728 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<sub>1</sub><sup>4</sup>L<sub>A</sub>T<sub>E</sub>X or L<sub>A</sub>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 `lwarpmk 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 `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.<sup>16</sup> 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 L<sub>A</sub>T<sub>E</sub>X recompile warnings.

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<sub>A</sub>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<sub>A</sub>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 lwarpmk 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

\tracinglwarf When \tracinglwarf is used, lwarf will add extra tracing messages to the .log file. The last several messages may help track down errors.

Place \tracinglwarf just after \usepackage{lwarf} to activate tracing.

### 13.3 Compiling the lwarf.dtx file

**lwarf\_tutorial.tex:** Copy or link lwarf\_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 lwarf.sty file:

1. Delete the lwarf.sty file.
2. Enter pdflatex lwarf.ins to generate a new lwarf.sty file.
3. Enter pdflatex lwarf.dtx to recompile the lwarf.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

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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 crude hacks 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	L <small>A</small> T <small>E</small> X 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 185.

## 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 lwarf 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 lwarf package.

**line numbers** The small numbers at the left end of a line refer to line numbers in the lwarf.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 files, packages, environments, booleans, and counters. Items without a tag are

**index entries** 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 generation of HTML, print, or both forms of output.

**for PRINT output:**

**for HTML & PRINT:**

## 18 Detecting the **TEX** engine — *pdflatex*, *lualatex*, *xelatex*

See: <http://tex.stackexchange.com/a/47579>.

Detects XETEX and LUALXETEX:

```

1 \RequirePackage{iftex}[2019/11/07]
2 \RequirePackage{ifpdf}
3 \RequirePackage{ifptex}
4
5 \newif\ifxetexorluatex
6
7 \ifXeTeX
8     \xetexorluatextrue
9 \else
10    \ifLuaTeX
11        \xetexorluatextrue
12    \else
13        \xetexorluatexfalse
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 `lwarp` 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 `lwarp`.

## 20.1 Tests of package load order

`\LWR@loadafter {<packagename>}` Error if this package was loaded before `lwarp`.

```

20 \newcommand*{\LWR@Loadafter}[1]{%
21 \@ifpackageloaded{#1}%
22 {%
23     \PackageError{lwarp}%
24     {%
25         Package #1,\MessageBreak
26         or one which uses #1,\MessageBreak
27         must be loaded after Lwarp.\MessageBreak
28         Enter 'H' for possible solutions%
29     }%
30     {Move ``\protect\usepackage{#1}'' after
31      ``\protect\usepackage{lwarp}''.\MessageBreak
32      Package #1 may also be loaded by something else,\MessageBreak
33      which must also be moved after Lwarp.}%
34 }%
35 {}%
36 }
```

`\LWR@notmemoirloadafter {<packagename>}` Error if not `memoir` class and this package was loaded before `lwarp`.

`memoir` emulates many packages, and pretends that they have already been loaded.

```

37 \@ifclassloaded{memoir}%
38 {\newcommand*{\LWR@notmemoirloadafter}[1]{}}
39 {\LetLtxMacro{\LWR@notmemoirloadafter}{\LWR@loadafter}}
```

`\LWR@notltjloadafter {<packagename>}` Error if not a `ltjs*` class and this package was loaded before `lwarp`.

```

40 \LetLtxMacro{\LWR@notltjloadafter}{\LWR@loadafter}
41
42 \@ifclassloaded{ltjarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
43 \@ifclassloaded{ltjbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
44 \@ifclassloaded{ltjreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
45 \@ifclassloaded{ltjsarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
46 \@ifclassloaded{ltjsbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
47 \@ifclassloaded{ltjsreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
48 \@ifclassloaded{ltjspf}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
49 \@ifclassloaded{ltjskiyou}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
```

---

```

50 \@ifclassloaded{ltjtarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
51 \@ifclassloaded{ltjtbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
52 \@ifclassloaded{ltjtreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}

```

\LWR@loadbefore {*packagename*} Error if this package is loaded after lwarp.

```

53 \newcommand*{\LWR@Loadbefore}[1]{%
54 \@ifpackageloaded{#1}%
55 {}%
56 {%
57     \PackageError{lwarp}%
58     {%
59         Package #1 must be loaded before lwarp.\MessageBreak
60         Enter 'H' for possible solutions%
61     }%
62     {Move ‘‘\protect\usepackage{#1}’’ before ‘‘\protect\usepackage{lwarp}’’.}%
63 }%
64 }

```

\LWR@checkloadbefore {*thispackagename*} {*packagename*}

If package names match, error if it is loaded after lwarp.

```

65 \newcommand*{\LWR@checkloadbefore}[2]{%
66     \edef\LWR@tempone{#1}%
67     \ifdefstring{\LWR@tempone}{#2}{%
68         \LWR@loadbefore{#1}%
69     }{}%
70 }

```

\LWR@loadnever {*badpackagename*} {*replacementpkgnames*}

The first packages is not supported, so tell the user to use the second instead.

```

71 \newcommand*{\LWR@loadnever}[2]{%
72 \PackageError{lwarp}%
73 {%
74     Package #1 is not supported\MessageBreak
75     by lwarp's HTML conversion.\MessageBreak
76     Package(s)\MessageBreak
77     \space\space#2\MessageBreak
78     may be useful instead%
79 }%
80 {%
81     Package #1 might conflict with lwarp in some way,\MessageBreak
82     or is superceded by another package.\MessageBreak
83     For a possible alternative, see package(s) #2.%
84 }%
85 }

```

\LWR@checkloadnever {*thispackagename*} {*badpackagename*} {*replacementpkgnames*}

If this package name is the bad packagename, suggest the replacements instead.

```

86 \newcommand*{\LWR@checkloadnever}[3]{%
87     \edef\LWR@tempone{#1}%
88     \ifdefstring{\LWR@tempone}{#2}{%
89         \LWR@loadnever{#2}{#3}%
90     }{}%
91 }

```

\LWR@earlyloadnever {*<badpackagename>*} {*<replacementpkgnname>*}

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.

```

92 \newcommand*{\LWR@earlyloadnever}[2]{%
93     \@ifpackageloaded{#1}{%
94         \LWR@loadnever{#1}{#2}%
95     }{}%
96 }

```

\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.

```

97 \newcommand*{\LWR@earlyclassloadnever}[2]{%
98 \@ifclassloaded{#1}{%
99 \PackageError{lwarp}%
100 {%
101     Class #1 is not supported\MessageBreak
102     by lwarp's HTML conversion.\MessageBreak
103     Class(es) #2 may be useful instead
104 }%
105 }%
106     Class #1 might conflict with lwarp in some way,\MessageBreak
107     or is superceded by another class.\MessageBreak
108     For a possible alternative, see class(es) #2.
109 }%
110 }{}%
111 }

```

## 20.2 Error for disallowed packages and classes loaded before lwarp

```

112 \LWR@earlyclassloadnever{jarticle}{ujarticle}
113 \LWR@earlyclassloadnever{jbook}{ujbook}
114 \LWR@earlyclassloadnever{jreport}{ujreport}
115 \LWR@earlyclassloadnever{tarticle}{utarticle}
116 \LWR@earlyclassloadnever{tbook}{utbook}
117 \LWR@earlyclassloadnever{treport}{utreport}
118 \LWR@earlyloadnever{ae}{cm-super, lmodern}
119 \LWR@earlyloadnever{ae compl}{cm-super, lmodern}
120 \LWR@earlyloadnever{aecc}{cm-super, lmodern}

```

```

121 \LWR@earlyloadnever{alg}{algorithm2e, algorithmicx}
122 \LWR@earlyloadnever{algorithmic}{algorithm2e, algorithmicx}
123 \LWR@earlyloadnever{bitfield}{bytefield}
124 \LWR@earlyloadnever{caption2}{caption}
125 % \LWR@earlyloadnever{ccaption}{caption} might be preloaded by memoir
126 \LWR@earlyloadnever{colortab}{colortbl}
127 \LWR@earlyloadnever{csvtools}{datatool}
128 \LWR@earlyloadnever{doublespace}{setspace}
129 \LWR@earlyloadnever{epsf}{graphicx}
130 \LWR@earlyloadnever{fancyheadings}{fancyhdr}
131 \LWR@earlyloadnever{fncylab}{cleveref}
132 \LWR@earlyloadnever{formula}{siunitx}
133 \LWR@earlyloadnever{glossary}{glossaries}
134 \LWR@earlyloadnever{hyper}{hyperref}
135 \LWR@earlyloadnever{newthm}{ntheorem}
136 \LWR@earlyloadnever{pdfcprot}{microtype}
137 \LWR@earlyloadnever{picinpar}{floatflt, wrapfig}
138 \LWR@earlyloadnever{picins}{floatflt, wrapfig}
139 \LWR@earlyloadnever{rplain}{fancyhdr}
140 \LWR@earlyloadnever{si}{siunitx}
141 \LWR@earlyloadnever{sistyle}{siunitx}
142 \LWR@earlyloadnever{slashbox}{diagbox}
143 \LWR@earlyloadnever{statex}{statex2}
144 \LWR@earlyloadnever{t1enc}{fontenc, inputenc, inputenx}
145 \LWR@earlyloadnever{ucs}{inputenc, inputencx}
146 \LWR@earlyloadnever{wasysym}{textcomp, amssymb, mnsymbol, fdsymbol}

```

The older CJK and CJKutf8 only work with xeCJK:

```

147 @ifpackageloaded{xeCJK}{}{
148     \LWR@earlyloadnever{CJK}{ctex, xeCJK}
149     \LWR@earlyloadnever{CJKutf8}{ctex, xeCJK}
150 }

```

**bxcjkjatype** is based on CJK:

```
151 \LWR@earlyloadnever{bxcjkjatype}{upLaTeX, bxjsarticle, ujarticle, utarticle}
```

**hangul** is not in TeXLive, and is not tested:

```
152 \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:

```

153 \LWR@loadafter{2in1}
154 \LWR@loadafter{2up}
155 \LWR@loadafter{a4}
156 \LWR@loadafter{a4wide}
157 \LWR@loadafter{a5comb}

```

```
158 \LWR@notmemoirloadafter{abstract}
159 \LWR@loadafter{academicons}
160 \LWR@loadafter{accents}
161 \LWR@loadafter{accessibility}
162 \LWR@loadafter{acssupp}
163 \LWR@loadafter{acro}
164 \LWR@loadafter{acronym}
165 \LWR@loadafter{adjmulticol}
166 \LWR@loadafter{addlines}
167 \LWR@loadafter{afterpage}
168 \LWR@loadafter{algorithm2e}
169 \LWR@loadafter{algorithmicx}
170 \LWR@loadafter{alltt}
171 % \LWR@loadafter{amsmath}% may be preloaded
172 % \LWR@loadafter{amsthm}% may be preloaded
173 \LWR@loadafter{anonchap}
174 \LWR@loadafter{anyfontsize}
175 \LWR@notmemoirloadafter{appendix}
176 \LWR@loadafter{ar}
177 \LWR@loadafter{arabicfront}
178 \LWR@notmemoirloadafter{array}
179 \LWR@loadafter{arydshln}
180 \LWR@loadafter{asymptote}
181 % \LWR@loadafter{atbegshi}% now in LaTeX core, also used by morewrites
182 \LWR@loadafter{attachfile}
183 \LWR@loadafter{attachfile2}
184 \LWR@loadafter{authblk}
185 \LWR@loadafter{authoraftertitle}% Supported as-is, but must be loaded after.
186 \LWR@loadafter{autobreak}
187 \LWR@loadafter{autonum}
188 \LWR@loadafter{awesomebox}
189 \LWR@loadafter{axessibility}
190 \LWR@loadafter{axodraw2}
191 \LWR@loadafter{backnaur}
192 \LWR@loadafter{backref}
193 \LWR@loadafter{balance}
194 \LWR@loadafter{bbding}
195 \LWR@loadafter{bigdelim}
196 \LWR@loadafter{bigfoot}
197 \LWR@loadafter{bigstrut}
198 \LWR@loadafter{bitpattern}
199 \LWR@loadafter{blowup}
200 \LWR@loadafter{bm}
201 \LWR@loadafter{booklet}
202 \LWR@loadafter{bookmark}
203 \LWR@notmemoirloadafter{booktabs}
204 \LWR@loadafter{bophook}
205 \LWR@loadafter{boundddvi}
206 \LWR@loadafter{boxedminipage}
207 \LWR@loadafter{boxedminipage2e}
208 \LWR@loadafter{braket}
209 \LWR@loadafter{breakurl}
210 \LWR@loadafter{breqn}
211 \LWR@loadafter{bsheaders}
212 \LWR@loadafter{bxpapersize}
```

```
213 \LWR@loadaft{bytefield}
214 \LWR@loadaft{cancel}
215 \LWR@loadaft{canoniclayout}
216 \LWR@loadaft{caption}
217 \LWR@loadaft{caption2}
218 \LWR@loadaft{caption3}
219 \LWR@loadaft{cases}
220 % catoptions is supported by the lwarp core
221 % \LWR@loadaft{ccaption} may be preloaded by memoir
222 % \LWR@loadaft{centernot} may be preloaded by newtx
223 \LWR@loadaft{changebar}
224 \LWR@loadaft{changelayout}
225 \LWR@notmemoirloadaft{changepage}
226 \LWR@loadaft{changes}
227 \LWR@loadaft{chappg}
228 \LWR@loadaft{chapterbib}
229 \LWR@loadaft{chemfig}
230 \LWR@loadaft{chemformula}
231 \LWR@loadaft{chemgreek}
232 \LWR@loadaft{chemmacros}
233 \LWR@loadaft{chemnum}
234 \LWR@loadaft{chkfloat}
235 \LWR@notmemoirloadaft{chngpage}
236 \LWR@loadaft{cite}
237 \LWR@loadaft{citeref}
238 \LWR@loadaft{cleveref}
239 \LWR@loadaft{cmdtrack}
240 \LWR@loadaft{colonequals}
241 \LWR@loadaft{color}
242 \LWR@loadaft{colortbl}
243 \LWR@loadaft{continue}
244 \LWR@loadaft{copyrightbox}
245 \LWR@notmemoirloadaft{crop}
246 % ctex must be loaded before lwarp
247 \LWR@loadaft{ctable}
248 \LWR@loadaft{cuted}
249 \LWR@loadaft{cutwin}
250 \LWR@loadaft{dblfloatfix}
251 \LWR@loadaft{dblfnote}
252 \LWR@notmemoirloadaft{dcolumn}
253 \LWR@loadaft{decimal}
254 \LWR@loadaft{diagbox}
255 \LWR@loadaft{dingbat}
256 \LWR@loadaft{DotArrow}
257 \LWR@loadaft{dotlessi}
258 \LWR@loadaft{dprogress}
259 \LWR@loadaft{draftcopy}
260 \LWR@loadaft{draftfigure}
261 \LWR@loadaft{draftwatermark}
262 \LWR@loadaft{drftcite}
263 \LWR@loadaft{easy-todo}
264 \LWR@loadaft{ebook}
265 \LWR@loadaft{econometrics}
266 \LWR@loadaft{ed}
267 \LWR@loadaft{ellipsis}
```

```
268 \LWR@loadaft{embrac}
269 \LWR@loadaft{emptypage}
270 \LWR@loadaft{endfloat}
271 \LWR@loadaft{endheads}
272 \LWR@loadaft{endnotes}
273 \LWR@loadaft{englcc}
274 \LWR@notmemoirloadaft{enumerate}
275 \LWR@loadaft{enumitem}
276 \LWR@notmemoirloadaft{epigraph}
277 \LWR@loadaft{epsfig}
278 \LWR@loadaft{epstopdf}
279 \LWR@loadaft{epstopdf-base}
280 \LWR@loadaft{eqlist}
281 \LWR@loadaft{eqparbox}
282 \LWR@loadaft{errata}
283 \LWR@loadaft{eso-pic}
284 \LWR@loadaft{etoc}
285 \LWR@loadaft{eurosym}
286 \LWR@loadaft{everypage}
287 % \LWR@loadaft{everyshi} now in LaTeX core
288 \LWR@loadaft{extarrows}
289 \LWR@loadaft{extramarks}
290 \LWR@loadaft{fancybox}
291 \LWR@loadaft{fancyhdr}
292 \LWR@loadaft{fancyref}
293 \LWR@loadaft{fancytabs}
294 \LWR@loadaft{fancyvrb}
295 \LWR@loadaft{fbox}
296 \LWR@loadaft{fewerfloatpages}
297 \LWR@loadaft{figcaps}
298 \LWR@loadaft{figsize}
299 \LWR@loadaft{fitbox}
300 \LWR@loadaft{fix2col}
301 \LWR@loadaft{fixme}
302 \LWR@loadaft{fixmetodonotes}
303 \LWR@loadaft{flafter}
304 \LWR@loadaft{flippdf}
305 \LWR@loadaft{float}
306 \LWR@loadaft{floatflt}
307 \LWR@loadaft{floatpag}
308 \LWR@loadaft{floatrow}
309 \LWR@loadaft{fltrace}
310 \LWR@loadaft{flushend}
311 \LWR@loadaft{fnbreak}
312 \LWR@loadaft{fncychap}
313 \LWR@loadaft{fnlineno}
314 \LWR@loadaft{fnpara}
315 \LWR@loadaft{fnpos}
316 \LWR@loadaft{fontawesome}
317 \LWR@loadaft{fontawesome5}
318 % fontenc must be loaded before lwarf
319 % fontsenc must be loaded before lwarf
320 \LWR@loadaft{footmisc}
321 \LWR@loadaft{footnote}
322 \LWR@loadaft{footnotebackref}
```

```
323 \LWR@loadaft{footnotehyper}
324 \LWR@loadaft{footnoterange}
325 \LWR@loadaft{footnpag}
326 \LWR@loadaft{foreign}
327 \LWR@loadaft{forest}
328 \LWR@loadaft{fouridx}
329 \LWR@loadaft{framed}
330 \LWR@loadaft{ftcap}
331 \LWR@loadaft{ftnright}
332 \LWR@loadaft{fullminipage}
333 \LWR@loadaft{fullpage}
334 \LWR@loadaft{fullwidth}
335 \LWR@loadaft{fwlw}
336 \LWR@loadaft{gensymb}
337 \LWR@loadaft{gentombow}
338 % geometry is always loaded by lwarf, and lwarf-geometry is AtBeginDocument
339 \LWR@loadaft{ghsystem}
340 \LWR@loadaft{gindex}
341 \LWR@loadaft{glossaries}
342 \LWR@loadaft{gmetric}
343 % \LWR@loadaft{graphics} % pre-loaded by xunicode
344 % \LWR@loadaft{graphicx} % pre-loaded by xunicode
345 \LWR@loadaft{gloss}
346 \LWR@loadaft{glossary}
347 \LWR@loadaft{grffile}
348 \LWR@loadaft{grid}
349 \LWR@loadaft{grid-system}
350 \LWR@loadaft{gridset}
351 \LWR@loadaft{hang}
352 \LWR@loadaft{hanging}
353 \LWR@loadaft{hepunits}
354 \LWR@loadaft{hhline}
355 \LWR@loadaft{hhtensor}
356 \LWR@loadaft{hypbmsec}
357 \LWR@loadaft{hypcap}
358 \LWR@loadaft{hypdestopt}
359 \LWR@loadaft{hypernat}
360 \LWR@loadaft{hyperref}
361 \LWR@loadaft{hyperxmp}
362 \LWR@loadaft{hyphenat}
363 \LWR@loadaft{idxlayout}
364 \LWR@loadaft{ifoddpage}
365 \LWR@loadaft{imakeidx}
366 \LWR@notmemoirloadaft{index}
367 % inputenc must be loaded before lwarf
368 % inputenx must be loaded before lwarf
369 % inputtrc may be loaded before lwarf
370 \LWR@loadaft{intopdf}
371 \LWR@loadaft{jurabib}
372 \LWR@loadaft{karnaugh-map}
373 \LWR@loadaft{keyfloat}
374 \LWR@loadaft{layaureo}
375 \LWR@loadaft{layout}
376 \LWR@loadaft{layouts}
377 \LWR@loadaft{leading}
```

```
378 \LWR@loadaft{leftidx}
379 \LWR@loadaft{letterspace}
380 \LWR@loadaft{lettrine}
381 \LWR@loadaft{lineno}
382 \LWR@loadaft{lips}
383 \LWR@loadaft{listings}
384 \LWR@loadaft{listliketab}
385 \LWR@loadaft{longtable}
386 \LWR@loadaft{lscape}
387 \LWR@loadaft{ltablex}
388 \LWR@loadaft{ltcaption}
389 \LWR@loadaft{ltxgrid}
390 \LWR@loadaft{ltxtable}
391 \LWR@loadaft{lua-check-hyphen}
392 \LWR@loadaft{lua-visual-debug}
393 \LWR@loadaft{luacolor}
394 \LWR@loadaft{luamplib}
395 \LWR@loadaft{luatodonotes}
396 \LWR@loadaft{lyluatex}
397 \LWR@loadaft{magaz}
398 \LWR@notmemoirloadaft{makeidx}
399 \LWR@loadaft{manyfoot}
400 \LWR@loadaft{marginfit}
401 \LWR@loadaft{marginfix}
402 \LWR@loadaft{marginnote}
403 \LWR@loadaft{marvosym}
404 % mathalpha may be loaded before lwarp
405 \LWR@loadaft{mathcomp}
406 \LWR@loadaft{mathdesign}
407 \LWR@loadaft{mathdots}
408 \LWR@loadaft{mathfixs}
409 \LWR@loadaft{mathpazo}
410 \LWR@loadaft{mathptmx}
411 \LWR@loadaft{mathtools}
412 \LWR@loadaft{mcaption}
413 \LWR@loadaft{mdframed}
414 \LWR@loadaft{media9}
415 \LWR@loadaft{memhfixc}
416 \LWR@loadaft{metalogo}
417 \LWR@loadaft{metalogox}
418 \LWR@loadaft{mhchem}
419 \LWR@loadaft{microtype}
420 \LWR@loadaft{midfloat}
421 \LWR@loadaft{midpage}
422 \LWR@loadaft{minibox}
423 \LWR@loadaft{minitoc}
424 \LWR@loadaft{mismath}
425 \LWR@loadaft{mleftright}
426 % morefloats must be allowed early for print mode
427 \LWR@notmemoirloadaft{moreverb}
428 % morewrites must be loaded before lwarp
429 \LWR@notmemoirloadaft{movie15}
430 \LWR@notmemoirloadaft{mparhack}
431 \LWR@loadaft{multibib}
432 \LWR@loadaft{multicap}
```

```
433 \%LWR@loadaft{multicol}% loaded by ltxdoc
434 \LWR@loadaft{multicolrule}
435 \LWR@loadaft{multimedia}
436 \LWR@loadaft{multiobjective}
437 \LWR@loadaft{multirow}
438 \LWR@loadaft{multitoc}
439 \LWR@loadaft{musicography}
440 \LWR@loadaft{nameauth}
441 \LWR@loadaft{nameref}
442 \LWR@loadaft{natbib}
443 \LWR@notmemoirloadaft{nccfancyhdr}
444 \LWR@loadaft{nccfoots}
445 \LWR@loadaft{nccmath}
446 \LWR@notmemoirloadaft{needspace}
447 % newclude must be loaded before lwarf
448 % newpxmath may be preloaded
449 % newtxmath may be loaded before lwarf
450 % newtxsf may be loaded before lwarf
451 % newunicodechar must be loaded before lwarf
452 \LWR@notmemoirloadaft{nextpage}
453 \LWR@loadaft{nicefrac}
454 \LWR@loadaft{niceframe}
455 \LWR@loadaft{noitcrul}
456 \LWR@loadaft{nolbreaks}
457 \LWR@loadaft{nomencl}
458 \LWR@loadaft{nonfloat}
459 \LWR@loadaft{nonumonpart}
460 \LWR@loadaft{nopageno}
461 \LWR@loadaft{notes}
462 \LWR@loadaft{notespages}
463 \LWR@loadaft{nowidow}
464 \LWR@loadaft{nttheorem}
465 \LWR@loadaft{octave}
466 \LWR@loadaft{overpic}
467 \LWR@loadaft{pagegrid}
468 \LWR@notmemoirloadaft{pagenote}
469 \LWR@loadaft{pagesel}
470 \LWR@loadaft{paralist}
471 \LWR@loadaft{parallel}
472 \LWR@loadaft{parcolumns}
473 \LWR@loadaft{parnotes}
474 \LWR@notmemoirloadaft{parskip}
475 \LWR@loadaft{pbox}
476 \LWR@loadaft{pdfcol}
477 \LWR@loadaft{pdfcolfoot}
478 \LWR@loadaft{pdfcolmk}
479 \LWR@loadaft{pdfcolparallel}
480 \LWR@loadaft{pdfcolparcolumns}
481 \LWR@loadaft{pdfcomment}
482 \LWR@loadaft{pdfcrypt}
483 \LWR@loadaft{pdflandscape}
484 \LWR@loadaft{pdfmarginpar}
485 \LWR@loadaft{pdfpages}
486 \LWR@loadaft{pdfprivacy}
487 \LWR@loadaft{pdfrender}
```

```
488 \LWR@loadaft{pdfsync}
489 \LWR@loadaft{pdftricks}
490 \LWR@loadaft{pdfx}
491 \LWR@loadaft{perpage}
492 \LWR@loadaft{pfnote}
493 \LWR@loadaft{phfqt}
494 \LWR@loadaft{physics}
495 \LWR@loadaft{physunits}
496 \LWR@loadaft{pifont}
497 \LWR@loadaft{placeins}
498 \LWR@loadaft{plarray}
499 \LWR@loadaft{plarydshln}
500 \LWR@loadaft{plextarray}
501 \LWR@loadaft{plextarydshln}
502 \LWR@loadaft{plcolortbl}
503 \LWR@loadaft{plextdelarray}
504 \LWR@loadaft{prelim2e}
505 \LWR@loadaft{prettyref}
506 \LWR@loadaft{preview}
507 \LWR@loadaft{psfrag}
508 \LWR@loadaft{psfragx}
509 \LWR@loadaft{pst-eps}
510 \LWR@loadaft{pstool}
511 \LWR@loadaft{pstricks}
512 % \LWR@loadaft{pxatbegshi} may be used by morewrites
513 \LWR@loadaft{pxeveryshi}
514 \LWR@loadaft{pxfonts}
515 \LWR@loadaft{pxftnright}
516 \LWR@loadaft{pxjahyper}
517 \LWR@loadaft{quotchap}
518 \LWR@loadaft{quoting}
519 \LWR@loadaft{ragged2e}
520 \LWR@loadaft{realscripts}
521 \LWR@loadaft{refcheck}
522 \LWR@loadaft{register}
523 \LWR@loadaft{relsize}
524 \LWR@loadaft{repeatindex}
525 \LWR@loadaft{resizegather}
526 \LWR@loadaft{returntogram}
527 \LWR@loadaft{rmathbr}
528 \LWR@loadaft{rmpage}
529 \LWR@loadaft{romanbar}
530 \LWR@loadaft{romanbarpagenumber}
531 \LWR@loadaft{rotating}
532 \LWR@loadaft{rotfloat}
533 \LWR@loadaft{rviewport}
534 \LWR@loadaft{savetrees}
535 % scalefnt is loaded by babel-french
536 \LWR@loadaft{schemata}
537 \LWR@loadaft{scrextend}
538 \LWR@loadaft{scrhack}
539 \LWR@loadaft{scrlayer}
540 \LWR@loadaft{scrlayer-notecolumn}
541 \LWR@loadaft{scrlayer-scrpage}
542 \LWR@loadaft{scrpage2}
```

```
543 \LWR@loadaftersection}
544 \LWR@loadaftersectionbreak}
545 \LWR@loadaftersectsty}
546 \LWR@loadaftersemantic-markup}
547 \LWR@notmemoirloadaftersetupspace}
548 \LWR@loadaftershadow}
549 \LWR@loadaftershapepar}
550 \LWR@notmemoirloadaftershowidx}
551 \LWR@loadaftershowkeys}
552 \LWR@loadaftershowtags}
553 \LWR@loadaftershuffle}
554 \LWR@loadaftersidecap}
555 \LWR@loadaftersidenotes}
556 \LWR@loadaftersIunits}
557 \LWR@loadaftersiunitx}
558 \LWR@loadafterslantsc}
559 \LWR@loadafterslashed}
560 \LWR@loadaftersoul}
561 \LWR@loadaftersoulpos}
562 \LWR@loadaftersoulutf8}
563 \LWR@loadaftersplitbib}
564 \LWR@loadaftersplitidx}
565 \LWR@loadaftersrcctx}
566 \LWR@loadaftersrctex}
567 \LWR@loadaftersstabular}
568 \LWR@loadaftersstackengine}
569 \LWR@loadaftersstackrel}
570 \LWR@loadaftersstatex2}
571 \LWR@loadaftersstatmath}
572 \LWR@loadafterssteinmetz}
573 \LWR@notltjloadaftersstfloats}
574 \LWR@loadaftersstruktex}
575 \LWR@loadaftersubcaption}
576 \LWR@loadaftersubfig}
577 \LWR@loadaftersubfigure}
578 \LWR@loadaftersubsupscripts}
579 \LWR@loadaftersupertabular}
580 \LWR@loadaftersvg}
581 \LWR@loadaftersyntonly}
582 \LWR@loadaftert1inc}
583 \LWR@loadaftertabfigures}
584 \LWR@loadaftertabs}
585 \LWR@loadaftertablefootnote}
586 \LWR@notmemoirloadaftertabularx}
587 \LWR@loadaftertabulary}
588 \LWR@loadaftertagpdf}
589 \LWR@loadaftertascmac}
590 \LWR@loadaftertcolorbox}
591 \LWR@loadaftertermcal}
592 \LWR@loadaftertextarea}
593 % \LWR@loadaftertextcomp% maybe before lwarp with font packages
594 \LWR@loadaftertextfit}
595 \LWR@loadaftertextpos}
596 \LWR@loadaftertexttheorem}
597 \LWR@loadaftertextthinspace}
```

```
598 \LWR@loadaft{thm-listof}
599 \LWR@loadaft{thm-restate}
600 \LWR@loadaft{thmbox}
601 \LWR@loadaft{thmtools}
602 \LWR@loadaft{threadcol}
603 \LWR@loadaft{threeparttable}
604 \LWR@loadaft{threeparttablex}
605 \LWR@loadaft{thumb}
606 \LWR@loadaft{thumbs}
607 \LWR@loadaft{tikz}
608 \LWR@loadaft{titleps}
609 \LWR@loadaft{titlesec}
610 \LWR@loadaft{titletoc}
611 \LWR@notmemoirloadaft{titling}
612 % \LWR@loadaft{tocbasic}% preloaded by koma-script classes
613 \LWR@notmemoirloadaft{tocbibind}
614 \LWR@loadaft{tocdata}
615 \LWR@loadaft{toccenter}
616 \LWR@notmemoirloadaft{tocloft}
617 \LWR@loadaft{tocstyle}
618 \LWR@loadaft{todo}
619 \LWR@loadaft{todonotes}
620 \LWR@loadaft{topcapt}
621 \LWR@loadaft{tram}
622 \LWR@loadaft{transparent}
623 \LWR@loadaft{trimclip}
624 \LWR@loadaft{trivfloat}
625 \LWR@loadaft{truncate}
626 \LWR@loadaft{turnthepage}
627 \LWR@loadaft{txfonts}
628 \LWR@loadaft{twoup}

629 % \LWR@loadaft{typearea}% preloaded by koma-script classes
630 \LWR@loadaft{typicons}
631 % \LWR@loadaft{ulem}% preloaded by ctexart and related classes
632 \LWR@loadaft{umoline}
633 \LWR@loadaft{underscore}
634 \LWR@loadaft{unicode-math}
635 \LWR@loadaft{units}
636 \LWR@loadaft{unitsdef}
637 \LWR@loadaft{upgreek}
638 \LWR@loadaft{upref}
639 \LWR@loadaft{url}
640 \LWR@loadaft{ushort}
641 \LWR@loadaft{uspace}
642 \LWR@loadaft{variorref}
643 \LWR@notmemoirloadaft{verse}
644 \LWR@loadaft{versonotes}
645 \LWR@loadaft{vertbars}
646 \LWR@loadaft{vmargin}
647 \LWR@loadaft{vowel}
648 \LWR@loadaft{vpe}
649 \LWR@loadaft{vwcol}
650 \LWR@loadaft{wallpaper}
651 \LWR@loadaft{watermark}
```

---

```

652 \LWR@loadaft{widetable}
653 \LWR@loadaft{widows-and-orphans}
654 \LWR@loadaft{witharrows}
655 \LWR@loadaft{wrapfig}
656 \LWR@loadaft{xbmks}
657 \LWR@loadaft{xcolor}
658 \LWR@loadaft{xchangebar}
659 \LWR@loadaft{xellipsis}
660 % xetexko-vertical must be loaded before lwarp
661 \LWR@loadaft{xfakebold}
662 \LWR@loadaft{xfrac}
663 \LWR@loadaft{xltabular}
664 \LWR@loadaft{xltxttra}
665 \LWR@loadaft{xmpincl}
666 \LWR@loadaft{xpiano}
667 \LWR@loadaft{xpinyin}
668 \LWR@loadaft{xr}
669 \LWR@loadaft{xr-hyper}
670 \LWR@loadaft{xtab}
671 % xunicode must be loaded before lwarp
672 \LWR@loadaft{xurl}
673 \LWR@loadaft{xy}
674 \LWR@loadaft{zwpagelayout}

```

## 21 MD5 hashing

The MD5 hash is used for `lateximage` filenames for SVG math.

```

675 \newcommand{\LWR@mdfive}[1]{%
676     \PackageError{lwarp}%
677         {No MD5 macro was found}%
678         {%
679             Lwarp must find the macros \protect\pdfmdfivesum\space
680             or \protect\mdfivesum.%%
681         }%
682 }

```

The default for `pdflATEX`, `DVILATEX`, `upLATEX`, etc:

```
683 \let\LWR@mdfive\pdfmdfivesum
```

For `LuaLATEX`:

```

684 \ifLuaTeX
685     \RequirePackage{pdftexcmds}
686     \let\LWR@mdfive\pdf@mdfivesum
687 \fi

```

For `XeLATEX`:

```
688 \ifXeTeX
```

---

```

689 \@ifundefined{pdffivesum}{}{%
690   \let\LWR@mdfive\pdfmdfivesum}
691 \@ifundefined{mdfivesum}{}{%
692   \let\LWR@mdfive\mdfivesum}
693 \fi

```

## 22 pdfLATEX T1 and UTF-8 encoding

When using pdfLATEX, 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.

XELATEX and LuaLATEX are both UTF-8 by nature.

\LWR@pdfencoding Sets T1, and also utf8 if not already set.

```

694 \newcommand*\LWR@pdfencoding{%
695   \RequirePackage[T1]{fontenc}
696
697   \@ifpackageloaded{inputenc}{}{%
698     \@ifpackageloaded{inputenx}{}{%
699       \RequirePackage[utf8]{inputenc}
700     }%
701   }%
702 }

703 \ifPDFTeX% pdflatex or dvi latex
704   \LWR@pdfencoding
705 \fi
706
707 \ifpTeX
708   \LWR@pdfencoding
709 \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.

```

710 \ifpTeX
711 \else
712 \RequirePackage{newunicodechar}

```

```

713
714 \newunicodechar{x}{\texttimes}
715
716 \ifPDFTeX% pdflatex or dvi latex
717 \newunicodechar{ff}{ff}% Here, the first arguments are ligatures.
718 \newunicodechar{fi}{fi}
719 \newunicodechar{fl}{fl}
720 \newunicodechar{ffi}{ffi}
721 \newunicodechar{ffl}{ffl}
722 \newunicodechar{-}{--}
723 \newunicodechar{-}{--}
724 \fi
725
726 \fi

```

## 24 Avoid a bitmapped font

If DVI or PDF L<sup>A</sup>T<sub>E</sub>X, and if the default Computer Modern is the selected font family, ensure that cm-super or lmodern is used to provide a vector font.

```

727 \ifxetexorluatex
728 \else
729   \ifdefstring{\f@family}{cmr}{
730     \IfFileExists{type1ec.sty}{% found in cm-super
731     {}
732     {% cm-super not installed
733       \IfFileExists{lmodern.sty}{
734         \PackageInfo{lwarp}{cm-super not installed, loading lmodern}
735         \RequirePackage{lmodern}
736       }{
737         \PackageError{lwarp}{%
738           Lwarp requires a vector font.\MessageBreak
739           Install and load cm-super, lmodern, or another\MessageBreak
740           Type-1 vector font before loading lwarp.\MessageBreak
741           Enter 'H' for possible solutions%
742         }
743       }
744     {%
745       Install cm-super or lmodern.\MessageBreak
746       If lmodern, load it before lwarp:\MessageBreak
747         \space\space\protect\usepackage{lmodern}\MessageBreak
748         \space\space\protect\usepackage{lwarp}%
749       }
750     }
751   }% cm-super not installed
752 }{}% f@family
753 \fi

```

## 25 Upright quotes

In PDFTEX, preserve upright quotes in verbatim text. upquote also loads textcomp.

```
754 \ifPDFTeX
755 \RequirePackage{upquote}
756 \fi
757
758 \ifpTeX
759     \RequirePackage{upquote}
760 \fi
```

## 26 Miscellaneous tools

### 26.1 Variables

```
761 \newlength{\LWR@templengthone}
762 \newlength{\LWR@templengthtwo}
763 \newlength{\LWR@templengththree}
764 \newcounter{\LWR@tempcountone}
```

### 26.2 Lengths and units

\LWR@providelength {<\lengthname>} 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.

```
765 \newcommand*\LWR@providelength[1]{%
766     \ifdef\length{#1}{}{\newlength{#1}}%
767 }
```

\LWR@convertto {<dest unit>} {<length>}

Prints a length in the given units, without printing the unit itself.

```
768 \newcommand*{\LWR@convertto}[2]{\strip@pt\dimexpr #2*65536/\number\dimexpr 1#1}
```

\LWR@printpercentlength {<smaller>} {<larger>}

Prints a percent ratio of the two lengths.

```
769 \newcommand*{\LWR@printpercentlength}[2]{%
770     \setcounter{\LWR@tempcountone}{100*\ratio{#1}{#2}}%
771     \arabic{\LWR@tempcountone}%
772 }
```

### 26.3 Counters

\defaddtocounter {⟨name⟩} {⟨value⟩}

Locally add to a counter.

```
773 \providecommand*\defaddtocounter}[2]{%
774     \defcounter{#1}{\value{#1}+#2}%
775 }
```

### 26.4 Patching

\LWR@patcherror {⟨packagename⟩} {⟨macroname⟩}

Prints an error if could not patch a macro.

```
776 \newcommand*\LWR@patcherror}[2]{%
777     \PackageError{lwarp}{%
778         {%
779             Unable to patch package #1,\MessageBreak
780             macro \LWRbackslash #2.\MessageBreak
781             Lwarp may need to be updated%
782         }%
783         {Please contact the maintainer of the Lwarp package.}%
784 }
```

### 26.5 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.

```
785 \newcommand{\LWR@isolate}[1]{#1}%
786
787 \@ifpackageloaded{ctexpatch}{%
788     \renewcommand{\LWR@isolate}[1]{\null#1\null}%
789 }{}%
790
791 \@ifpackageloaded{xeCJK}{%
792     \renewcommand{\LWR@isolate}[1]{\null#1\null}%
793 }{}}
```

\LWR@disablepinyin Disable xpinyin during file, sidetoc, and footnote generation. Set by xpinyin.

```
794 \newcommand*\LWR@disablepinyin{}
```

## 26.6 Inserting vertical space

\LWR@forceemptyline Extra vertical space in the HTML output. Use after \LWR@stopars.

```
795 \newcommand*{\LWR@forceemptyline}{%
796     \LWR@origrule{0pt}{1\baselineskip}%
797     \LWR@orignewline%
798 }
```

## 26.7 Argument selection

\LWR@firstoffour {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩}

\LWR@secondoffour {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩}

\LWR@thirdoffour {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩}

\LWR@fourthoffour {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩}

Expands to the nth of the four arguments. Used for extra cross referencing.

```
799 \long\def\LWR@firstoffour#1#2#3#4{#1}
800 \long\def\LWR@secondoffour#1#2#3#4{#2}
801 \long\def\LWR@thirdoffour#1#2#3#4{#3}
802 \long\def\LWR@fourthoffour#1#2#3#4{#4}
```

## 26.8 Inside boxes

Greater than zero if currently inside a TeX box, thus should not use \LWR@orignewline. See section 13.2.

```
803 \newcounter{LWR@texboxdepth}
804 \setcounter{LWR@texboxdepth}{0}
```

\LWR@maybe@orignewline Only do \LWR@orignewline if not inside a TeX box.

```
805 \newcommand*{\LWR@maybe@orignewline}{%
806     \ifnumgreater{\value{LWR@texboxdepth}}{0}{\LWR@orignewline}%
807 }
```

## 26.9 Global boxes

\LWR@gsavebox {⟨macroname⟩} {⟨contents⟩}

From <https://tex.stackexchange.com/questions/288702/savebox-forgets-its-content-across-columns-inside-align>

```

808 \DeclareRobustCommand{\LWR@gsavebox}[1]{%
809   \@ifnextchar(%)
810     {\LWR@@gsavepicbox#1}{\@ifnextchar[\{\LWR@@gsavebox#1\}\LWR@gsbox#1\}]{%
811       \long\def\LWR@gsbox#1#2{\global\setbox#1\hbox{%
812         \color@setgroup#2\color@endgroup}}%
813       \def\LWR@gsavebox#1[#2]{%
814         \@ifnextchar [{\LWR@igsavebox#1[#2]}{\LWR@igsavebox#1[#2][c]}]%
815       \long\def\LWR@igsavebox#1[#2][#3]{%
816         \LWR@gsbox#1{\@imakebox[#2][#3]{#4}}}%
817       \def\LWR@gsavepicbox#1(#2,#3){%
818         \@ifnextchar[%]
819           {\LWR@igsavepicbox#1(#2,#3)}{\LWR@igsavepicbox#1(#2,#3)[[]]}%
820       \long\def\LWR@igsavepicbox#1(#2,#3)[#4]{%
821         \LWR@gsbox#1{\@imakepicbox(#2,#3)[#4]{#5}}}%
822 \def\LWR@glrbox#1{%
823   \edef\reserved@a{%
824     \endgroup%
825     \global\setbox#1\hbox{%
826       \begingroup\aftergroup}%
827       \def\noexpand\@currenvir{\currenvir}%
828       \def\noexpand\@currenline{\on@line}%
829     \reserved@a%
830     \endpfalse%
831     \color@setgroup%
832     \ignorespaces}%
833 \let\LWR@endglrbox\endLRbox

```

## 26.10 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>

```

834 \newcommand*{\macro{csname}}[1]{%
835   \ifcat\relax\noexpand#1%
836     \expandafter\expandafter\expandafter\@gobble\expandafter\string
837   \fi%
838   #1%
839 }

```

## 26.11 Title case

\LWRtexttitlecase

---

```

840 \ExplSyntaxOn
841 \newcommand*\LWRtexttitlecase}[1]{%
842     \text_titlecase:n{#1}%
843 }
844 \ExplSyntaxOff

```

## 26.12 LetLtxMacros

\LWR@LetLtxMacros {*<newcsname>*} {*<oldcsname>*}

\LetLtxMacro with cs names.

```

845 \newcommand*\LWR@LetLtxMacros}[2]{%
846     \expandafter\LetLtxMacro\csname #1\expandafter\endcsname%
847     \csname#2\endcsname%
848 }

```

## 26.13 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.

```

849 \newcommand*\LWR@absorbstar}[1]{%
850     \LWR@LetLtxMacros{\LWR@origns@#1}{#1}%
851     \csdef{#1}{\@ifstar{\csuse{\LWR@origns@#1}}{\csuse{\LWR@origns@#1}}}%
852     \expandafter\robustify\csname #1\endcsname%
853 }

```

# 27 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 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.

## 27.1 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:

```
854 \let\LWRpercent\@percentchar
```

The literal \$ character:

```
855 \catcode`\$=12  
856 \def\LWRdollar{\$}  
857 \catcode`\$=3
```

The literal & character:

```
858 \catcode`\&=12  
859 \def\LWRamp{\&}  
860 \catcode`\&=4
```

The literal \ character. The ampersand is temporarily set to the escape character during the definition of the backslash macro.

```
861 \catcode`\&=0  
862 &\catcode`\&=12  
863 &\def&\LWRbackslash{\}  
864 &\catcode`\&=0  
865 \catcode`\&=4
```

The literal { character. The ampersand is temporarily set to the begin group character during the definition of the leftbrace macro.

```
866 \catcode`\&=1  
867 \catcode`\{=12  
868 \def\LWRleftbrace{\}  
869 \catcode`\{=1  
870 \catcode`\&=4
```

The literal } character. The ampersand is temporarily set to the end group character during the definition of the leftbrace macro.

```
871 \catcode`\&=2  
872 \catcode`\}=12  
873 \def\LWRrightbrace{\}&  
874 \catcode`\}=2  
875 \catcode`\&=4
```

The literal # character:

```
876 \catcode`\#=12  
877 \def\LWRhash{\#}  
878 \catcode`\#=6
```

\LWRopquote The operating system's quote mark, UNIX default. For WINDOWS, see \LWR@setOSWindows, below.

```
879 \def\LWRopquote{'}
```

\LWRopseq The operating system's sequential execution command, UNIX default. For WINDOWS, see \LWR@setOSWindows, below.

```
880 \def\LWRopseq{\space\LWRamp\LWRamp\space\space}
```

## 27.2 Common portability code

Bool usingOSWindows Set if the OSWindows option is used, or if WINDOWS is automatically detected.

```
881 \newbool{usingOSWindows}
882 \boolfalse{usingOSWindows}
```

## 27.3 UNIX, LINUX, and MAC OS

\OSPathSymbol Symbol used to separate directories in a path.

```
883 \newcommand*{\OSPathSymbol}{/}
```

## 27.4 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.

```
884 \newcommand*{\LWR@setOSWindows}
885 {
886 \booltrue{usingOSWindows}
887 \renewcommand*{\OSPathSymbol}{\@backslashchar}
888 \def\LWRopquote{"}
889 \def\LWRopseq{\space\LWRamp\space\space}
890 }
```

Test for windows during compile. The user may also specify OSWindows package option in case this test fails.

```
891 \ifwindows
892 \LWR@setOSWindows
893 \fi
```

## 28 Package options

Pkg kvoptions Allows key/value package options.

---

```
894 \RequirePackage{kvoptions}
895 \SetupKeyvalOptions{family=LWR,prefix=LWR@}
```

\lwarpsetup A user interface to set the keys:

```
896 \newcommand{\lwarpsetup}[1]{\setkeys{LWR}{#1}}
```

Bool warpingprint	
Bool warpingHTML	Set to true/false depending on the package option selections for print/HTML/EPUB output and mathsvg/mathjax.
Bool LWR@origmathjax	LWR@origmathjax remembers the original setting to be restored by \displaymathnormal.

```
897 \newbool{warpingprint}
898 \newbool{warpingHTML}
899 \newbool{mathjax}
900 \newbool{LWR@origmathjax}
```

**defaults** The default is print output, and SVG math if the user chose HTML output.

```
901 \booltrue{warpingprint}%
902 \boolfalse{warpingHTML}%
903 \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.

```
904 \DeclareVoidOption{warpprint}{%
905   \PackageInfo{lwarp}{Using option 'warpprint'}%
906   \booltrue{warpingprint}%
907   \boolfalse{warpingHTML}%
908 }
```

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.

```
909 \DeclareVoidOption{warpHTML}{%
910   \PackageInfo{lwarp}{Using option 'warpHTML'}%
911   \booltrue{warpingHTML}%
912   \boolfalse{warpingprint}%
913 }
```

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.

```
914 \DeclareVoidOption{mathsvg}{%
915   \PackageInfo{lwarp}{Using option 'mathsvg'}%
916   \boolfalse{mathjax}%
917   \boolfalse{LWR@origmathjax}%
918 }
```

918 }

Opt `mathjax` Option `mathjax` selects MATHJAX math display: If the `mathjax` option is given, boolean `mathjax` is true, may be used for `\ifbool` tests.

```
919 \DeclareVoidOption{mathjax}{%
920   \PackageInfo{lwarf}{Using option 'mathjax'}
921   \booltrue{mathjax}%
922   \booltrue{LWR@origmathjax}%
923 }
```

Opt `BaseJobname`  
Default: `\jobname` Option `BaseJobname` sets the `\BaseJobname` for this document.

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.

```
924 \DeclareStringOption[\jobname]{BaseJobname}
```

Opt `ImagesDirectory`  
Default: `\jobname-images` Option `ImagesDirectory` sets the name of the directory to use for the `lateximage` images.

```
925 \DeclareStringOption[\BaseJobname-images]{ImagesDirectory}
```

Opt `ImagesName` Option `ImagesName` sets the prefix to use for the `lateximage` images.  
Default: `image-`

```
926 \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`

```
927 \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`

```
928 \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`

```
929 \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`

```
930 \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](#).

```
931 \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.  
 Default: `UTF-8`

```
932 \DeclareStringOption[UTF-8]{pdftotextEnc}
```

Opt `lwarpmk` Tells `lwarf` 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`:

```
933 \newbool{LWR@creatinglwarpmk}
934 \boolfalse{LWR@creatinglwarpmk}
935
936 \DeclareVoidOption{lwarpmk}{
937     \PackageInfo{lwarf}{Using option 'lwarpmk'}
938     \booltrue{LWR@creatinglwarpmk}
939 }
```

Opt `OSWindows` Tells `lwarf` 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.

```
940 \DeclareVoidOption{OSWindows}{
941     \PackageInfo{lwarf}{Using option 'OSWindows'}
942     \LWR@setOSWindows
943 }
```

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`

```
944 \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>

```
945 \DeclareStringOption[]{HTMLFilename}
```

Opt `PrintLatexCmd` The shell commands to use to compile the print document.  
 Default: `<automatic>`

```
946 \DeclareStringOption[]{PrintLatexCmd}
```

Opt `HTMLLatexCmd` The shell commands to use to compile the HTML document.  
 Default: `<automatic>`

```
947 \DeclareStringOption[]\{HTMLLatexCmd}
```

Opt PrintIndexCmd The shell commands to use to compile the print indexes.

Default: <empty>

```
948 \DeclareStringOption[]\{PrintIndexCmd}
```

Opt HTMLIndexCmd The shell commands to use to compile the HTML indexes.

Default: <empty>

```
949 \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*.

```
950 \DeclareStringOption[]\{LatexmkIndexCmd}
```

Opt makeindex Tells **lwarp** 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.

```
951 \DeclareBoolOption[false]\{makeindex\}
```

Opt xindy Tells **lwarp** 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.

```
952 \DeclareBoolOption[false]\{xindy\}
```

Opt xindex Tells **lwarp** 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.

```
953 \DeclareBoolOption[false]\{xindex\}
```

Opt IndexRef Tells **lwarp** how to display the index entries in **HTMLoutput**. See section 7.5.

Default: *cref*

```
954 \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*

```
955 \DeclareStringOption[makeglossaries]\{GlossaryCmd\}
```

Opt latexmk Option *latexmk* tells *lwarpmk* to use *latexmk* when compiling documents.

```
956 \DeclareBoolOption[false]\{latexmk\}
```

Opt dvips Option *dvips* tells *lwarpmk* to use *dvips* when compiling DVI *latex* documents.

```
957 \DeclareBoolOption[false]\{dvips\}
```

Opt dvipdfm Option `dvipdfm` tells *l warp* to use `dvipdfm` when compiling DVI *latex* documents.

```
958 \DeclareBoolOption[false]{dvipdfm}
```

Opt dvipdfmx Option `dvipdfmx` tells *l warp* to use `dvipdfmx` when compiling DVI *latex* documents.

```
959 \DeclareBoolOption[false]{dvipdfmx}
```

**Execute options** Execute the package options, with the defaults which have been set just above:

```
960 \ProcessKeyvalOptions*\relax
```

## 28.1 Additional options support

Assign the `\BaseJobname` if the user hasn't provided one:

```
961 \providecommand*{\BaseJobname}{\LWR@BaseJobname}
```

Defaults unless already over-ridden by the user:

```
962 \ifcsempty{\LWR@HomeHTMLFilename}{%
963   \newcommand*{\HomeHTMLFilename}{\BaseJobname}%
964 }{%
965   \csedef{\HomeHTMLFilename}{\LWR@HomeHTMLFilename}%
966 }%
967 \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.

```
969 \newcommand*{\LWR@sanitized}{}%
```

`\LWR@sanitize {<text>}`

Sanitizes the text and returns the result in `\LWR@sanitized`.

```
970 \newcommand*{\LWR@sanitize}[1]{%
971 \edef\LWR@sanitized{\#1}%
972 \edef\LWR@sanitized{\detokenize\expandafter{\LWR@sanitized}}%
973 }
```

Sanitize some string options to neutralize underscores.

```
974 \LWR@sanitize{\LWR@BaseJobname}%
975 \edef\LWR@BaseJobname{\LWR@sanitized}%
976
```

```
977 \LWR@sanitize{\LWR@ImagesDirectory}
978 \edef\LWR@ImagesDirectory{\LWR@sanitized}
979
980 \LWR@sanitize{\LWR@ImagesName}
981 \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 *lwarp xindy* option was selected, then likewise for *xindex* if the *xindex* option was selected.

```
982 \ifdefempty{\LWR@PrintIndexCmd}{
983     \renewcommand{\LWR@PrintIndexCmd}{%
984         makeindex -s \LWR@makeindexStyle \space \jobname.idx%
985     }
986     \ifbool{\LWR@xindy}{
987         \renewcommand{\LWR@PrintIndexCmd}{%
988             xindy
989             -M \LWR@xindyStyle \space
990             -L \LWR@xindyLanguage \space
991             -C \LWR@xindyCodepage \space
992             \jobname.idx%
993         }
994     }{}
995     \ifbool{\LWR@xindex}{
996         \ifdefvoid{\LWR@xindexConfig}{
997             \renewcommand{\LWR@PrintIndexCmd}{%
998                 xindex
999                 \jobname.idx%
1000             }
1001         }{
1002             \renewcommand{\LWR@PrintIndexCmd}{%
1003                 xindex
1004                 -c \LWR@xindexConfig \space
1005                 \jobname.idx%
1006             }
1007         }
1008     }{}
1009 }()
1010
1011 \ifdefempty{\LWR@HTMLIndexCmd}{
1012     \renewcommand{\LWR@HTMLIndexCmd}{%
1013         makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%
1014     }
1015     \ifbool{\LWR@xindy}{
1016         \renewcommand{\LWR@HTMLIndexCmd}{%
1017             xindy
1018             -M \LWR@xindyStyle \space
1019             -L \LWR@xindyLanguage \space
1020             -C \LWR@xindyCodepage \space
1021             \jobname_html.idx%
1022         }
1023     }{}
1024     \ifbool{\LWR@xindex}{
1025         \ifdefvoid{\LWR@xindexConfig}{
```

```

1026          \renewcommand{\LWR@HTMLIndexCmd}{%
1027              xindex
1028              \jobname_html.idx%
1029          }
1030      }{
1031          \renewcommand{\LWR@HTMLIndexCmd}{%
1032              xindex
1033              -c \LWR@xindexConfig \space
1034              \jobname_html.idx%
1035          }
1036      }
1037  }{}
1038 }{}
1039
1040 \ifdefempty{\LWR@LatexmkIndexCmd}{%
1041     \renewcommand{\LWR@LatexmkIndexCmd}{%
1042         makeindex -s \LWR@makeindexStyle%
1043     }
1044     \ifbool{\LWR@xindy}{%
1045         \renewcommand{\LWR@LatexmkIndexCmd}{%
1046             xindy
1047             -M \LWR@xindyStyle \space
1048             -L \LWR@xindyLanguage \space
1049             -C \LWR@xindyCodepage%
1050     }
1051  }{}
1052  \ifbool{\LWR@xindex}{%
1053      \ifdefvoid{\LWR@xindexConfig}{%
1054          \renewcommand{\LWR@LatexmkIndexCmd}{%
1055              xindex
1056          }
1057      }{
1058          \renewcommand{\LWR@LatexmkIndexCmd}{%
1059              xindex
1060              -c \LWR@xindexConfig
1061          }
1062      }
1063  }{}
1064 }{}

```

## 28.2 Conditional compilation

\warpprintonly {\langle contents \rangle}

Only process the contents if producing printed output.

```
1065 \newcommand{\warpprintonly}[1]{\ifbool{warpingprint}{#1}{}}
```

\warpHTMLonly {\langle contents \rangle}

Only process the contents if producing HTML output.

```
1066 \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.

```
1067 \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.

```
1068 \def\LWR@includecomment
1069 #1#2{\message{Lwarp: Including comment '#1'}%
1070   \csarg\def{After#1Comment}{\CloseAndInputCutFile}
1071   \csarg\def{#1}{\endgroup \message{Including '#1' comment.}%
1072     \def\CommentCutFile{comment_#2.cut} \SetUpCutFile \ProcessComment{#1}%
1073   \CommentEndDef{#1}}
1074
1075 \def\LWR@excludecomment
1076 #1#2{\message{Lwarp: Excluding comment '#1'}%
1077   \csarg\def{#1}{\endgroup \message{Excluding '#1' comment.}%
1078     \begin{group}
1079       \def\CommentCutFile{comment_#2.cut} \def\ProcessCutFile{}%
1080       \def\ThisComment##1##2##3##4{\ProcessComment{#1}}%
1081   \csarg\def{After#1Comment}{\CloseAndInputCutFile \endgroup}
1082   \CommentEndDef{#1}}
```

Env warpall Anything in the **warpall** environment will be generated for print or **HTML** outputs.

```
1083 \LWR@includecomment{warpall}{all}
```

Env warpHTML For **HTML** output:

```
1084 \ifbool{warpingHTML}
1085   {\LWR@includecomment{warpHTML}{html}}
1086   {\LWR@excludecomment{warpHTML}{html}}
```

Env warpprint Anything in the **warpprint** environment will be generated for print output only.

```
1087 \ifbool{warpingprint}
1088   {\LWR@includecomment{warpprint}{print}}
1089   {\LWR@excludecomment{warpprint}{print}}
```

Env warpMathJax Only if **MATHJAX** is being used along with **HTML**.

```
1090 \begin{warpprint}
1091 \LWR@excludecomment{warpMathJax}{mathjax}
1092 \end{warpprint}
```

```

1093
1094 \begin{warpHTML}
1095 \ifbool{mathjax}
1096   {\LWR@includecomment{warpMathJax}{mathjax}}
1097   {\LWR@excludecomment{warpMathJax}{mathjax}}
1098 \end{warpHTML}

```

Env `LWRcreatelwarpmk` Optionally generate a local copy of *lwarpmk*. Default to no.

```

1099 \ifbool{LWR@creatinglwarpmk}
1100   {\LWR@includecomment{LWRcreatelwarpmk}{lwarpmk}}
1101   {\LWR@excludecomment{LWRcreatelwarpmk}{lwarpmk}}

```

## 29 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:** 1102 `\begin{warpHTML}`

Pkg `fontspec` Load `fontspec` if necessary:

```

1103 \ifxetexorluatex
1104 \@ifpackageloaded{fontspec}{}{
1105   \usepackage[no-math]{fontspec}
1106 }

```

The monospaced font is used for HTML tags, so turn off its TeX ligatures and common ligatures:

```

1107 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
1108 \defaultfontfeatures[\sfamily]{Ligatures={NoCommon,TeX}}
1109 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
1110 \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 LATEX dash and quote ligatures, which may fail on older browsers but at least won't corrupt written words.

```

1111 \RequirePackage {microtype}
1112
1113 \microtypesetup{
1114   protrusion=false,
1115   expansion=false,
1116   tracking=false,
1117   kerning=false,

```

```

1118     spacing=false}
1119 %   \begin{macrocode}
1120 %
1121 % Disable ligatures for typewriter fonts.
1122 % The comma was causing issues with \brand{MathJax} and \cs{,} followed by a comma.
1123 % Ligatures for f, q, t, etc used to be disabled for non-typewriter fonts, but
1124 % are now allowed.
1125 % \changes{v0.89}{2020/08/01}{Disable typewriter ligatures.}
1126 % ^^A \DisableLigatures[{},f,q,t,T,Q]{encoding = *,family = *}% previous
1127 %   \begin{macrocode}
1128 \DisableLigatures{encoding = *,family = tt*}

1129 \fi

1130 \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:** 1131 `\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.

```

1132 \@ifpackageloaded{geometry}
1133 {}{
1134     \RequirePackage[
1135         reset,
1136         paperwidth=\paperwidth,
1137         paperheight=\paperheight,
1138         textwidth=\textwidth,
1139         textheight=\textheight,
1140         left=\oddsidemargin,
1141         top=\topmargin,
1142         marginparsep=\marginparsep,
1143         marginparwidth=\marginparwidth,
1144     ]{geometry}
1145 }

```

Remember the original definitions for later reuse. If the `geometry` package is loaded by the user, `lwarp-geometry` will nullify the user-level originals.

```

1146 \LetLtxMacro{\LWR@origgeometry}{\geometry}
1147 \LetLtxMacro{\LWR@orignewgeometry}{\newgeometry}

```

---

```
1148 \LetLtxMacro{\LWR@origrestoregeometry}{\restoregeometry}
1149 \LetLtxMacro{\LWR@origsavegeometry}{\savegeometry}
1150 \LetLtxMacro{\LWR@origloadgeometry}{\loadgeometry}
```

**Bool** **geometry** may be loaded by the user before **l warp**, after **l warp**, or not at all. If before **l warp**, it will have already been loaded by now and its page layout has already been saved. If **geometry** is loaded after **l warp**, 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**, **l warp-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.

```
1151 \newbool{LWR@allowanothergeometry}
1152 \booltrue{LWR@allowanothergeometry}
```

Use **\AtEndPreamble** to avoid class and option conflict by changing settings after other packages load, instead of using **geometry** package options:

```
1153 \AtEndPreamble{
```

Whatever geometry choices the user has made in the preamble, either before or after **l warp** was loaded, are now saved for possible temporary reuse, such as by **lyluatex**.

See the **l warp-geometry** section for what happens if **geometry** is loaded after **l warp**.

```
1154 \LWR@origsavegeometry{LWR@usergeometry}
```

The user's paper size is saved for later reuse, such as by the **pdfpages** or **parallel** packages.

```
1155 \newlength{\LWR@userspaperwidth}
1156 \setlength{\LWR@userspaperwidth}{\paperwidth}
1157
1158 \newlength{\LWR@userspaperheight}
1159 \setlength{\LWR@userspaperheight}{\paperheight}
1160
1161 \newlength{\LWR@usersmarginparwidth}
1162 \setlength{\LWR@usersmarginparwidth}{\marginparwidth}
1163
1164 \newlength{\LWR@userstextwidth}
1165 \setlength{\LWR@userstextwidth}{\textwidth}
1166
1167 \newlength{\LWR@userstextheight}
1168 \setlength{\LWR@userstextwidth}{\textheight}
```

For **l warp**, use a very large page and margins to help avoid letting HTML tags run off the edge:

```
1169 \LWR@origgeometry{
1170     reset,
1171     paperheight=190in,
1172     paperwidth=20in,
```

```

1173     left=2in,
1174     right=6in,
1175     top=1in,
1176     bottom=1in,
1177     heightrounded,%  

1178 }
```

The `lwarp` page geometry is saved for future restore:

```
1179 \LWR@origsavegeometry{\LWR@lwarpgeometry}
```

No longer adjust the page layout when `lwarp-geometry` is loaded `\AtBeginDocument`:

```
1180 \boolfalse{\LWR@allowanothergeometry}%
```

`ltjsbook` and other classes can print vertically, and require these to be reset by `lwarp`:

```

1181 \setlength{\textheight}{0.8\paperheight}
1182 \setlength{\textwidth}{0.7\paperwidth}
1183
1184 \@twosidefalse
1185 \mparswitchfalse
1186 }% \AtEndPreamble
1187
1188 \end{warpHTML}
```

**for HTML & PRINT:** 1189 `\begin{warpall}`

Pkg `xparse`

LATEX3 command argument parsing

```
1190 \RequirePackage{xparse}
```

Pkg `calc`

```
1191 \RequirePackage{calc}
```

```
1192 \end{warpall}
```

**for HTML output:** 1193 `\begin{warpHTML}`

Pkg `expl3`

LATEX3 programming

```
1194 \RequirePackage{expl3}
```

Pkg `getttitlestring`

Used to emulate `\nameref`.

```
1195 \RequirePackage{getttitlestring}
```

Pkg everyhook

**everyhook** is used to patch paragraph handling.

```
1196 \@ifundefined{bxjs@everypar}{}{\let\everypar\bxjs@everypar}
1197
1198 \RequirePackage{everyhook}
1199 \end{warpHTML}
```

**for HTML & PRINT:** 1200 \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.

```
1201 \@ifundefined{filec@ntents@opt}{% older kernel, discard optional args
1202
1203   \RequirePackage{filecontents}
1204
1205   \LetLtxMacro\LWR@orig@filec@ntents\filec@ntents
1206
1207   \@ifpackagelater{filecontents}{2011/10/08}
1208 }
```

For a newer version of the **filecontents** package, simply discard the optional argument.

```
1209   \renewcommand*\filec@ntents[]{\LWR@orig@filec@ntents}
1210 }
1211 {% 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>

```
1212   \newwrite\fcwrite
1213   \renewcommand*\filec@ntents[]{%
1214     \def\chardef##1\write{\let\reserved@c\fcwrite}%
1215     \LWR@orig@filec@ntents%
1216   }
1217 }
1218
1219 }% older kernel
1220 {% newer kernel
```

For a newer kernel with a **filecontents** environment which accepts the optional overwrite argument, use the environment as-is.

```
1221 }% newer kernel, filecontents env accepts optional args, do not load package
```

```
1222 \end{warpall}
```

**for HTML output:** 1223 \begin{warpHTML}

Pkg xifthen

```
1224 \RequirePackage{xifthen}
```

Pkg verbatim

```
1225 \RequirePackage{verbatim}
```

Pkg refcount

Provides \setcounterref, \setcounterpageref, etc.

```
1226 \RequirePackage{refcount}
```

Pkg newfloat

```
1227 \RequirePackage{newfloat}
```

```
1228 \end{warpHTML}
```

**for HTML & PRINT:** 1229 \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

```
1230 \RequirePackage{xstring}[2019/02/01]
```

Pkg environ Used to encapsulate math environments for re-use in HTML <alt> text.

```
1231 \RequirePackage{environ}
```

```
1232 \end{warpall}
```

**for HTML output:** 1233 \begin{warpHTML}

Pkg printlen Used to convert lengths for image width/height options.

```
1234 \RequirePackage{printlen}
```

\LWR@printlength {\langle length\rangle}

Prints a length using a locally-controlled unit and space. Rounding is used unless the length is small.

```

1235 \newrobustcmd*{\LWR@printlength}[1]{%
1236   \begingroup%
1237   \uselengthunit{PT}%
1238   \renewcommand*{\unitspace}{()}%
1239   \ifdimless{#1}{10pt}{%
1240     \printlength{#1}%
1241   }{%
1242     \rndprintlength{#1}%
1243   }%
1244   \endgroup%
1245 }

1246 \end{warpHTML}

```

**for PRINT output:** 1247 \begin{warpprint}

Pkg varwidth Used for print-mode `\image`.

```

1248 \RequirePackage{varwidth}

1249 \end{warpprint}

```

## 30 Loading packages

**for HTML & PRINT:** 1250 \begin{warpall}

Remember the original \RequirePackage:

```

1251 \LetLtxMacro{\LWR@origRequirePackage}{\RequirePackage}
1252 \LetLtxMacro{\LWR@origRequirePackageWithOptions}{\RequirePackageWithOptions}

```

\LWR@requirepackagenames Stores the list of required package names.

```
1253 \newcommand*{\LWR@requirepackagenames}{}%
```

\LWR@parsedrequirepackagenames Stores the parsed list of required package names after spaces are removed and `lwarp-` is prepended.

```
1254 \newcommand*{\LWR@parsedrequirepackagenames}{}%
```

\LWR@nullifycomment Remove the preexisting comment environment. Certain packages define it for their own use.

```

1255 \newcommand*{\LWR@nullifycomment}{}%
1256   \PackageInfo{lwarp}{%
1257     Nullifying the comment environment before loading \LWR@strresulttwo,}%
1258   \let\comment\relax%
1259   \let\endcomment\relax%
1260 }

```

---

\LWR@findword [*1: separator*] [*2: list*] [*3: index*] [*4: destination*]

Note that argument 4 is passed directly to \StrBetween.

```
1261 \newcommand*\LWR@findword[3][,]{%
1262     \StrBetween[#3,\numexpr#3+1]{#1#2#1}{#1}{#1}%
1263 }
```

\LWR@checkloadfilename {*filename*} Checks if this filename should be loaded after lwarp, or never at all.

The following should never be loaded:

```
1264 \newcommand*\LWR@checkloadfilename[1]{%
1265 \LWR@checkloadnever{#1}{ae}{cm-super, lmodern}%
1266 \LWR@checkloadnever{#1}{aecc}{cm-super, lmodern}%
1267 \LWR@checkloadnever{#1}{ae compl}{cm-super, lmodern}%
1268 \LWR@checkloadnever{#1}{alg}{algorithm2e, algorithmicx}%
1269 \LWR@checkloadnever{#1}{algorithmic}{algorithm2e, algorithmicx}%
1270 \LWR@checkloadnever{#1}{bitfield}{bytefield}%
1271 \LWR@checkloadnever{#1}{caption2}{caption}%
1272 \LWR@checkloadnever{#1}{ccaption}{caption}%
1273 \LWR@checkloadnever{#1}{colortab}{colortbl}%
1274 \LWR@checkloadnever{#1}{csvtools}{datatool}%
1275 \LWR@checkloadnever{#1}{doublespace}{setspace}%
1276 \LWR@checkloadnever{#1}{epsf}{graphicx}%
1277 \LWR@checkloadnever{#1}{fancyheadings}{fancyhdr}%
1278 \LWR@checkloadnever{#1}{fncty lab}{cleveref}%
1279 \LWR@checkloadnever{#1}{formula}{siunitx}%
1280 \LWR@checkloadnever{#1}{glossary}{glossaries}%
1281 \LWR@checkloadnever{#1}{hyper}{hyperref}%
1282 \LWR@checkloadnever{#1}{newthm}{ntheorem}%
1283 \LWR@checkloadnever{#1}{pdfcprot}{microtype}%
1284 \LWR@checkloadnever{#1}{picinpar}{floatflt, wrapfig}%
1285 \LWR@checkloadnever{#1}{picins}{floatflt, wrapfig}%
1286 \LWR@checkloadnever{#1}{rplain}{fancyhdr}%
1287 \LWR@checkloadnever{#1}{s1}{siunitx}%
1288 \LWR@checkloadnever{#1}{sistyle}{siunitx}%
1289 \LWR@checkloadnever{#1}{slashbox}{diagbox}%
1290 \LWR@checkloadnever{#1}{statex}{statex2}%
1291 \LWR@checkloadnever{#1}{tlenc}{fontenc, inputenc, inputenx}%
1292 \LWR@checkloadnever{#1}{ucs}{inputenc, inputencx}%
1293 \LWR@checkloadnever{#1}{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}%
1294 \LWR@checkloadnever{#1}{bxCJKjkjatype}{upLaTeX, bxjsarticle, ujarticle, utarticle}%
1295 \LWR@checkloadnever{#1}{hangul}{kotex, xetexko, luatexko}
```

The following should only be loaded before lwarp:

```
1296 \LWR@checkloadbefore{#1}{ctex}%
1297 \LWR@checkloadbefore{#1}{fontspec}%
1298 \LWR@checkloadbefore{#1}{inputenc}%
1299 \LWR@checkloadbefore{#1}{inputenx}%
1300 \LWR@checkloadbefore{#1}{nfssext-cfr}%
1301 \LWR@checkloadbefore{#1}{fontaxes}%
1302 \LWR@checkloadbefore{#1}{kotex}
```

```

1303 \LWR@checkloadbefore{#1}{luatexja}
1304 \LWR@checkloadbefore{#1}{luatexja-fontspec}
1305 \LWR@checkloadbefore{#1}{luatexko}
1306 \LWR@checkloadbefore{#1}{morewrites}
1307 \LWR@checkloadbefore{#1}{newclude}
1308 \LWR@checkloadbefore{#1}{newunicodechar}
1309 \LWR@checkloadbefore{#1}{plext}
1310 \LWR@checkloadbefore{#1}{xeCJK}
1311 \LWR@checkloadbefore{#1}{xetexko}
1312 \LWR@checkloadbefore{#1}{zxjatype}
1313 }

```

\LWR@lookforpackagename {*<index>*}

If **HTML**, and if this is an **lwarp**-supported package name, re-direct it to the **lwarp** version by renaming it **lwarp-** 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.

```
1314 \newcommand*{\LWR@lookforpackagename}[1]{%
```

Find the *index*'th package name from the list:

```
1315 \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**.

```
1316 \StrSubstitute[100]{\LWR@strresult}{}[\LWR@strresulttwo]%
```

See if the package name was found:

```

1317 \IfStrEq{\LWR@strresulttwo}{}%
1318 {}% no filename
1319 {}% 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.

```

1320 \ifdefstring{\LWR@strresulttwo}{easyReview}{\LWR@nullifycomment}{}%
1321 \ifdefstring{\LWR@strresulttwo}{changes}{\LWR@nullifycomment}{}%

```

If **HTML**, check if the package should be loaded before **lwarp**, or never at all:

```
1322 \ifbool{warpingHTML}{\LWR@checkloadfilename{\LWR@strresulttwo}}{}%
```

If **HTML**, and if found, and if an **lwarp**-equivalent name exists, use **lwarp-\*** instead.

```

1323 \ifbool{warpingHTML}{%
1324   \test{\IfFileExists{lwarp-\LWR@strresulttwo.sty}}{}%
1325 }%

```

```

1327      {%
1328          l warp-* file found
1329          \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1330              \edef\LWR@parsedrequirepackagenames{l warp-\LWR@strresulttwo}%
1331          }{%
1332              \edef\LWR@parsedrequirepackagenames{%
1333                  \LWR@parsedrequirepackagenames,l warp-\LWR@strresulttwo%
1334              }%
1335          }%
1336      }%

```

Otherwise, use the current package name.

```

1337      \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1338          \edef\LWR@parsedrequirepackagenames{\LWR@strresulttwo}%
1339      }{%
1340          \edef\LWR@parsedrequirepackagenames{%
1341              \LWR@parsedrequirepackagenames,\LWR@strresulttwo%
1342          }%
1343      }%
1344      }% no l warp-* file
1345 }% yes filename
1346 }

```

\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 L<sup>A</sup>T<sub>E</sub>X version.

```
1347 \RenewDocumentCommand{\RequirePackage}{o m o}{%
```

Redirect up to twenty names:<sup>17</sup>

```

1348 \renewcommand*{\LWR@requirepackagenames}{#2}%
1349 \renewcommand*{\LWR@parsedrequirepackagenames}{}%
1350 \LWR@Lookforpackagename{1}%
1351 \LWR@Lookforpackagename{2}%
1352 \LWR@Lookforpackagename{3}%
1353 \LWR@Lookforpackagename{4}%
1354 \LWR@Lookforpackagename{5}%
1355 \LWR@Lookforpackagename{6}%
1356 \LWR@Lookforpackagename{7}%
1357 \LWR@Lookforpackagename{8}%
1358 \LWR@Lookforpackagename{9}%
1359 \LWR@Lookforpackagename{10}%
1360 \LWR@Lookforpackagename{11}%
1361 \LWR@Lookforpackagename{12}%
1362 \LWR@Lookforpackagename{13}%
1363 \LWR@Lookforpackagename{14}%
1364 \LWR@Lookforpackagename{15}%
1365 \LWR@Lookforpackagename{16}%
1366 \LWR@Lookforpackagename{17}%

```

---

<sup>17</sup>This was originally nine names, but then I came across a package which used twelve...

```
1367 \LWR@lookforpackagename{18}%
1368 \LWR@lookforpackagename{19}%
1369 \LWR@lookforpackagename{20}%
```

\RequirePackage depending on the options and version:

```
1370 \IfValueTF{#1}%
1371 {%
  options given
  \IfValueTF{#3}%
    version given?
    {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}{#3}}%
    {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}}%
}%
1376 {%
  no options given
  \IfValueTF{#3}%
    version given?
    {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}{#3}}%
    {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}}%
}%
1380 }%
1381 }%
1382 \LetLtxMacro\usepackage\RequirePackage

1383 \end{warpall}
```

**for HTML output:** 1384 \begin{warpHTML}

```
\LWR@ProvidesPackagePass {<pkgnname>} [<version>]
```

Uses the original package, including options.

```
1385 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}%
1386   \PackageInfo{l warp}{%
1387     Using package '#1', \MessageBreak
1388     and adding l warp modifications, including options, \MessageBreak%
}%
1390 \IfValueTF{#2}%
1391   {\ProvidesPackage{l warp-#1}{#2}}%
1392   {\ProvidesPackage{l warp-#1}}%
1393 \DeclareOption*{%
1394   \PassOptionsToPackage{\CurrentOption}{#1}}%
1395 }%
1396 \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.

```
1397 \@ifpackageloaded{#1}{%
1398   \edef\LWR@tempone{\csuse{opt@#1.sty}}%
1399   \IfValueTF{#2}{%
1400     {%
1401       \expandafter\LWR@origRequirePackage%
1402       \expandafter[\LWR@tempone]{#1}{#2}}%
1403   }%
1404 }
```

```

1405           \expandafter\LWR@origRequirePackage%
1406           \expandafter[\LWR@tempone]{#1}%
1407       }%
1408   }{%
1409     \IfValueTF{#2}{%
1410       {\LWR@origRequirePackage{#1}[#2]}%
1411       {\LWR@origRequirePackage{#1}}%
1412     }%

```

In some cases, the following seems to be required to avoid an “unknown option” error, such as when loading `xcolor` with options.

```

1413   \DeclareOption*{}%
1414   \ProcessOptions\relax%
1415 }

```

`\LWR@ProvidesPackageDropA {⟨name⟩} {⟨date or -NoValue-⟩}`

Declares the package. Factored for reuse.

```

1416 \newcommand*{\LWR@ProvidesPackageDropA}[2]{%
1417   \PackageInfo{l warp}{%
1418     Replacing package ‘#1’ with the l warp version,\MessageBreak
1419     and discarding options,%
1420   }%
1421   \IfValueTF{#2}{%
1422     {\ProvidesPackage{l warp-#1}[#2]}%
1423     {\ProvidesPackage{l warp-#1}}%
1424 }

```

`\LWR@ProvidesPackageDropB` Nullifies then processes the options.

Seems to be required when options contain curly braces, which were causing “Missing `\begin{document}`”.

```

1425 \newcommand*{\LWR@ProvidesPackageDropB}{%
1426 % \ProcessOptions\relax% original LaTeX code
1427 \let\ds@\empty% from the original \ProcessOptions
1428 \edef\@curroptions{}% l warp modification to \ProcessOptions
1429 \@process@ptions\relax% from the original \ProcessOptions
1430 }

```

`\LWR@ProvidesPackageDrop {⟨pkgnname⟩} [⟨version⟩]`

Ignores the original package and uses l warp’s version instead. Drops/discards all options.

```
1431 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{
```

Declare the package:

```
1432 \LWR@ProvidesPackageDropA{#1}{#2}
```

Ignore all options:

```
1433 \DeclareOption*{}
```

Process the options:

```
1434 \LWR@ProvidesPackageDropB  
1435 }
```

```
1436 \end{warpHTML}
```

## 31 File handles

Defines file handles for writes.

**for HTML & PRINT:** 1437 \begin{warpall}

\LWR@quickfile For quick temporary use only. This is reused in several places.

```
1438 \newwrite\LWR@quickfile%
```

```
1439 \end{warpall}
```

**for HTML output:** 1440 \begin{warpHTML}

\LWR@lateximagesfile For <project>-images.txt:

```
1441 \newwrite\LWR@lateximagesfile
```

```
1442 \end{warpHTML}
```

## 32 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:** 1443 \begin{warpHTML}

\@include {\langle filename \rangle} Modified to load \_html\_inc files.

(Below, \clearpage caused missing text, and was changed to \newpage.)

```

1444 \def\@include#1 {%
1445   \immediate\openout\LWR@quickfile #1_html_inc.tex% lwarp
1446   \immediate\write\LWR@quickfile{\string\input{#1.tex}}% lwarp
1447   \immediate\closeout\LWR@quickfile% lwarp
1448 \LWR@maybe@orignewpage% changed from clearpage
1449 \if@files w
1450   \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
1451 \fi
1452 \tempswat r ue
1453 \if@partsw
1454   \tempswaf al se
1455   \edef\reserved@b{#1}%
1456   \for\reserved@a:=\partlist\do
1457     {\ifx\reserved@a\reserved@b\tempswat r ue\fi}%
1458 \fi
1459 \if@tempswa
1460   \let\@auxout\@partaux
1461   \if@files w
1462     \immediate\openout\@partaux #1_html_inc.aux % changed
1463     \immediate\write\@partaux{\relax}%
1464   \fi
1465   \input{#1_html_inc.tex}% changed
1466   \LWR@maybe@orignewpage% changed from clearpage
1467   \writeckpt{#1}%
1468   \if@files w
1469     \immediate\closeout\@partaux
1470   \fi
1471 \else
1472   \deadcycles{z}
1473   \nameuse{cp}{#1}%
1474 \fi
1475 \let\@auxout\@mainaux%
1476 }

1477 \end{warpHTML}

```

### 33 Copying a file

**for HTML output:** 1478 \begin{warpHTML}

\LWR@copyfile {\langle source filename \rangle} {\langle destination filename \rangle}

Used to copy the .toc file to .sidetoc to re-print the toc in the sidetoc navigation pane.

```

1479 \newwrite\LWR@copyoutfile % open the file to write to
1480 \newread\LWR@copyinfile % open the file to read from
1481

```

```

1482 \newcommand{\LWR@copyfile}[2]{%
1483 \LWR@traceinfo{\LWR@copyfile: copying #1 to #2}
1484
1485 \immediate\openout\LWR@copyoutfile=#2
1486 \openin\LWR@copyinfile=#1
1487 \begingroup\endlinechar=-1
1488 \makeatletter
1489
1490 \LWR@traceinfo{\LWR@copyfile: about to loop}
1491
1492 \loop\unless\ifeof\LWR@copyinfile
1493   \LWR@traceinfo{\LWR@copyfile: one line}
1494   \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
1495 %   \LWR@fileline\par % print the content into the pdf
1496 % print the content:
1497   \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
1498 \repeat
1499 \immediate\closeout\LWR@copyoutfile
1500 \LWR@traceinfo{\LWR@copyfile: done}
1501 \endgroup
1502 }

1503 \end{warpHTML}

```

## 34 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

```
\tracinglwarp
```

**for HTML & PRINT:** 1504 \begin{warpall}

Bool LWR@tracinglwarp True if tracing is turned on.

```
1505 \newbool{\LWR@tracinglwarp}
```

\tracinglwarp Turns on the debug tracing messages.

```
1506 \newcommand{\tracinglwarp}{\booltrue{\LWR@tracinglwarp}}
```

\LWR@traceinfo {\text} If tracing is turned on, writes the text to the .log file.

```

1507 \newcommand{\LWR@traceinfo}[1]{%
1508 \ifbool{\LWR@tracinglwarp}{%
1509 {%
1510   \typeout{*** lwarp: #1}}%
```

```
1511 }%
1512 { }%
1513 }
```

Bool `HTMLDebugComments` Add comments in HTML about closing <div>s, sections, etc.

`Default: false`

```
1514 \newbool{HTMLDebugComments}
1515 \boolfalse{HTMLDebugComments}
```

If `\tracinglwarp`, show where preamble hooks occur:

```
1516 \AfterEndPreamble{
1517 \LWR@traceinfo{AfterEndPreamble}
1518 }
1519
1520 \AtBeginDocument{
1521 \LWR@traceinfo{AtBeginDocument}
1522 }

1523 \end{warpall}
```

## 35 Defining print and HTML versions of macros and environments

The following refers to defining objects inside `lwarp`, 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 `warptHTML` 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@formattedenv` instead of `\LWR@formatted`.

```
\begin{warpHTML}
\newenvironment{\LWR@HTML@name}{...}% may also use xparse

\LWR@formattedenv{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@formattedenv`. (`\LWR@formatted` and `\LWR@formattedenv` 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}{...} {...}%
\NewDocumentEnvironment{\LWR@print@name}{...} {...} {...}

% Simply a call to \LWR@print@name:
\newcommand{\name}{\LWR@print@name}%
\newenvironment{name}{\LWR@print@name}{\end\LWR@print@name}
\end{warpall}

\begin{warpHTML}
\NewDocumentCommand{\LWR@HTML@name}{...} {...}%
\NewDocumentEnvironment{\LWR@HTML@name}{...} {...} {...}

\LWR@formatted{name}%
\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:** 1524 `\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”.

1525 `\newcommand*{\LWR@formatting}{HTML}`

`\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.

```
1526 \newcommand*{\LWR@formatted}[1]{%
1527     \ifcsundef{\LWR@print@#1}{%
1528         \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1529             \csname#1\endcsname%
1530     }{%
1531     \ifcsundef{#1}{%
1532         \expandafter\newrobustcmd\csname #1\endcsname{%
1533             \@nameuse{\LWR@\LWR@formatting @#1}%
1534         }%
1535     }{%
1536         \expandafter\renewrobustcmd\csname #1\endcsname{%
1537             \@nameuse{\LWR@\LWR@formatting @#1}%
1538         }%
1539     }%
1540 }
```

`\LWR@expandableformatted` `{<macroname>}` No backslash in the macro name.

An expandable version of `\LWR@formatted`.

```
1541 \newcommand*{\LWR@expandableformatted}[1]{%
1542     \ifcsundef{\LWR@print@#1}{%
1543         \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1544             \csname#1\endcsname%
1545     }{%
1546     \ifcsundef{#1}{%
1547         \expandafter\newcommand\csname #1\endcsname{%
1548             \@nameuse{\LWR@\LWR@formatting @#1}%
1549         }%
1550     }{%
1551         \expandafter\renewcommand\csname #1\endcsname{%
1552             \@nameuse{\LWR@\LWR@formatting @#1}%
1553         }%
1554     }%
1555 }
```

---

\LWR@formatedenv {*<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.

```

1556 \newcommand*{\LWR@formatedenv}[1]{%
1557     \ifcsundef{\LWR@print@#1}{%
1558         \expandafter\LetLtxMacro\csname \LWR@print@#1\expandafter\endcsname%
1559             \csname#1\endcsname%
1560         \csletcs{endLWR@print@#1}{end#1}%
1561     }{%
1562         \DeclareDocumentEnvironment{#1}{}{%
1563             {%
1564                 \nameuse{\LWR@LWR@formatting @#1}%
1565             }%
1566             {%
1567                 \nameuse{endLWR@LWR@formatting @#1}%
1568             }%
1569     }

```

\LWR@expandableformatedenv {*<environmentname>*}

An expandable version of `\LWR@formatedenv`.

```

1570 \newcommand*{\LWR@expandableformatedenv}[1]{%
1571     \ifcsundef{\LWR@print@#1}{%
1572         \expandafter\LetLtxMacro\csname \LWR@print@#1\expandafter\endcsname%
1573             \csname#1\endcsname%
1574         \csletcs{endLWR@print@#1}{end#1}%
1575     }{%
1576         \DeclareExpandableDocumentEnvironment{#1}{}{%
1577             {%
1578                 \nameuse{\LWR@LWR@formatting @#1}%
1579             }%
1580             {%
1581                 \nameuse{endLWR@LWR@formatting @#1}%
1582             }%
1583     }
1584 \end{warpHTML}

```

## 36 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:** 1585 `\begin{warpall}`

### 36.1 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**

```
1586 \newbool{FormatEPUB}
1587 \boolefalse{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.  
**Default: false**

```
1588 \newbool{FormatWP}
1589 \boolefalse{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>

```
1590 \newbool{WPMarkFloats}
1591 \boolefalse{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.

```
1592 \newbool{WPMarkMinipages}
1593 \boolefalse{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.

---

<sup>18</sup>Perhaps some day word processors will have HTML import options for identifying <figure> and caption tags for figures and tables.

*If set false, the actual toc is printed instead.*

```
1594 \newbool{WPMarkTOC}
1595 \booltrue{WPMarkTOC}
```

Bool WPMarkLOFT While formatting for word processors, adds  
 Default: **false**  
 === 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.*

```
1596 \newbool{WPMarkLOFT}
1597 \boolfalse{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.

```
1598 \newbool{WPMarkMath}
1599 \boolfalse{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 185.

```
1600 \newbool{WPTitleHeading}
1601 \boolfalse{WPTitleHeading}

1602 \end{warpall}
```

## 36.2 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: 1603 \begin{warpHTML}

```
1604 \AtBeginDocument{
1605 \ifbool{FormatWP}{
1606 \@ifundefined{chapter}{

1607 \ifbool{WPTitleHeading}{% part and section starting at h2
1608 \renewcommand{\LWR@tagtitle}{h1}}
```

```
1609 \renewcommand*\{\LWR@tagtitleend\}{/h1}
1610 \renewcommand*\{\LWR@tagpart\}{h2}
1611 \renewcommand*\{\LWR@tagpartend\}{/h2}
1612 \renewcommand*\{\LWR@tagsection\}{h3}
1613 \renewcommand*\{\LWR@tagsectionend\}{/h3}
1614 \renewcommand*\{\LWR@tagsubsection\}{h4}
1615 \renewcommand*\{\LWR@tagsubsectionend\}{/h4}
1616 \renewcommand*\{\LWR@tagsubsubsection\}{h5}
1617 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h5}
1618 \renewcommand*\{\LWR@tagparagraph\}{h6}
1619 \renewcommand*\{\LWR@tagparagraphend\}{/h6}
1620 \renewcommand*\{\LWR@tagsubparagraph\}{span class="subparagraph"}
1621 \renewcommand*\{\LWR@tagsubparagraphend\}{/span}
1622 }% WPTitleHeading
1623 {% not WPTitleHeading, part and section starting at h1
1624 \renewcommand*\{\LWR@tagtitle\}{div class="title"}
1625 \renewcommand*\{\LWR@tagtitleend\}{/div}
1626 \renewcommand*\{\LWR@tagpart\}{h1}
1627 \renewcommand*\{\LWR@tagpartend\}{/h1}
1628 \renewcommand*\{\LWR@tagsection\}{h2}
1629 \renewcommand*\{\LWR@tagsectionend\}{/h2}
1630 \renewcommand*\{\LWR@tagsubsection\}{h3}
1631 \renewcommand*\{\LWR@tagsubsectionend\}{/h3}
1632 \renewcommand*\{\LWR@tagsubsubsection\}{h4}
1633 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h4}
1634 \renewcommand*\{\LWR@tagparagraph\}{h5}
1635 \renewcommand*\{\LWR@tagparagraphend\}{/h5}
1636 \renewcommand*\{\LWR@tagsubparagraph\}{h6}
1637 \renewcommand*\{\LWR@tagsubparagraphend\}{/h6}
1638 }% not WPTitleHeading
1639 }% chapter undefined
1640 {% chapter defined
1641 \ifbool{WPTitleHeading}{}%
1642 {% not WPTitleHeading, part and chapter starting at h1
1643 \renewcommand*\{\LWR@tagtitle\}{div class="title"}
1644 \renewcommand*\{\LWR@tagtitleend\}{/div}
1645 \renewcommand*\{\LWR@tagpart\}{h1}
1646 \renewcommand*\{\LWR@tagpartend\}{/h1}
1647 \renewcommand*\{\LWR@tagchapter\}{h2}
1648 \renewcommand*\{\LWR@tagchapterend\}{/h2}
1649 \renewcommand*\{\LWR@tagsection\}{h3}
1650 \renewcommand*\{\LWR@tagsectionend\}{/h3}
1651 \renewcommand*\{\LWR@tagsubsection\}{h4}
1652 \renewcommand*\{\LWR@tagsubsectionend\}{/h4}
1653 \renewcommand*\{\LWR@tagsubsubsection\}{h5}
1654 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h5}
1655 \renewcommand*\{\LWR@tagparagraph\}{h6}
1656 \renewcommand*\{\LWR@tagparagraphend\}{/h6}
1657 \renewcommand*\{\LWR@tagsubparagraph\}{span class="subparagraph"}
1658 \renewcommand*\{\LWR@tagsubparagraphend\}{/span}
1659 }% not WPTitleHeading
1660 }% chapter defined
1661 }{}% FormatWP
1662 }% AtBeginDocument
```

```
1663 \end{warpHTML}
```

## 37 Remembering original formatting macros

for HTML output: 1664 \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 lateximage environment. Also nullify unused commands.

Some packages redefine \#, which is used to generate HTML, so the original must be remembered here.

```
1665 \chardef\LWR@origpound='\#  
  
1666 \let\LWR@origcomma\  
1667 \let\LWR@origthinspace\thinspace  
1668 \let\LWR@orignegthinspace\negthinspace  
1669 \let\LWR@origtilde~  
1670 \let\LWR@origenskip\enskip  
1671 \let\LWR@origquad\quad  
1672 \let\LWR@origqquad\qquad  
1673 \let\LWR@orighfil\hfil  
1674 \let\LWR@orighss\hss  
1675 \let\LWR@origllap\llap  
1676 \let\LWR@origrlap\rlap  
1677 \let\LWR@orighfilneg\hfilneg  
1678 \let\LWR@orighspace\hspace  
1679  
1680 \let\LWR@origrule\rule  
1681  
1682 \let\LWR@origmedskip\medskip  
1683 \let\LWR@origbigskip\bigskip  
1684  
1685 \let\LWR@origtextellipsis\textellipsis  
  
1686 \let\LWR@origvdots\vdots  
  
1687 \let\LWR@orig@textquotedbl\textquotedbl  
1688  
1689 \LetLtxMacro{\LWR@origttfamily}{\ttfamily}  
1690  
1691 \LetLtxMacro{\LWR@origem}{\em}  
1692  
1693 \LetLtxMacro{\LWR@orignormalfont}{\normalfont}  
1694  
1695 \let\LWR@origonecolumn\onecolumn  
1696  
1697 \let\LWR@origsp\sp  
1698 \let\LWR@origsb\sb  
1699  
1700 \LetLtxMacro{\LWR@origunderline}{\underline}
```

```
1701 \let\LWR@orignewpage\newpage
1702
1703 \let\LWR@origpagestyle\pagestyle
1704 \let\LWR@origthispagestyle>thispagestyle
1705 \LetLtxMacro{\LWR@origpagenumbering}{\pagenumbering}
1706
1707 \let\LWR@orignewline\newline
1708
1709 \AtBeginDocument{%
1710   \let\LWR@orig@trivlist\@trivlist
1711   \let\LWR@origtrivlist\trivlist
1712   \let\LWR@origendtrivlist\endtrivlist
1713   \LetLtxMacro{\LWR@origitem}{\item}
1714   \LetLtxMacro{\LWR@origitemize}{\itemize}
1715   \LetLtxMacro{\LWR@endorigitemize}{\enditemize}
1716   \LetLtxMacro{\LWR@origenumerate}{\enumerate}
1717   \LetLtxMacro{\LWR@endorigenumerate}{\endenumerate}
1718   \LetLtxMacro{\LWR@origdescription}{\description}
1719   \LetLtxMacro{\LWR@endorigdescription}{\enddescription}
1720   \let\LWR@orig@mklab\@mklab
1721   \let\LWR@origmakelabel\makelabel
1722   \let\LWR@orig@donoparitem\@donoparitem
1723   \LetLtxMacro{\LWR@orig@item}{\item}
1724   \let\LWR@orig@nbitem\@nbitem
1725 }
1726
1727 \let\LWR@origpar\par
1728
1729 \LetLtxMacro{\LWR@origfootnote}{\footnote}
1730 \let\LWR@orig@mpfootnotetext\@mpfootnotetext
1731
1732
1733 \AtBeginDocument{%
1734   \LetLtxMacro{\LWR@orighline}{\hline}
1735   \LetLtxMacro{\LWR@origcline}{\cline}
1736 }

1737 \end{warpHTML}
```

## 38 Accents

Native L<sup>A</sup>T<sub>E</sub>X accents such as \" will work, but many more kinds of accents are available when using Unicode-aware X<sub>E</sub>L<sup>A</sup>T<sub>E</sub>X and L<sup>A</sup>U<sub>L</sub>AT<sub>E</sub>X. If using accents in section names which will become file names, it is recommended to use the L<sup>A</sup>TEX accents such as \' and \v instead of Unicode accents. The L<sup>A</sup>TEX 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: 1738 \begin{warpHTML}

Without \AtBeginDocument, \t was being re-defined somewhere.

---

```
1739 \AtBeginDocument{
```

The following are restored for print when inside a `\textrimage`.

For Unicode engines, only `\t` needs to be redefined:

```
1740 \LetLtxMacro{\LWR@origtie}{\t}
```

For pdf<sup>L</sup>ATEX, additional work is required:

```
1741 \ifPDFTeX% pdflatex or dvi latex
1742 \LetLtxMacro{\LWR@origgraveaccent}{`}
1743 \LetLtxMacro{\LWR@origacuteaccent}{`}
1744 \LetLtxMacro{\LWR@origcircumflexaccent}{^}
1745 \LetLtxMacro{\LWR@origtildeaccent}{~}
1746 \LetLtxMacro{\LWR@origmacronaccent}{=}
1747 \LetLtxMacro{\LWR@origbreve}{\u}
1748 \LetLtxMacro{\LWR@origdotaccent}{\.}
1749 \LetLtxMacro{\LWR@origdiaeresisaccent}{"}
1750 \LetLtxMacro{\LWR@origdoubleacuteaccent}{\H}
1751 \LetLtxMacro{\LWR@origcaronaccent}{\v}
1752 \LetLtxMacro{\LWR@origdotbelowaccent}{\d}
1753 \LetLtxMacro{\LWR@origcedillaaccent}{\c}
1754 \LetLtxMacro{\LWR@origmacronbelowaccent}{\b}
```

The HTML redefinitions follow.

For pdf<sup>L</sup>ATEX, Unicode diacritical marks are used:

```
1755 \renewcommand*{\`}[1]{\#1\HTMLunicode{0300}}
1756 \renewcommand*{\'}[1]{\#1\HTMLunicode{0301}}
1757 \renewcommand*{\^}[1]{\#1\HTMLunicode{0302}}
1758 \renewcommand*{\~}[1]{\#1\HTMLunicode{0303}}
1759 \renewcommand*{\=}[1]{\#1\HTMLunicode{0304}}
1760 \renewcommand*{\u}[1]{\#1\HTMLunicode{0306}}
1761 \renewcommand*{\.}[1]{\#1\HTMLunicode{0307}}
1762 \renewcommand*{\\"}[1]{\#1\HTMLunicode{0308}}
1763 \renewcommand*{\H}[1]{\#1\HTMLunicode{030B}}
1764 \renewcommand*{\v}[1]{\#1\HTMLunicode{030C}}
1765 \renewcommand*{\d}[1]{\#1\HTMLunicode{0323}}
1766 \renewcommand*{\c}[1]{\#1\HTMLunicode{0327}}
1767 \renewcommand*{\b}[1]{\#1\HTMLunicode{0331}}
1768 \fi
```

For all engines, a Unicode diacritical tie is used:

```
1769 \def{\LWR@t}{\#1\HTMLunicode{0361}\#2}
1770 \renewcommand*{\t}[1]{\LWR@t}
```

`\LWR@restoreorigaccents` Called from `\restoreoriginalformatting` when a `\textrimage` is begun.

```
1771 \ifPDFTeX% pdflatex or dvi latex
1772 \newcommand*{\LWR@restoreorigaccents}{%
1773     \LetLtxMacro{\`}{\LWR@origgraveaccent}%
```

```

1774   \LetLtxMacro{\`}{\LWR@origacuteaccent}
1775   \LetLtxMacro{\^}{\LWR@origcircumflexaccent}
1776   \LetLtxMacro{\~}{\LWR@origtildeaccent}
1777   \LetLtxMacro{\=}{\LWR@origmacronaccent}
1778   \LetLtxMacro{\u}{\LWR@origbreve}
1779   \LetLtxMacro{\.}{\LWR@origdotaccent}
1780   \LetLtxMacro{\\"}{\LWR@origdiaeresisaccent}
1781   \LetLtxMacro{\H}{\LWR@origdoubleacuteaccent}
1782   \LetLtxMacro{\v}{\LWR@origcaronaccent}
1783   \LetLtxMacro{\t}{\LWR@origtie}
1784   \LetLtxMacro{\d}{\LWR@origdotbelowaccent}
1785   \LetLtxMacro{\c}{\LWR@origcedillaaccent}
1786   \LetLtxMacro{\b}{\LWR@origmacronbelowaccent}
1787 }%
1788 \else% XeLaTeX, LuaLaTeX:
1789 \newcommand*{\LWR@restoreorigaccents}{%
1790   \LetLtxMacro{\t}{\LWR@origtie}%
1791 }%
1792 \fi%
1793 }% AtBeginDocument
1794 \end{warpHTML}

```

## 39 Configuration files

### 39.1 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:

```
1795 \LWR@excludecomment{\LWRwriteconf}{\writeconf}
```

Generate configuration files if print mode and not `-pstool`:

```

for PRINT output: 1796 \begin{warpprint}
1797 \fullexpandarg%
1798 \IfSubStr*{\jobname}{-pstool}%
1799   {
1800     \PackageInfo{lwarp}{%
1801       Jobname with -pstool is found.\MessageBreak
1802       Not generating lwarp configuration files,%
1803     }
1804   }
1805   {
1806     \PackageInfo{lwarp}{Generating lwarp configuration files,}%
1807     \LWR@includecomment{\LWRwriteconf}{\writeconf}
1808   }
1809 \end{warpprint}

```

## 39.2 <project>.html.tex

File \*\_html.tex Used to allow an HTML version of the document to exist alongside the print version.

**Config file:**

```

1810 \begin{LWRwriteconf}
1811 \immediate\openout\LWR@quickfile=\jobname_html.tex
1812 \immediate\write\LWR@quickfile{%
1813 \detokenize{\PassOptionsToPackage}{%
1814 {warpHTML,BaseJobname=\jobname}{lwarf}}%
1815 }
1816 \immediate\write\LWR@quickfile{%
1817 \detokenize{\input}\string{\jobname.tex}\string }%
1818 }
1819 \immediate\closeout\LWR@quickfile
1820 \end{LWRwriteconf}
```

## 39.3 lwarpmk configuration files

**Config file:**

```
1821 \begin{LWRwriteconf}
```

\LWR@lwarpmkversion The version number of the configuration file, allowing *lwarpmk* to detect an obsolete configuration file format. Incremented by one each time the configuration file format changes. (This is NOT the same as the *lwarf* version number.)

```
1822 \newcommand*\LWR@lwarpmkversion[2]{\LWR@lwarpmkversion}
```

### 39.3.1 Helper macros

\LWR@shellescapecmd The LaTeX compile option for shell escape, if used.

```

1823 \ifshellescape
1824     \def\LWR@shellescapecmd{--shell-escape }
1825 \else
1826     \def\LWR@shellescapecmd{}
1827 \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

```

1828 \newcommand*\LWR@compilecmd[2]{%
1829     #1 \LWR@shellescapecmd \jobname#2%
1830 }
```

\LWR@addcompilecmd {\langle cmd\rangle} {\langle suffix\rangle}

Adds to the compilation command.

Cmd is *dvipdfmx*, etc. Suffix is empty or \_html

```
1831 \newcommand*{\LWR@addcompilecmd}[2]{%
1832     \LWRopseq
1833     #1 \jobname#2%
1834 }
```

\LWR@unknownengine Error message if not sure which L<sup>A</sup>T<sub>E</sub>X engine is being used.

```
1835 \newcommand*{\LWR@unknownengine}{%
1836     \PackageError{l warp}%
1837     {Unknown LATEX engine}%
1838     {%
1839         L warp only knows about pdflatex, dvi latex,
1840         xelatex, lualatex, and upLateX.%%
1841     }%
1842 }
```

\LWR@latexmkvar {<varname>} {<value>}

Adds a *latexmk* variable assignment.

```
1843 \newcommand*{\LWR@latexmkvar}[2]{%
1844     -e
1845     \LWRopquote%
1846     \LWRdollar #1=q/#2/%
1847     \LWRopquote
1848 }
```

\LWR@latexmkcmd {<latexmk options>}

Sets a call to *latexmk* with the given options, possibly adding --shell-escape, and also adding the indexing program.

```
1849 \newcommand*{\LWR@latexmkcmd}[1]{%
1850     latexmk \space \LWR@shellescapecmd \space #1 \space
1851     -recorder \space
1852     \LWR@latexmkvar{makeindex}{\LWR@LatexmkIndexCmd}%
1853 }
```

\LWR@Latexmkdvipdfm {<dvipdfm or dvipdfmx>}

Adds the options settings for *dvipdfm* or *dvipdfmx*.

```
1854 \newcommand*{\LWR@Latexmkdvipdfm}[1]{%
1855     -pdfdvi \space
1856     \LWR@latexmkvar{dvipdf}{%
1857         #1
1858         \@percentchar 0
1859         -o \@percentchar D
1860         \@percentchar S%}
```

```
1861      }
1862 }
```

\LWR@compileuplatex Sets compile options for up<sup>L</sup>ATEX with ujarticle or related classes.

```
1863 \newcommand*{\LWR@compileuplatex}{
1864     \def\LWR@tempprintlatexcmd{%
1865         \LWR@compilecmd{uplatex}{}
1866         \LWR@addcompilecmd{dvipdfmx}{}
1867     }
1868     \def\LWR@tempHTMLlatexcmd{%
1869         \LWR@compilecmd{uplatex}{_html}
1870         \LWR@addcompilecmd{dvipdfmx}{_html}
1871     }
1872 }
```

\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 lwarp.ist/' <jobname>.html']]
```

---

For *dvipdfmx*:

---

```
[[latexmk -pdfdvi -e '$dvipdf=q/dvipdfmx %o -o %D %S/'
-recorder
-e '$makeindex=q/makeindex -s lwarp.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.

```
1873 \ifbool{\LWR@Latexmk}{
```

For *latexmk* with *pdflatex* or *lualatex*:

```
1874     \ifpdf
```

For *latexmk* with *pdflatex*:

```
1875     \ifPDFTeX
1876         \def\LWR@Latexcmd{\LWR@Latexmkcmd{-pdf -dvi- -ps-}}
1877     \else
```

For *latexmk* with *lualatex*:

```

1878      \ifLuaTeX
1879          \def\LWR@latexcmd{\LWR@latexmkcmd{-lualatex}}
1880      \else
1881          \LWR@unknownengine
1882      \fi
1883  \fi
1884 \else% \ifpdf

```

For *latexmk* with *xelatex* or DVI *latex*:

```
1885 \ifXeTeX
```

For *latexmk* with *xelatex*:

```

1886 \def\LWR@latexcmd{\LWR@latexmkcmd{-xelatex}}
1887 \else% \ifXeTeX

```

For *latexmk* with DVI *latex*:

```

1888 \ifbool{\LWR@dvipdfm}{%
1889     \def\LWR@latexcmd{%
1890         \LWR@latexmkcmd{%
1891             \LWR@latexmkdvipdfm{dvipdfm}}%
1892     }%
1893 }%
1894 }{%
1895     \ifbool{\LWR@dvipdfmx}{%
1896         \def\LWR@latexcmd{%
1897             \LWR@latexmkcmd{%
1898                 \LWR@latexmkdvipdfm{dvipdfmx}}%
1899             }%
1900     }%
1901 }{%
1902     \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}%
1903     }%
1904 }%
1905 \fi
1906 \fi% \ifpdf

```

The final assignment if *latexmk*:

```

1907 \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
1908 \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
1909 }% latexmk

```

Without *latexmk*, the compiling command is simply the compiler name and the optional shell escape:

```

1910 {%
1911     \ifpdf

```

For *pdflatex* or *lualatex*:

```
1912      \ifPDFTeX
```

For *pdflatex*:

```
1913          \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{}}
```

```
1914          \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
```

```
1915      \else
```

```
1916          \ifLuaTeX
```

For *lualatex*:

```
1917          \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{}}
```

```
1918          \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
```

```
1919      \else
```

```
1920          \LWR@unknownengine
```

```
1921      \fi
```

```
1922      \fi
```

```
1923  \else% \ifpdf
```

For dvi *latex* or *xelatex*:

```
1924      \ifXeTeX
```

For *xelatex*:

```
1925          \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}{}}
```

```
1926          \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{xelatex}{_html}}
```

```
1927      \else
```

For dvi *latex*. Default to *dvips*, unless told to use *dvipdfm* or *dvipdfmx*:

```
1928      \ifbool{LWR@dvipdfm}{
```

For dvi *latex* with *dvipdfm*:

```
1929          \def\LWR@tempprintlatexcmd{%
1930              \LWR@compilecmd{latex}{}
1931              \LWR@addcompilecmd{dvipdfm}{}
1932          }
1933          \def\LWR@tempHTMLlatexcmd{%
1934              \LWR@compilecmd{latex}{_html}
1935              \LWR@addcompilecmd{dvipdfm}{_html}
1936          }
1937      }{
1938          \ifbool{LWR@dvipdfmx}{
```

For dvi *latex* with *dvipdfmx*:

```
1939          \def\LWR@tempprintlatexcmd{%
1940              \LWR@compilecmd{latex}{}
1941              \LWR@addcompilecmd{dvipdfmx}{}
1942          }
```

---

```

1943          \def\LWR@tempHTMLlatexcmd{%
1944              \LWR@compilecmd{latex}{_html}
1945              \LWR@addcompilecmd{dvipdfmx}{_html}
1946          }
1947      }{\% dvips

```

For dvi *latex* with *dvips* and *ps2pdf*:

```

1948          \def\LWR@tempprintlatexcmd{%
1949              \LWR@compilecmd{latex}{}
1950              \LWR@addcompilecmd{dvips}{}
1951              \LWR@addcompilecmd{ps2pdf}{}.ps
1952          }
1953          \def\LWR@tempHTMLlatexcmd{%
1954              \LWR@compilecmd{latex}{_html}
1955              \LWR@addcompilecmd{dvips}{_html}
1956              \LWR@addcompilecmd{ps2pdf}{_html}.ps
1957          }
1958      }
1959  }
1960  \fi% \ifXeTeX
1961  \fi% \ifpdf
1962 }% latexmk

```

For *ujarticle*, *utarticle*, and related, using up<sup>L</sup>T<sub>E</sub>X and *dvipdfmx*:

```

1963 \@ifclassloaded{ujarticle}{\LWR@compileuplateX}{}
1964 \@ifclassloaded{ujbook}{\LWR@compileuplateX}{}
1965 \@ifclassloaded{ujreport}{\LWR@compileuplateX}{}
1966 \@ifclassloaded{utarticle}{\LWR@compileuplateX}{}
1967 \@ifclassloaded{utbook}{\LWR@compileuplateX}{}
1968 \@ifclassloaded{utreport}{\LWR@compileuplateX}{}

```

Only make the setting permanent if the original was empty:

```

1969 \ifdefempty{\LWR@PrintLatexCmd}{%
1970     \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}
1971 }
1972 \ifdefempty{\LWR@HTMLLateXCmd}{%
1973     \def\LWR@HTMLLateXCmd{\LWR@tempHTMLlatexcmd}
1974 }

```

\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.

```

1975 \newcommand{\LWR@writeconf}[1]{%
1976 \ifcsdef{\LWR@quickfile}{}{\newwrite{\LWR@quickfile}}
1977 \immediate\openout\LWR@quickfile=#1
1978 \immediate\write{\LWR@quickfile}{confversion = [[\LWR@lwarfconfversion]]}
1979 \ifbool{usingOSWindows}{%
1980     \immediate\write{\LWR@quickfile}{opsystem = [[Windows]]}

```

```

1981 }{
1982     \immediate\write\LWR@quickfile{opsystem = [[Unix]]}
1983 }
1984 \immediate\write\LWR@quickfile{sourcename = [[\jobname]]}
1985 \immediate\write\LWR@quickfile{homehtmlfilename = [[\HomeHTMLFilename]]}
1986 \immediate\write\LWR@quickfile{htmldirectory = [[\HTMLFilename]]}
1987 \immediate\write\LWR@quickfile{imagesdirectory = [[\LWR@ImagesDirectory]]}
1988 \immediate\write\LWR@quickfile{imagesname = [[\LWR@ImagesName]]}
1989 \immediate\write\LWR@quickfile{latexmk = [[\ifbool{\LWR@latexmk}{true}{false}]]}
1990 \immediate\write\LWR@quickfile{printlatexcmd = [[\LWR@PrintLatexCmd]]}
1991 \immediate\write\LWR@quickfile{HTMLlatexcmd = [[\LWR@HTMLLatexCmd]]}
1992 \immediate\write\LWR@quickfile{printindexcmd = [[\LWR@PrintIndexCmd]]}
1993 \immediate\write\LWR@quickfile{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}
1994 \immediate\write\LWR@quickfile{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}
1995 \immediate\write\LWR@quickfile{glossarycmd = [[\LWR@GlossaryCmd]]}
1996 \immediate\write\LWR@quickfile{pdftotextenc = [[\LWR@pdftotextEnc]]}
1997 \immediate\closeout\LWR@quickfile
1998 }
1999

2000 \end{LWRwriteconf}

```

### 39.3.2 lwarpmk.conf

**File** lwarpmk.conf lwarpmk.conf is automatically (re-)created by the lwarf 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:**

```

2001 \begin{LWRwriteconf}
2002
2003 \AtBeginDocument{\LWR@writeconf{lwarpmk.conf}}
2004
2005 \end{LWRwriteconf}

```

### 39.3.3 <project>.lwarpmkconf

**File** project.lwarpmkconf A project-specific configuration file for *lwarpmk*.

The `makeindex` and `xindy` options have already been handled for `lwarf.conf`.

**Config file:**

```

2006 \begin{LWRwriteconf}
2007
2008 \AtBeginDocument{\LWR@writeconf{\jobname.lwarpmkconf}}
2009
2010 \end{LWRwriteconf}

```

## 39.4 lwarf.css

**File** lwarf.css This is the base css layer used by lwarf.

This must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```
2011 \begin{LWRwriteconf}
2012 \begin{filecontents*}[overwrite]{lwarp.css}
2013 /*
2014   CSS stylesheet for the LaTeX Lwarp package
2015   Copyright 2016-2020 Brian Dunn - BD Tech Concepts LLC
2016 */
2017
2018
2019 /* a fix for older browsers: */
2020 header, section, footer, aside, nav, main,
2021     article, figure { display: block; }
2022
2023
2024 A:link {color:#000080 ; text-decoration: none ; }
2025 A:visited {color:#800000 ; }
2026 A:hover {color:#000080 ; text-decoration: underline ;}
2027 A:active {color:#800000 ; }
2028
2029 a.tocbook {display: inline-block ; margin-left: 0em ;
2030     font-weight: bold ; margin-top: 1ex ; margin-bottom: 1ex ; }
2031 a.tocpart {display: inline-block ; margin-left: 0em ;
2032     font-weight: bold ;}
2033 a.tocchapter {display: inline-block ; margin-left: 0em ;
2034     font-weight: bold ;}
2035 a.tocsection {display: inline-block ; margin-left: 1em ;
2036     text-indent: -.5em ; font-weight: bold ;}
2037 a.tocsubsection {display: inline-block ; margin-left: 2em ;
2038     text-indent: -.5em ;}
2039 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
2040     text-indent: -.5em ;}
2041 a.tocparagraph {display: inline-block ; margin-left: 4em ;
2042     text-indent: -.5em ;}
2043 a.toc subparagraph {display: inline-block ; margin-left: 5em ;
2044     text-indent: -.5em ;}
2045 a.tocfigure {margin-left: 0em}
2046 a.tocsubfigure {margin-left: 2em}
2047 a.toctable {margin-left: 0em}
2048 a.tocsubtable {margin-left: 2em}
2049 a.toctheorem {margin-left: 0em}
2050 a.toclstlisting {margin-left: 0em}
2051
2052 body {
2053     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2054         "Lucida Bright", Georgia, serif;
2055     background: #FAF7F4 ;
2056     color: black ;
2057     margin:0em ;
2058     padding:0em ;
2059     font-size: 100% ;
2060     line-height: 1.2 ;
2061 }
2062
2063 p {margin: 1.5ex 0em 1.5ex 0em ;}
```

```
2064 table p {margin: .5ex 0em .5ex 0em ;}
2065
2066 /* Holds a section number */
2067 span.sectionnumber { margin-right: 0em }
2068
2069 /* Inserted in front of index lines */
2070 span.indexitem {margin-left: 0em}
2071 span.indexsubitem {margin-left: 2em}
2072 span.indexsubsubitem {margin-left: 4em}
2073 div.indexheading {margin-top: 2ex ; font-weight: bold}
2074
2075 div.hidden, span.hidden { display: none ; }
2076
2077 kbd, span.texttt {
2078     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2079                 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2080                 "Courier New", monospace;
2081     font-size: 100% ;
2082 }
2083
2084 pre { padding: 3pt ; }
2085
2086 span.strong, span.textbf, div.strong, div.textbf { font-weight: bold; }
2087
2088 span.textit, div.textit { font-style: italic; }
2089
2090 span.textmd, div.textmd { font-weight: normal; }
2091
2092 span.textup, div.textup {
2093     font-style: normal;
2094     font-variant: normal;
2095     font-variant-numeric: normal ;
2096 }
2097
2098 span.textsc, div.textsc {
2099     font-variant: small-caps;
2100     font-variant-numeric: oldstyle-nums ;
2101 }
2102
2103 span.textulc, div.textulc {
2104     font-variant: normal ;
2105     font-variant-numeric: normal ;
2106 }
2107
2108 span.textsl, div.textsl { font-style: oblique; }
2109
2110 span.textrm, div.textrm {
2111     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2112                 "Lucida Bright", Georgia, serif;
2113 }
2114
2115 span.textsf, div.textsf {
2116     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2117                 Geneva, Verdana, sans-serif ;
2118 }
```

```
2119
2120 /* nfssext-cfr lining figures */
2121 span.textln, div.textln {
2122     font-variant-numeric: lining-nums ;
2123 }
2124
2125 /* nfssext-cfr proportional figures */
2126 span.textp, div.textp {
2127     font-variant-numeric: proportional-nums ;
2128 }
2129
2130 /* nfssext-cfr tabular figures */
2131 span.texttt, div.texttt {
2132     font-variant-numeric: tabular-nums ;
2133 }
2134
2135 /* nfssext-cfr font weights */
2136 span.textdb, div.textdb {
2137     font-weight: 500 ;
2138 }
2139
2140 span.textsb, div.textsb {
2141     font-weight: 600 ;
2142 }
2143
2144 span.texteb, div.texteb {
2145     font-weight: 800 ;
2146 }
2147
2148 span.textub, div.textub {
2149     font-weight: 900 ;
2150 }
2151
2152 span.textlg, div.textlg {
2153     font-weight: 300 ;
2154 }
2155
2156 span.textel, div.textel {
2157     font-weight: 200 ;
2158 }
2159
2160 span.textul, div.textul {
2161     font-weight: 100 ;
2162 }
2163
2164
2165
2166 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
2167
2168 span.underline {
2169     text-decoration: underline ;
2170     text-decoration-skip: auto ;
2171 }
2172
2173 span.overline {
```

```
2174     text-decoration: overline ;
2175     text-decoration-skip: auto ;
2176 }
2177
2178 div.hrule { border-top: 1px solid silver }
2179
2180
2181 /* for vertical text: */
2182 div.verticalrl { writing-mode: vertical-rl }
2183 div.horizontaltb { writing-mode: horizontal-tb }
2184
2185
2186 /* for diagbox */
2187 div.diagboxtitleN { border-bottom: 1px solid gray }
2188 div.diagboxtitleS { border-top: 1px solid gray }
2189
2190 div.diagboxE {
2191     padding-left: 2em ;
2192     text-align: right ;
2193 }
2194
2195 div.diagboxW {
2196     padding-right: 2em ;
2197     text-align: left ;
2198 }
2199
2200
2201
2202 /* For realscripts */
2203 .supsubscript {
2204     display: inline-block;
2205     text-align:left ;
2206 }
2207
2208 .supsubscript sup,
2209 .supsubscript sub {
2210     position: relative;
2211     display: block;
2212     font-size: .7em;
2213     line-height: 1;
2214 }
2215
2216 .supsubscript sup {
2217     top: .3em;
2218 }
2219
2220 .supsubscript sub {
2221     top: .3em;
2222 }
2223
2224 div.attribution p {
2225     text-align: right ;
2226     font-size: 80%
2227 }
2228
```

```
2229 span.poemtitle {  
2230   font-size: 120% ; font-weight: bold;  
2231 }  
2232  
2233 pre.tabbing {  
2234   font-family: "Linux Libertine Mono O", "Lucida Console",  
2235     "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",  
2236     "Liberation Mono", "FreeMono", "Andale Mono",  
2237     "Nimbus Mono L", "Courier New", monospace;  
2238 }  
2239  
2240 blockquote {  
2241   display: block ;  
2242   margin-left: 2em ;  
2243   margin-right: 2em ;  
2244 }  
2245  
2246 /* quotchap is for the quotchap package */  
2247 div.quotchap {  
2248   display: block ;  
2249   font-style: oblique ;  
2250   overflow-x: auto ;  
2251   margin-left: 2em ;  
2252   margin-right: 2em ;  
2253 }  
2254  
2255 blockquote p, div.quotchap p {  
2256   line-height: 1.5;  
2257   text-align: left ;  
2258   font-size: .85em ;  
2259 }  
2260  
2261 /* qauthor is for the quotchap package */  
2262 div.qauthor {  
2263   display: block ;  
2264   text-align: right ;  
2265   margin-left: auto ;  
2266   margin-right: 2em ;  
2267   font-size: 80% ;  
2268   font-variant: small-caps;  
2269 }  
2270  
2271 div.qauthor p {  
2272   text-align: right ;  
2273 }  
2274  
2275 div.epigraph, div.dictum {  
2276   line-height: 1.2;  
2277   text-align: left ;  
2278   padding: 3ex 1em 0ex 1em ;  
2279 /*   margin: 3ex auto 3ex auto ; /* Epigraph centered */  
2280   margin: 3ex 1em 3ex auto ; /* Epigraph to the right */  
2281 /*   margin: 3ex 1em 3ex 1em ; /* Epigraph to the left */  
2282   font-size: .85em ;  
2283   max-width: 27em ;
```

```
2284 }
2285
2286 div.epigraphsource, div.dictumauthor {
2287     text-align:right ;
2288     margin-left:auto ;
2289 /*      max-width: 50% ; */
2290     border-top: 1px solid #A0A0A0 ;
2291     padding-bottom: 3ex ;
2292     line-height: 1.2;
2293 }
2294
2295 div.epigraph p, div.dictum p { padding: .5ex ; margin: 0ex ;}
2296 div.epigraphsource p, div.dictumauthor p { padding: .5ex 0ex 0ex 0ex ; margin: 0ex ;}
2297 div.dictumauthor { font-style:italic }
2298
2299
2300 /* copyrightbox package */
2301 div.copyrightbox { margin: .5ex .5em }
2302 div.copyrightbox p {margin: 0px .5em ; padding: 0px}
2303 div.copyrightboxnote {text-align: left ; font-size: 60%}
2304
2305
2306 /* lettrine package: */
2307 span.lettrine { font-size: 4ex ; float: left ; }
2308 span.lettrinetext { font-variant: small-caps ; }
2309
2310 /* ulem, soul, umoline packages: */
2311 span.uline {
2312     text-decoration: underline ;
2313     text-decoration-skip: auto ;
2314 }
2315
2316 span.uline {
2317     text-decoration: underline ;
2318     text-decoration-skip: auto ;
2319     text-decoration-style: double ;
2320 }
2321
2322 span.uwave {
2323     text-decoration: underline ;
2324     text-decoration-skip: auto ;
2325     text-decoration-style: wavy ;
2326 }
2327
2328 span.sout {
2329     text-decoration: line-through ;
2330 }
2331
2332 span.oline {
2333     text-decoration: overline ;
2334     text-decoration-skip: auto ;
2335 }
2336
2337 span.xout {
2338     text-decoration: line-through ;
```

```
2339 }
2340
2341 span.dashuline {
2342     text-decoration: underline ;
2343     text-decoration-skip: auto ;
2344     text-decoration-style: dashed ;
2345 }
2346
2347 span.dotuline {
2348     text-decoration: underline ;
2349     text-decoration-skip: auto ;
2350     text-decoration-style: dotted ;
2351 }
2352
2353 span.letterspacing { letter-spacing: .2ex ; }
2354
2355 span.capsspacing {
2356     font-variant: small-caps ;
2357     letter-spacing: .1ex ;
2358 }
2359
2360 span.highlight { background: #F8E800 ; }
2361
2362
2363
2364
2365 html body {
2366     margin: 0 ;
2367     line-height: 1.2;
2368 }
2369
2370
2371 body div {
2372     margin: 0ex;
2373 }
2374
2375
2376 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2377 {
2378     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
2379             "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
2380             "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
2381             "Times New Roman", serif;
2382     font-style: normal ;
2383     font-weight: bold ;
2384     text-align: left ;
2385 }
2386
2387 h1 { /* title of the entire website, used on each page */
2388     text-align: center ;
2389     font-size: 2.5em ;
2390     padding: .4ex 0em 0ex 0em ;
2391 }
2392
2393 div.book {
```

```
2394     text-align: center ;
2395     font-size: 2.325em ;
2396     padding: .4ex 0em 0ex 0em ;
2397 }
2398
2399 h2 { font-size: 2.25em }
2400 h3 { font-size: 2em }
2401 h4 { font-size: 1.75em }
2402 h5 { font-size: 1.5em }
2403 h6 { font-size: 1.25em }
2404 span.paragraph {font-size: 1em ; font-variant: normal ;
2405     margin-right: 1em ; }
2406 span.subparagraph {font-size: 1em ; font-variant: normal ;
2407     margin-right: 1em ; }
2408
2409 div.minisec {
2410     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2411         Geneva, Verdana, sans-serif ;
2412     font-style: normal ;
2413     font-weight: bold ;
2414     text-align: left ;
2415 }
2416
2417 h1 {
2418     margin: 0ex 0em 0ex 0em ;
2419     line-height: 1.3;
2420     text-align: center ;
2421 }
2422
2423 h2 {
2424     margin: 1ex 0em 1ex 0em ;
2425     line-height: 1.3;
2426     text-align: center ;
2427 }
2428
2429 h3 {
2430     margin: 3ex 0em 1ex 0em ;
2431     line-height: 1.3;
2432 }
2433
2434 h4 {
2435     margin: 3ex 0em 1ex 0em ;
2436     line-height: 1.3;
2437 }
2438
2439 h5 {
2440     margin: 3ex 0em 1ex 0em ;
2441     line-height: 1.3;
2442 }
2443
2444 h6 {
2445     margin: 3ex 0em 1ex 0em ;
2446     line-height: 1.3;
2447 }
2448
```

```
2449
2450 div.titlepage {
2451   text-align: center ;
2452 }
2453
2454 .footnotes {
2455   text-align: left ;
2456   font-size: .85em ;
2457   margin: 3ex 2em 0ex 2em ;
2458   border-top: 1px solid silver ;
2459 }
2460
2461 .marginpar, .marginparblock {
2462   max-width: 50%;
2463   float: right ;
2464   clear: both ;
2465   text-align: left ;
2466   margin: 1ex 0.5em 1ex 1em ;
2467   padding: 1ex 0.5em 1ex 0.5em ;
2468   font-size: 85% ;
2469   border-top: 1px solid silver ;
2470   border-bottom: 1px solid silver ;
2471   overflow-x: auto ;
2472 }
2473
2474 .marginpar br { margin-bottom: 2ex ; }
2475
2476 div.marginblock, div.marginparblock {
2477   max-width:50%;
2478   min-width: 10em; /* room for caption */
2479   float:right;
2480   text-align:left;
2481   margin: 1ex 0.5em 1ex 1em ;
2482   padding: 1ex 0.5em 1ex 0.5em ;
2483   overflow-x: auto;
2484 }
2485
2486 div.marginblock div.minipage,
2487 div.marginparblock div.minipage {
2488   display: inline-block ;
2489   margin: 0pt auto 0pt auto ;
2490 }
2491
2492 div.marginblock div.minipage p ,
2493 div.marginparblock div.minipage p
2494   { font-size: 85%}
2495
2496 div.marginblock br ,
2497 div.marginparblock br
2498   { margin-bottom: 2ex ; }
2499
2500 div.bodycontainer {
2501   float: left ;
2502   width: 80% ;
2503 }
```

```
2504
2505 div.bodywithoutsidetoc div.bodycontainer {
2506     float: none ;
2507     width: 100% ;
2508 }
2509
2510 section.textbody div.footnotes{
2511     margin: 3ex 2em .5ex 2em ;
2512     border-bottom: 2px solid silver ;
2513 }
2514
2515 .footnoteheader {
2516     border-top: 2px solid silver ;
2517     margin-top: 3ex ;
2518     padding-top: 1ex ;
2519     font-weight: bold ;
2520 }
2521
2522 .mpfootnotes {
2523     text-align: left ;
2524     font-size: .85em ;
2525     margin-left: 1em ;
2526     border-top: 1px solid silver ;
2527 }
2528
2529 /* Remove footnote top border in the title page. */
2530 div.titlepage div.mpfootnotes {
2531     border-top: none ;
2532 }
2533
2534
2535
2536 ul, ol {
2537     margin: 1ex 1em 1ex 0em;
2538     line-height: 1.2;
2539 }
2540
2541 body dir, body menu {
2542     margin: 3ex 1em 3ex 0em;
2543     line-height: 1.2;
2544 }
2545
2546 li { margin: 0ex 0em 1ex 0em; }
2547
2548 html {
2549     margin: 0;
2550     padding: 0;
2551 }
2552
2553 .programlisting {
2554     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2555             "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2556             "Courier New", monospace;
2557     margin: 1ex 0ex 1ex 0ex ;
2558     padding: .5ex 0pt .5ex 0pt ;
```

```
2559 overflow-x: auto;
2560 }
2561
2562 section.textbody>pre.programlisting {
2563 border-top: 1px solid silver ;
2564 border-bottom: 1px solid silver ;
2565 }
2566
2567
2568 div.displaymath {
2569     text-align: center ;
2570 }
2571
2572 div.displaymathnumbered {
2573     text-align: right ;
2574     margin-left: 5% ;
2575     margin-right: 5% ;
2576     min-width: 2.5in ;
2577 }
2578
2579 @media all and (min-width: 400px) {
2580     div.displaymathnumbered {
2581         margin-left: 10% ;
2582         margin-right: 10% ;
2583     }
2584 }
2585
2586 @media all and (min-width: 800px) {
2587     div.displaymathnumbered {
2588         margin-right: 20% ;
2589     }
2590 }
2591
2592 @media all and (min-width: 1200px) {
2593     div.displaymathnumbered {
2594         margin-right: 30% ;
2595     }
2596 }
2597
2598
2599 .inlineprogramlisting {
2600     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2601             "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2602             "Courier New", monospace;
2603     overflow-x: auto;
2604 }
2605
2606 span.listinglabel {
2607     display: inline-block ;
2608     font-size: 70% ;
2609     width: 4em ;
2610     text-align: right ;
2611     margin-right: 2em ;
2612 }
2613
```

```
2614 div.abstract {
2615   margin: 2em 5% 2em 5% ;
2616   padding: 1ex 1em 1ex 1em ;
2617 /* font-weight: bold ; */
2618   font-size: 90% ;
2619   text-align: left ;
2620 }
2621
2622 div.abstract dl {line-height:1.5;}
2623 div.abstract dt {color:#304070;}
2624
2625 div.abstracttitle{
2626   font-family: "URW Classico", Optima, "Linux Biolinum 0",
2627     "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2628     "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2629   font-weight:bold;
2630   font-size:1.25em;
2631   text-align: center ;
2632 }
2633
2634 span.abstractrunintitle{
2635   font-family: "URW Classico", Optima, "Linux Biolinum 0",
2636     "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2637     "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2638   font-weight:bold;
2639 }
2640
2641
2642 .verbatim {
2643   overflow-x: auto ;
2644 }
2645
2646 .alltt {
2647   overflow-x: auto ;
2648 }
2649
2650
2651 .bverbatim {
2652   margin: 1ex 0pt 1ex 0pt ;
2653   padding: .5ex 0pt .5ex 0pt ;
2654   overflow-x: auto ;
2655 }
2656
2657 .lverbatim {
2658   margin: 1ex 0pt 1ex 0pt ;
2659   padding: .5ex 0pt .5ex 0pt ;
2660   overflow-x: auto ;
2661 }
2662
2663 .fancyvrb {
2664   font-size:.85em ;
2665   margin: 3ex 0pt 3ex 0pt
2666 }
2667
2668 .fancyvrblabel {
```

```
2669     font-size: .85em ;
2670     text-align: center ;
2671     font-weight: bold ;
2672     margin-top: 1ex ;
2673     margin-bottom: 1ex ;
2674 }
2675
2676
2677 .verse {
2678     font-family: "Linux Libertine Mono O", "Lucida Console",
2679                 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2680                 "Liberation Mono", "FreeMono", "Andale Mono",
2681                 "Nimbus Mono L", "Courier New", monospace;
2682     margin-left: 1em ;
2683 }
2684
2685
2686 div.singlespace { line-height: 1.2 ; }
2687 div.onehalfspace { line-height: 1.5 ; }
2688 div.doublespace { line-height: 2 ; }
2689
2690
2691 /* Word processor format output: */
2692 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
2693 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
2694 div.wpminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ; }
2695
2696
2697
2698
2699 /* Minipage environments, vertically aligned to top, center, bottom: */
2700 .minipage, .fminipage, .fcolorminipage {
2701     /* display: inline-block ; */
2702     /* Mini pages which follow each other will be tiled. */
2703     text-align:left;
2704     margin: .25em .25em .25em .25em;
2705     padding: .25em .25em .25em .25em;
2706     display: inline-flex;
2707     flex-direction: column ;
2708     overflow: auto;
2709 }
2710
2711 .inlineminipage {
2712     display: inline-block ;
2713     text-align: left
2714 }
2715
2716 /* Paragraphs in the flexbox did not collapse their margins. */
2717 /* Have not yet researched this. */
2718 .minipage p {margin: .75ex 0em .75ex 0em ;}
2719
2720 .fboxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
2721 .fcolorbox .minipage, .fcolorboxBlock .minipage
2722     {border: none ; background: none;}
```

```
2724 .fbox, .fboxBlock { border: 1px solid black ; }
2725
2726 .fbox, .fboxBlock, .fcolorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
2727 .fminipage, .fcolorminipage
2728   {display: inline-block}
2729
2730 .shadowbox, .shabox {
2731   border: 1px solid black;
2732   box-shadow: 3px 3px 3px #808080 ;
2733   border-radius: 0px ;
2734   padding: .4ex .3em .4ex .3em ;
2735   margin: 0pt .3ex 0pt .3ex ;
2736   display: inline-block ;
2737 }
2738
2739 .doublebox {
2740   border: 3px double black;
2741   border-radius: 0px ;
2742   padding: .4ex .3em .4ex .3em ;
2743   margin: 0pt .3ex 0pt .3ex ;
2744   display: inline-block ;
2745 }
2746
2747 .ovalbox, .Ovalbox {
2748   border: 1px solid black;
2749   border-radius: 1ex ;
2750   padding: .4ex .3em .4ex .3em ;
2751   margin: 0pt .3ex 0pt .3ex ;
2752   display: inline-block ;
2753 }
2754
2755 .Ovalbox { border-width: 2px ; }
2756
2757 .framebox {
2758   border: 1px solid black;
2759   border-radius: 0px ;
2760   padding: .3ex .2em 0ex .2em ;
2761   margin: 0pt .1ex 0pt .1ex ;
2762   display: inline-block ;
2763 }
2764
2765
2766 /* mdframed, tcolorbox, shadebox packages */
2767 .mdframed, .tcolorbox, .shadebox {
2768   padding: 0ex ;
2769   margin: 2ex 0em 2ex 0em ;
2770   border: 1px solid black ;
2771 }
2772
2773 .tcolorbox {
2774   border-radius: 10pt ;
2775   margin: 2ex 1em 2ex 1em ;
2776 }
2777
2778 .mdframed p, .tcolorbox p { padding: 0ex .5em 0ex .5em ; }
```

```
2779
2780 .mdframed dl, .tcolorbox dl { padding: 1ex .5em 0ex .5em ; }
2781
2782 .mdframedtitle, .tcolorboxtitle {
2783     padding: .5ex 0pt 0pt 0pt ;
2784     border-radius: 10pt 10pt 0pt 0pt ;
2785     display: block ;
2786     margin-bottom: 1ex ;
2787     border-bottom: 1px solid silver ;
2788 }
2789
2790 .tcolorboxsubtitle .tcolorbox {
2791     margin: 2ex 0em 2ex 0em ;
2792     border-radius: 0pt ;
2793 }
2794
2795 .mdframedsubtitle {
2796     display: block ;
2797 }
2798
2799 .mdframedsubsubtitle {
2800     display: block ;
2801 }
2802
2803 .mdtheorem {
2804     padding: 0ex .5em 0ex .5em ;
2805     margin: 3ex 5% 3ex 5% ;
2806 }
2807
2808
2809 /* framed package */
2810 .framed, pre.boxedverbatim, fcolorbox {
2811     margin: 3ex 0em 3ex 0em ;
2812     border: 1px solid black;
2813     border-radius: 0px ;
2814     padding: .3ex 1em 0ex 1em ;
2815     display: block ;
2816 }
2817
2818 .shaded {
2819     margin: 3ex 0em 3ex 0em ;
2820     padding: .3ex 1em .3ex 1em ;
2821     display: block ;
2822 }
2823
2824 .snugframed {
2825     margin: 3ex 0em 3ex 0em ;
2826     border: 1px solid black;
2827     border-radius: 0px ;
2828     display: block ;
2829 }
2830
2831 .framedleftbar {
2832     margin: 3ex 0em 3ex 0em ;
2833     border-left: 3pt solid black;
```

```
2834     border-radius: 0px ;
2835     padding: .3ex .2em .3ex 1em ;
2836     display: block ;
2837 }
2838
2839 .framedtitle {
2840     margin: 0em ;
2841     padding: 0em ;
2842     font-size: 130%
2843 }
2844
2845 .framedtitle p { padding: .3em }
2846
2847
2848 /* For the niceframe package: */
2849
2850 div.niceframe, div.curlyframe, div.artdecoframe, div.generalframe {
2851     padding: 1ex ;
2852     margin: 2ex auto ;
2853     border-radius: 2ex ;
2854 }
2855
2856 div.niceframe {
2857     border: 6px groove black ;
2858 }
2859
2860 div.curlyframe {
2861     border-left: 3px dotted black ;
2862     border-right: 3px dotted black ;
2863     border-radius: 6ex ;
2864 }
2865
2866 div.artdecoframe {
2867     border-left: 10px double black ;
2868     border-right: 10px double black ;
2869     border-radius: 6ex ;
2870 }
2871
2872 div.generalframe {
2873     border: 6px groove black ;
2874 }
2875
2876
2877
2878 dl {
2879     margin: 1ex 2em 1ex 0em;
2880     line-height: 1.3;
2881 }
2882
2883 dl dt {
2884     display: block ;
2885     float:left ;
2886     font-weight: bold;
2887     padding-right: 1em ;
2888 }
```

```
2889
2890 dl dd { display: block ; }
2891
2892 dl dd:after { content: "" ; display: block ; clear: both }
2893
2894 dl dd p { margin-top: 0em; }
2895
2896 dd ul, dd ol, dd dl { clear: both ; padding-top: 1ex }
2897
2898
2899 nav {
2900     font-family: "URW Classico", Optima, "Linux Biolinum 0",
2901         "DejaVu Sans", "Bitstream Vera Sans",
2902         Geneva, Verdana, sans-serif ;
2903     margin-bottom: 4ex ;
2904 }
2905
2906 nav p {
2907     line-height: 1.2 ;
2908     margin-top:.5ex ;
2909     margin-bottom:.5ex;
2910     font-size: .9em ;
2911 }
2912
2913
2914
2915 img, img.hyperimage, img.borderimage {
2916     max-width: 600px;
2917     border: 1px solid silver;
2918     box-shadow: 3px 3px 3px #808080 ;
2919     padding: .5% ;
2920     margin: .5% ;
2921     background: none ;
2922 }
2923
2924 img.inlineimage{
2925     padding: 0px ;
2926     box-shadow: none ;
2927     border: none ;
2928     background: none ;
2929     margin: 0px ;
2930     display: inline-block ;
2931     border-radius: 0px ;
2932 }
2933
2934 img.logoimage{
2935     max-width: 300px ;
2936     box-shadow: 3px 3px 3px #808080 ;
2937     border: 1px solid black ;
2938     background:none ;
2939     padding:0 ;
2940     margin: 5ex ;
2941     border-radius: 10px ;
2942 }
2943
```

```
2944
2945 .section {
2946 /*
2947     To have each section float relative to each other:
2948 */
2949 /*
2950     display: block ;
2951     float: left ;
2952     position: relative ;
2953     background: white ;
2954     border: 1px solid silver ;
2955     padding: .5em ;
2956 */
2957     margin: 0ex .5em 0ex .5em ;
2958     padding: 0 ;
2959 }
2960
2961
2962 figure {
2963     margin: 5ex auto 5ex auto ;
2964     padding: 1ex 1em 1ex 1em ;
2965     overflow-x: auto ;
2966 }
2967
2968
2969 /* To automatically center images in figures: */
2970 /*
2971 figure img.inlineimage {
2972     margin: 0ex auto 0ex auto ;
2973     display: block ;
2974 }
2975 */
2976
2977 /* To automatically center minipages in figures: */
2978 /*
2979 figure div.minipage, figure div.minipage div.minipage {
2980     margin: 1ex auto 1ex auto ;
2981     display: block ;
2982 }
2983 */
2984
2985 figure figure { margin: 0pt }
2986
2987 figure div.minipage p { font-size: 85% ; }
2988
2989 figure.subfigure, figure.subtable {
2990     display: inline-block ; margin: 3ex 1em 3ex 1em ;
2991 }
2992
2993 div.figurecaption .minipage { margin:0 ; padding: 0 }
2994
2995 div.minipage figure { border: none ; box-shadow: none ; }
2996 div.minipage figure.table { margin: 0ex }
2997 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
2998
```

```
2999 div.floatrow { text-align: center; }
3000
3001 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
3002
3003 div.floatfoot { font-size: .85em ;
3004     border-top: 1px solid silver ; line-height: 1.2 ; }
3005
3006 div.figurecaption , .lstlistingtitle {
3007     font-size: .85em ;
3008     text-align: center ;
3009     font-weight: bold ;
3010     margin-top: 1ex ;
3011     margin-bottom: 1ex ;
3012 }
3013
3014 figure.subfigure div.figurecaption, figure.subtable div.figurecaption {
3015     border-bottom: none ; background: none ;
3016 }
3017
3018 div.nonfloatcaption {
3019     margin: 1ex auto 1ex auto ;
3020     font-size: .85em ;
3021     text-align: center ;
3022     font-weight: bold ;
3023 }
3024
3025 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
3026 figure div.floatrow div.minipage div.figurecaption {
3027     border: none ;
3028     background: none ;
3029 }
3030
3031
3032 /* For packages such as float, rotfloat, and algorithm2e: */
3033
3034 figure.boxed, figure.boxruled {
3035     border: 1px solid black ;
3036 }
3037
3038 figure.ruled {
3039     border-top: 1px solid black ;
3040     border-bottom: 1px solid black ;
3041     border-left: 0px ;
3042     border-right: 0px ;
3043     border-radius: 0px ;
3044     background: none ;
3045     box-shadow: none ;
3046 }
3047
3048 figure.ruled div.figurecaption, figure.boxruled div.figurecaption {
3049     border-top: 1px solid silver ;
3050     border-bottom: 1px solid silver ;
3051 }
3052
3053
```

```
3054 table {  
3055     margin: 1ex auto 1ex auto ;  
3056     border-collapse: separate ;  
3057     border-spacing: 0px ;  
3058     line-height: 1.3 ;  
3059 }  
3060  
3061 table > tbody > tr.hline > td {border-top: 1px solid #808080 ; margin-top: 0ex ;  
3062     margin-bottom: 0ex ; } /* for \hline */  
3063  
3064 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;  
3065     margin-bottom: 0ex ; } /* for \toprule, \bottomrule */  
3066  
3067 td {padding: .5ex .5em .5ex .5em ;}  
3068  
3069 table td.tdl { text-align: left ; vertical-align: middle ; }  
3070 table td.tdc { text-align: center ; vertical-align: middle ; }  
3071 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }  
3072 table td.tdbang { text-align: center ; vertical-align: middle ; }  
3073 table td.tdr { text-align: right ; vertical-align: middle ; }  
3074 table td.tdp { text-align: left ; vertical-align: bottom ; }  
3075 table td.tdm { text-align: left ; vertical-align: middle ; }  
3076 table td.tdb { text-align: left ; vertical-align: top ; }  
3077 table td.tdP { text-align: center ; vertical-align: bottom ; }  
3078 table td.tdM { text-align: center ; vertical-align: middle ; }  
3079 table td.tdB { text-align: center ; vertical-align: top ; }  
3080  
3081 table td.tvertbarl { border-left: 1px solid black }  
3082 table td.tvertbarldouble { border-left: 4px double black }  
3083 table td.tvertbarr { border-right: 1px solid black }  
3084 table td.tvertbarrdouble { border-right: 4px double black }  
3085  
3086 table td.tvertbarldash { border-left: 1px dashed black }  
3087 table td.tvertbarldoubledash { border-left: 2px dashed black }  
3088 table td.tvertbarrdash { border-right: 1px dashed black }  
3089 table td.tvertbarrdoubledash { border-right: 2px dashed black }  
3090  
3091  
3092 /* for cmidrules: */  
3093 table td.tdrule {  
3094     border-top: 1px solid #A0A0A0 ;  
3095 }  
3096  
3097 table td.tdrulel {  
3098     border-top-left-radius:.5em ;  
3099     border-top: 1px solid #A0A0A0 ;  
3100 }  
3101  
3102 table td.tdruler {  
3103     border-top-right-radius:.5em ;  
3104     border-top: 1px solid #A0A0A0 ;  
3105 }  
3106  
3107 table td.tdrulelr {  
3108     border-top-left-radius:.5em ;
```

```
3109     border-top-right-radius:.5em ;
3110     border-top: 1px solid #A0A0A0 ;
3111 }
3112
3113
3114 /* Margins of paragraphs inside table cells: */
3115 td.tdp p , td.tdprule p , td.tdP p , td.tdPrule p { padding-top: 1ex ;
3116     padding-bottom: 1ex ; margin: 0ex ; }
3117 td.tdm p , td.tmbrule p , td.tdM p , td.tdMrule p { padding-top: 1ex ;
3118     padding-bottom: 1ex ; margin: 0ex ; }
3119 td.tdb p , td.tdbrule p , td.tdB p , td.tdBrule p { padding-top: 1ex ;
3120     padding-bottom: 1ex ; margin: 0ex ; }
3121
3122 td.tdp , td.tdprule , td.tdP , td.tdPrule
3123     { padding: 0ex .5em 0ex .5em ; }
3124 td.tdm , td.tdMrule , td.tdM , td.tdMrule
3125     { padding: 0ex .5em 0ex .5em ; }
3126 td.tdb , td.tdbrule , td.tdB , td.tdBrule
3127     { padding: 0ex .5em 0ex .5em ; }
3128
3129
3130 /* table notes: */
3131 .tnotes {
3132     margin: 0ex 5% 1ex 5% ;
3133     padding: 0.5ex 1em 0.5ex 1em;
3134     font-size:.80em;
3135     text-align: left ;
3136 }
3137
3138 .minipage .tnotes {
3139     margin: 0pt ;
3140     padding: 0pt ;
3141 }
3142
3143 .tnotes dl dt p {margin-bottom:0px;}
3144
3145 .tnoteitemheader {margin-right: 1em;}
3146
3147
3148 /* for colortbl and cell color */
3149 div.cellcolor {
3150     width: 100% ;
3151     padding: .5ex .5em .5ex .5em ;
3152     margin: -.5ex -.5em -.5ex -.5em ;
3153 }
3154
3155
3156 /* for lyluatex */
3157 span.lyluatex {
3158     display: inline-block ;
3159 }
3160
3161 div.lyluatex p span.lateximagesource img {
3162     display: block ;
3163     margin-top: 3ex ;
```

```
3164     margin-bottom: 3ex ;
3165 }
3166
3167
3168 /* for bigdelim */
3169 .ldelim, .rdelim { font-size: 200% }
3170
3171
3172 /* center, flushleft, flushright environments */
3173 div.center{text-align:center;}
3174 div.center table {margin-left:auto; margin-right:auto;}
3175 div.flushleft{text-align:left;}
3176 div.flushleft table {margin-left:0em ; margin-right:auto;}
3177 div.flushright{text-align:right;}
3178 div.flushright table {margin-left:auto ; margin-right: 0em ;}
3179
3180
3181 /* Fancybox */
3182 div.Btrivlist table tr td {
3183     padding: .2ex 0em ;
3184 }
3185
3186
3187 /* program listing callouts: */
3188 span.callout {
3189     font-family: "DejaVu Sans", "Bitstream Vera Sans",
3190             Geneva, Verdana, sans-serif ;
3191     border-radius: .5em;
3192     background-color:black;
3193     color:white;
3194     padding:0px .25em 0px .25em;
3195     margin: 0 ;
3196     font-weight: bold;
3197     font-size:.72em ;
3198 }
3199
3200 div.programlisting pre.verbatim span.callout{
3201     font-size: .85em ;
3202 }
3203
3204 span.verbatim {
3205     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3206             "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3207             "Courier New", monospace;
3208 }
3209
3210
3211
3212 div.titlehead
3213 {
3214     text-align: left ;
3215     font-style: normal ;
3216     font-weight: normal ;
3217     font-style: normal ;
3218     font-size: .8em ;
```

```
3219     margin: 1ex 0em 1ex 0em ;
3220 }
3221
3222 div.subject
3223 {
3224     text-align: center ;
3225     font-style: normal ;
3226     font-weight: bold ;
3227     font-style: normal ;
3228     font-size: .8em ;
3229     margin: 1ex 0em 1ex 0em ;
3230 }
3231
3232 div.published
3233 {
3234     text-align: center ;
3235     font-variant: normal ;
3236     font-style: italic ;
3237     font-size: 1em ;
3238     margin: 1ex 0em 1ex 0em ;
3239 }
3240
3241 div.subtitle
3242 {
3243     text-align: center ;
3244     font-variant: normal ;
3245     font-style: italic ;
3246     font-size: 1.25em ;
3247     margin: 1ex 0em 1ex 0em ;
3248 }
3249
3250 div.subtitle p { margin: 1ex ; }
3251
3252 div.author
3253 {
3254     font-variant: normal ;
3255     font-style: normal ;
3256     font-size: 1em ;
3257     margin: 1ex 0em 1ex 0em ;
3258 }
3259
3260 div.oneauthor {
3261     display: inline-block ;
3262     margin: 0ex 1em 0ex 1em ;
3263 }
3264
3265 /*
3266 div.author table {
3267     margin: 1ex auto 0ex auto ;
3268     background: none ;
3269 }
3270
3271 div.author table tbody tr td { padding: .25ex ; }
3272 */
3273
```

```
3274 span.affiliation {font-size: .85em ; font-variant: small-caps; }
3275
3276 div.titledate {
3277     text-align: center ;
3278     font-size: .85em ;
3279     font-style: italic;
3280     margin: 1ex 0em 1ex 0em ;
3281 }
3282
3283
3284 nav.topnavigation{
3285     text-align: left ;
3286     padding: 0.5ex 1em 0.5ex 1em ;
3287 /*     margin: 2ex 0em 3ex 0em ; */
3288     margin: 0 ;
3289     border-bottom: 1px solid silver ;
3290     border-top: 1px solid silver ;
3291     clear:both ;
3292 }
3293
3294 nav.botnavigation{
3295     text-align: left ;
3296     padding: 0.5ex 1em 0.5ex 1em ;
3297 /*     margin: 3ex 0em 2ex 0em ; */
3298     margin: 0 ;
3299     border-top: 1px solid silver ;
3300     border-bottom: 1px solid silver ;
3301     clear:both ;
3302 }
3303
3304
3305 header {
3306     line-height: 1.2 ;
3307     font-size: 1em ;
3308     border-bottom: 1px solid silver ;
3309     margin: 0px ;
3310     padding: 2ex 1em 2ex 1em ;
3311     text-align:left ;
3312 }
3313
3314
3315 footer {
3316     font-size: .85em ;
3317     line-height: 1.2 ;
3318     margin-top: 1ex ;
3319     border-top: 1px solid silver ;
3320     padding: 2ex 1em 2ex 1em ;
3321     clear:both ;
3322     text-align:left ;
3323 }
3324
3325
3326 /* for \LinkHome, \LinkPrevious, and \LinkNext: */
3327 a.linkhome { font-weight:bold ; font-size: 1em ;}
3328
```

```
3329
3330 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
3331
3332 img.lateximage{
3333     padding: 0pt ;
3334     margin: 0pt ;
3335     box-shadow: none ;
3336     border: none ;
3337     background: none ;
3338     max-width: 100% ;
3339     border-radius: 0ex ;
3340     border: none ;
3341 }
3342
3343
3344 /* The -1px right margin compensates for the 1px right border. */
3345 /* Without this -1px margin, the body container appears below instead */
3346 /* of floating to the side. */
3347 div.sidetoccontainer {
3348     font-family: "DejaVu Serif", "Bitstream Vera Serif",
3349             "Lucida Bright", Georgia, serif;
3350     float: left ;
3351     width: 20%;
3352     margin: 0pt -1px 3ex 0pt ;
3353     border-right: 1px solid silver;
3354     border-bottom: 1px solid silver;
3355     background: #FAF7F4 ;
3356     font-size:.9em ;
3357     border-radius: 0px 0px 20px 0px ;
3358 }
3359
3360 div.sidetoccontents {
3361     overflow-y: auto ;
3362     width: 100% ;
3363     text-align: left ;
3364 }
3365
3366
3367 nav.sidetoc p {line-height:1.2 ; margin: 1ex .5em 1ex .5em ;
3368     text-indent: 0 ; }
3369
3370 nav.sidetoc p a {color:black ; font-size: .7em ;}
3371
3372 div.sidetoctitle {font-size: 1.2em; font-weight:bold; text-align:center;
3373     border-bottom: 1px solid silver ;    }
3374
3375 nav.sidetoc a:hover {text-decoration: underline ; }
3376
3377
3378
3379 section.textbody { margin: 0ex 1em 0ex 1em ;}
3380
3381
3382 div.multicolsheading { -webkit-column-span: all;
3383     -moz-column-span: all; column-span: all; }
```

```
3384 div.multicols { -webkit-columns: 3 380px ;
3385     -moz-columns: 3 380px ; columns: 3 380px ; }
3386 div.multicols p {margin-top: 0ex}
3387
3388
3389 /* Used for xfrac and nicefrac: */
3390 span.numerator {
3391     font-size: 60% ;
3392     vertical-align: .4em ;
3393 }
3394
3395 span.denominator {
3396     font-size: 60%
3397 }
3398
3399
3400 /* Used for algorithm2e: */
3401 div.alg2evline{
3402     margin-left: 1em ;
3403     padding-left: 1em ;
3404     border-left: 1px solid black ;
3405     border-radius: 0px 0px 0px 1ex ;
3406 }
3407
3408 div.alg2evsline{
3409     margin-left: 1em ;
3410     padding-left: 1em ;
3411     border-left: 1px solid black ;
3412 }
3413
3414 div.alg2enoline{
3415     margin-left: 1em ;
3416     padding-left: 1em ;
3417 }
3418
3419 span.alg2elinenumber{
3420     margin-right: .5em ;
3421     font-size: 50% ;
3422     color: red ;
3423 }
3424
3425
3426 /* Used for algorithmicx: */
3427 span.floatright { float: right ; }
3428
3429
3430 /* keyfloat and tocdata: */
3431 .floatnotes {
3432     margin: 0ex 5% 0ex 5% ;
3433     padding: 0ex 1em 0ex 1em ;
3434     font-size:.80em ;
3435     text-align: left ;
3436 }
3437
3438 .authorartist{
```

```
3439     display:block ;
3440     font-size:.70em ;
3441     font-style: italic;
3442 }
3443
3444 nav .authorartist{ display:inline; }
3445
3446
3447
3448 /* Native LaTeX theorems: */
3449
3450 .theoremcontents {
3451     font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3452 }
3453
3454 .theoremlabel {
3455     font-style: normal; font-weight: bold ; margin-right: .5em ;
3456 }
3457
3458
3459
3460 /* theorem, amsthm, and ntheorem packages */
3461
3462 span.theoremheader,
3463 span.theoremheaderplain,
3464 span.theoremheaderdefinition,
3465 span.theoremheaderbreak,
3466 span.theoremheadermarginbreak,
3467 span.theoremheaderchangebreak,
3468 span.theoremheaderchange,
3469 span.theoremheadermargin
3470 {
3471     font-style:normal ; font-weight: bold ; margin-right: 1em ;
3472 }
3473
3474 span.amsthmnameplain,
3475 span.amsthmnamedefinition,
3476 span.amsthmnumberplain,
3477 span.amsthmnumberdefinition
3478 {
3479     font-style:normal ; font-weight: bold ;
3480 }
3481
3482
3483 span.amsthmnameremark,
3484 span.amsthmnumberremark
3485 {font-style:italic ; font-weight: normal ; }
3486
3487
3488 span.amsthmnoteplain,
3489 span.amsthmnotedefinition
3490 {font-style:normal ;}
3491
3492
3493 span.theoremheaderremark,
```

```
3494 span.theoremheaderproof,
3495 span.amsthmproofname
3496 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
3497
3498 span.theoremheadersc
3499 {
3500     font-style:normal ;
3501     font-variant: small-caps ;
3502     font-weight: normal ;
3503     margin-right: 1em ;
3504 }
3505
3506 .theoremendmark {float:right}
3507
3508 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynonumberplain,
3509 div.theorembodybreak, div.theorembodynonumberbreak,
3510 div.theorembodymarginbreak,
3511 div.theorembodychangebreak,
3512 div.theorembodychange,
3513 div.theorembodymargin
3514 {
3515     font-style:italic;
3516     margin-top: 3ex ; margin-bottom: 3ex ;
3517 }
3518
3519 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
3520 div.theorembodyplainupright, nonumberplainuprightsc,
3521 div.amsthmbodydefinition, div.amsthmbodyremark,
3522 div.amsthmproof
3523 {
3524     font-style: normal ;
3525     margin-top: 3ex ; margin-bottom: 3ex ;
3526 }
3527
3528 span.amsthmnoteremark {}
3529
3530
3531 /* thmbox */
3532
3533 .thmbox {
3534     font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3535     border: 1px solid gray ;
3536     padding: 1ex ;
3537 }
3538
3539 .thmboxtitle {
3540     font-style: normal; font-weight: bold ; margin-right: .5em ;
3541     border-bottom: 1px solid gray ;
3542 }
3543
3544 span.thmboxproofname, span.thmboxexamplenam {
3545     font-weight: bold ;
3546 }
3547
3548 div.thmboxproof, div.thmboxexample {
```

```
3549     font-size: 0.85em ;
3550     margin: 2ex ;
3551 }
3552
3553 div.thmboxleftbar {
3554     border-left: 2px solid black ;
3555     padding-left: 1em ;
3556 }
3557
3558
3559
3560 /* For the backnaur package: */
3561 div.backnaur {
3562     display: block ;
3563     margin: 2ex 2em 2ex 2em ;
3564 }
3565
3566 div.backnaur p {
3567     margin: .25ex 0ex .25ex 0ex ;
3568 }
3569
3570 div.backnaurprod {
3571     display: inline-block ;
3572     min-width: 8em ;
3573     text-align:right ;
3574 }
3575
3576 div.backnaurdesc {
3577     display: inline-block ;
3578 }
3579
3580
3581 /* For the notes package: */
3582 div.notesimportantnote, div.noteswarningnote, div.notesinformationnote {
3583     clear: both ;
3584     margin: 2ex 2em 2ex 2em ;
3585     border: 1px solid silver ;
3586 }
3587
3588 div.notesicon {
3589     float:left ;
3590     display: inline-block ;
3591     background: gold ;
3592     padding: 0ex 1em 0ex 1em ;
3593     margin-right: 1em ;
3594     font-weight: bold ;
3595 }
3596
3597 div.notescontents { font-style: italic }
3598
3599
3600 /* nolbreaks package: */
3601 span.nolbreaks { white-space: nowrap ; }
3602
3603
```

```
3604 /*  
3605 For CSS LaTeX and related logos:  
3606 Based on spacing demonstrated by the metafont package.  
3607 */  
3608  
3609 .latexlogofont {  
3610     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",  
3611         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;  
3612     font-variant: normal ;  
3613 }  
3614  
3615 .latexlogo {  
3616     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",  
3617         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;  
3618     font-size: 1.1em;  
3619 }  
3620  
3621 .latexlogosup {  
3622     text-transform: uppercase;  
3623     letter-spacing: .03em ;  
3624     font-size: 0.7em;  
3625     vertical-align: 0.25em;  
3626     margin-left: -0.4em;  
3627     margin-right: -0.15em;  
3628 }  
3629  
3630 .latexlogosub {  
3631     text-transform: uppercase;  
3632     vertical-align: -0.27ex;  
3633     margin-left: -0.08em;  
3634     margin-right: -0.07em;  
3635     font-size: 1em;  
3636 }  
3637  
3638 .latexlogotwoe {  
3639     text-transform: none ;  
3640     font-variant-numeric: oldstyle-nums ;  
3641 }  
3642  
3643 .latexlogotwoesub {  
3644     font-style:italic ;  
3645     vertical-align: -0.27ex;  
3646     margin-left: -0.11em;  
3647     margin-right: -0.1em;  
3648     font-size: 1em;  
3649 }  
3650  
3651 .xelatexlogo {  
3652     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",  
3653         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;  
3654     letter-spacing: .03em ;  
3655     font-size: 1.1em;  
3656 }  
3657  
3658 .xelatexlogosub {
```

```
3659 vertical-align: -0.27ex;
3660 margin-left: -0.0667em;
3661 margin-right: -.05em;
3662 font-size: 1em;
3663 letter-spacing: .03em ;
3664 }
3665
3666 .amslogo {
3667     font-family: "TeXGyreChorus", "URW Chancery L",
3668         "Apple Chancery", "ITC Zapf Chancery", "Monotype Corsiva",
3669         "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
3670         "Hoefler Text", Times, "Times New Roman", serif ;
3671     font-style: italic ;
3672 }
3673
3674 .lyxlogo {
3675     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3676         "DejaVu Sans", "Bitstream Vera Sans", Geneva,
3677         Verdana, sans-serif ;
3678 }
3679
3680
3681 /* Only display top and bottom navigation if a small screen: */
3682 /* Hide the sidetoc if a small screen: */
3683 nav.topnavigation { display:none; }
3684 nav.botnavigation { display:none; }
3685
3686 /* Only display the sidetoc's webpage title if a small screen */
3687 span.sidetocthetitle { display: none }
3688
3689 @media screen and (max-width: 50em) {
3690     div.sidetoccontainer {
3691         float: none ;
3692         width: 100% ;
3693         padding: 0 ;
3694         border-radius: 0 ;
3695         border-bottom: 1px solid black ;
3696         border-top: 1px solid black ;
3697         box-shadow: none ;
3698     }
3699     span.sidetocthetitle { display: inline }
3700     nav.topnavigation { display:block }
3701     nav.botnavigation { display:block }
3702     div.bodycontainer { width: 100% }
3703     .marginpar {
3704         max-width: 100%;
3705         float: none;
3706         display:block ;
3707         margin: 1ex 1em 1ex 1em ;
3708     }
3709 }
3710
3711 @media print {
3712     body {
3713         font-family: "Linux Libertine O",
```

```

3714     "DejaVu Serif", "Bitstream Vera Serif",
3715     "Liberation Serif", "Nimbus Roman No 9 L",
3716     "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3717 }
3718 div.sidetoccontainer { display:none; }
3719 nav.topnavigation { display: none; }
3720 nav.botnavigation { display: none; }
3721 div.bodycontainer { width: 100% }
3722 }
3723
3724 @media handheld {
3725     div.sidetoccontainer { display:none; }
3726     nav.topnavigation { display:block }
3727     nav.botnavigation { display:block }
3728     div.bodycontainer { width: 100% }
3729 }
3730
3731 @media projection {
3732     div.sidetoccontainer { display:none; }
3733     nav.topnavigation { display:block }
3734     nav.botnavigation { display:block }
3735     div.bodycontainer { width: 100% }
3736 }
3737 \end{filecontents*}
3738 % \end{Verbatim}% for syntax highlighting
3739 \end{LWRwriteconf}

```

## 39.5 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:**

```

3740 \begin{LWRwriteconf}
3741 \begin{filecontents*}[overwrite]{lwarp_sagebrush.css}
3742 @import url("lwarp.css") ;
3743
3744
3745 A:link {color:#105030 ; text-decoration: none ; }
3746 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
3747 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
3748 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
3749
3750
3751
3752 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
3753 {
3754     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3755         "Linux Libertine 0", "Liberation Serif",
3756         "Nimbus Roman No 9 L", "FreeSerif",
3757         "Hoefler Text", Times, "Times New Roman", serif;
3758     font-variant: small-caps ;
3759     font-weight: normal ;

```

```
3760     color: #304070 ;
3761     text-shadow: 2px 2px 3px #808080;
3762 }
3763
3764 h1 { /* title of the entire website, used on each page */
3765     font-variant: small-caps ;
3766     color: #304070 ;
3767     text-shadow: 2px 2px 3px #808080;
3768     background-color: #F7F7F0 ;
3769     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
3770 }
3771
3772 h1 {
3773     border-bottom: 1px solid #304070;
3774 /* border-top: 2px solid #304070; */
3775 }
3776
3777 h2 {
3778     border-bottom: 1px solid #304070;
3779 /* border-top: 2px solid #304070; */
3780     background-color: #F7F7F0 ;
3781     background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
3782 }
3783
3784
3785
3786 div.abstract {
3787     background: #f5f5eb ;
3788     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3789
3790     border: 1px solid silver;
3791     border-radius: 1em ;
3792 }
3793
3794 div.abstract dl {line-height:1.5;}
3795 div.abstract dt {color:#304070;}
3796
3797 div.abstracttitle{
3798     font-family: "URW Classico", Optima, "Linux Biolinum O",
3799                 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3800                 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3801     font-weight:bold;
3802     font-variant: small-caps ;
3803     font-size:1.5em;
3804     border-bottom: 1px solid silver ;
3805     color: #304070 ;
3806     text-align: center ;
3807     text-shadow: 1px 1px 2px #808080;
3808 }
3809
3810 span.abstractrunintitle{
3811     font-family: "URW Classico", Optima, "Linux Biolinum O",
3812                 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3813                 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3814     font-weight:bold;
```

```
3815 }
3816
3817
3818 div.epigraph, div.dictum {
3819     background: #f5f5eb ;
3820     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3821
3822     border: 1px solid silver ;
3823     border-radius: 1ex ;
3824     box-shadow: 3px 3px 3px #808080 ;
3825 }
3826
3827
3828 .example {
3829     background-color: #f5f5eb ;
3830     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3831
3832 }
3833
3834 div.exampletitle{
3835     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3836         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
3837         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3838     font-weight:bold;
3839     font-variant: small-caps ;
3840     border-bottom: 1px solid silver ;
3841     color: #304070 ;
3842     text-align: center ;
3843     text-shadow: 1px 1px 2px #808080;
3844 }
3845
3846
3847 .sidebar {
3848     background-color: #f5f5eb ;
3849     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3850
3851 }
3852
3853 div.sidebartitle{
3854     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3855         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
3856         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3857     font-weight:bold;
3858     font-variant: small-caps ;
3859     border-bottom: 1px solid silver ;
3860     color: #304070 ;
3861     text-align: center ;
3862     text-shadow: 1px 1px 2px #808080;
3863 }
3864
3865
3866 .fancyvrblabel {
3867     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3868         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
3869         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
```

```
3870    font-weight:bold;
3871    font-variant: small-caps ;
3872    font-size: 1.5em ;
3873    color: #304070 ;
3874    text-align: center ;
3875    text-shadow: 1px 1px 2px #808080;
3876 }
3877
3878 div.minipage {
3879    background-color: #eeeeee7 ;
3880    border: 1px solid silver ;
3881    border-radius: 1ex ;
3882 }
3883
3884 table div.minipage { background: none ; border: none ; }
3885
3886 div.framebox div.minipage {border:none ; background:none}
3887
3888 section.textbody > div.minipage {
3889    box-shadow: 3px 3px 3px #808080 ;
3890 }
3891
3892 div.fboxBlock div.minipage { box-shadow: none ; }
3893
3894 .framed .minipage , .framedleftbar .minipage {
3895    border: none ;
3896    background: none ;
3897    padding: 0ex ;
3898    margin: 0ex ;
3899 }
3900
3901 figure.figure .minipage, div.figurecaption .minipage { border: none; }
3902
3903 div.marginblock div.minipage ,
3904 div.marginparblock div.minipage
3905    { border: none; }
3906
3907 figure , div.marginblock {
3908    background-color: #eeeeee7 ;
3909    border: 1px solid silver ;
3910    border-radius: 1ex ;
3911    box-shadow: 3px 3px 3px #808080 ;
3912 }
3913
3914 figure figure {
3915    border: 1px solid silver ;
3916    margin: 0em ;
3917    box-shadow: none ;
3918 }
3919
3920 /*
3921 div.figurecaption {
3922    border-top: 1px solid silver ;
3923    border-bottom: 1px solid silver ;
3924    background-color: #e8e8e8 ;
```

```
3925 }
3926 */
3927
3928
3929 div.table {
3930     box-shadow: 3px 3px 3px #808080 ;
3931 }
3932
3933 /*
3934 .tnotes {
3935     background: #e8e8e8;
3936     border: 1px solid silver;
3937 }
3938 */
3939
3940
3941 nav.topnavigation{
3942     background-color: #b0b8b0 ;
3943     background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;
3944 }
3945
3946 nav.botnavigation{
3947     background-color: #b0b8b0 ;
3948     background-image: linear-gradient(to top,#e0e0e0,#b0b8b0) ;
3949 }
3950
3951
3952
3953 header{
3954     background-color: #F7F7F0 ;
3955     background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);
3956 }
3957
3958 footer{
3959     background-color: #F7F7F0 ;
3960     background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);
3961 }
3962
3963
3964
3965 div.sidetoccontainer {
3966     background-color: #F7F7F0 ;
3967     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);
3968     box-shadow: 3px 3px 3px #808080 ;
3969 }
3970
3971 div.sidetotitle {color: #304070 ; }
3972
3973 nav.sidetoc a:hover {
3974     color:#006000 ;
3975     text-decoration: none ;
3976     text-shadow:0px 0px 2px #a0a0a0;
3977 }
3978
3979
```

---

```

3980 @media screen and (max-width: 45em) {
3981     div.sidetoccontainer { border-radius: 0 ; }
3982 }
3983
3984
3985 \end{filecontents*}
3986 % \end{Verbatim}% for syntax highlighting
3987 \end{LWRwriteconf}
```

## 39.6 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:**

```

3988 \begin{LWRwriteconf}
3989 \begin{filecontents*}[overwrite]{lwarp_formal.css}
3990 @import url("lwarp.css") ;
3991
3992
3993
3994 A:link {color:#802020 ; text-decoration:none; }
3995 A:visited {color:#802020 ; text-shadow:none ;}
3996 A:hover {color:#400000 ; text-shadow:none ;}
3997 A:active {color:#C00000 ; text-shadow:none ;}
3998
3999
4000 body {
4001     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4002             "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4003             "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4004             "Times New Roman", serif;
4005     background: #fffcf5;
4006 }
4007
4008 span.textrm {
4009     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4010             "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4011             "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4012             "Times New Roman", serif;
4013 }
4014
4015 span.textsf {
4016     font-family: "DejaVu Sans", "Bitstream Vera Sans",
4017             Geneva, Verdana, sans-serif ;
4018 }
4019
4020
4021
4022 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4023 {
4024     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4025             "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
```

```
4026         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4027         "Times New Roman", serif;
4028     color: #800000 ;
4029     text-shadow: none ;
4030 }
4031
4032 h1, h2 {
4033     background-color: #ffffcf5 ;
4034     background-image: none ;
4035     border-bottom: 1px solid #808080;
4036 /*     border-top: 2px solid #808080; */
4037 }
4038
4039 div.abstracttitle {
4040     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4041         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4042         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4043         "Times New Roman", serif;
4044     color: black ;
4045     text-shadow: none ;
4046 }
4047
4048 span.abstractrunintitle {
4049     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4050         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4051         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4052         "Times New Roman", serif;
4053     color: black ;
4054     text-shadow: none ;
4055 }
4056
4057 div.abstract { font-size: 100% }
4058
4059 .sidebar {
4060     background: #ffffcf5;
4061     background-image: none ;
4062     margin: 2em 5% 2em 5%;
4063     padding: 0.5em 1em;
4064     border: none ;
4065     border-top : 1px solid silver;
4066     border-bottom : 1px solid silver;
4067     font-size: 90% ;
4068 }
4069
4070 div.sidebartitle{
4071     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4072         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4073         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4074         "Times New Roman", serif;
4075     color: #800000 ;
4076     text-shadow: none ;
4077     border: none ;
4078 }
4079
4080 .example {
```

```
4081     background: #ffffcf5;
4082     background-image: none ;
4083     margin: 2em 5% 2em 5%;
4084     padding: 0.5em 1em;
4085     border: none ;
4086     border-top : 1px solid silver;
4087     border-bottom : 1px solid silver;
4088 }
4089
4090 div.exampletitle{
4091     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4092             "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4093             "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4094             "Times New Roman", serif;
4095     color: #800000 ;
4096     text-shadow: none ;
4097     border: none ;
4098 }
4099
4100 div.fancyvrblabel{
4101     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4102             "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4103             "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4104             "Times New Roman", serif;
4105     color: #800000 ;
4106     text-shadow: none ;
4107     border: none ;
4108 }
4109
4110
4111
4112 figure {
4113     margin: 5ex 5% 5ex 5% ;
4114     padding: 1ex 1em 1ex 1em ;
4115     background-color: #ffffcf5 ;
4116     overflow-x: auto ;
4117     border: none ;
4118 /*     border-top: 1px solid silver; */
4119 /*     border-bottom: 1px solid silver; */
4120 }
4121
4122
4123 div.figurecaption , .lstlisting {
4124     border: none ;
4125 /*     border-top: 1px solid silver ; */
4126 /*     border-bottom: 1px solid silver ; */
4127     background-color: #ffffcf5 ;
4128 }
4129
4130 .tnotes {
4131     background: #ffffcf5 ;
4132     border-top: 1px solid silver ;
4133     border-bottom: 1px solid silver ;
4134 }
4135
```

```
4136 .theorem {
4137     background: none ;
4138 }
4139
4140 .minipage {
4141     background-color: #ffffcf5 ;
4142     border: none ;
4143 }
4144
4145 div.floatrow figure { border: none ; }
4146
4147 figure figure { border: none ; }
4148
4149
4150 nav.toc, nav.lof, nav.lot, nav.lol {
4151     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4152         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4153         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4154         "Times New Roman", serif;
4155 }
4156
4157 div.sidetoccontainer {
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     background-image: linear-gradient(to bottom, #ffffcf5, #C0C0C0);
4163 }
4164
4165 div.sidetoctitle{
4166     color: #800000 ;
4167 }
4168
4169 header{
4170     background-color: #e0e0e0 ;
4171     background-image: linear-gradient(to top, #ffffcf5, #b0b0b0);
4172     text-align:center ;
4173 }
4174
4175 footer{
4176     background-color: #e0e0e0 ;
4177     background-image: linear-gradient(to bottom, #ffffcf5, #b0b0b0);
4178     padding: 2ex 1em 2ex 1em ;
4179     text-align:left ;
4180 }
4181
4182 nav.botnavigation {
4183     background: #dedcd5 ;
4184     border-top: 1px solid black ;
4185 }
4186 \end{filecontents*}
4187 % \end{Verbatim}% for syntax highlighting
4188 \end{LWRwriteconf}
```

### 39.7 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: 4189 \begin{LWRwriteconf}
4190 \begin{filecontents*}[overwrite]{sample_project.css}
4191 /* ( --- Start of project.css --- ) */
4192 /* ( --- A sample project-specific CSS file for lwarp --- ) */
4193
4194 /* Uncomment one of the following: */
4195 @import url("lwarp.css") ;
4196 /* @import url("lwarp_formal.css") ; */
4197 /* @import url("lwarp_sagebrush.css") ; */
4198
4199 /* Project-specific CSS setting follow here. */
4200 /* . . . */
4201
4202 /* ( --- End of project.css --- ) */
4203 \end{filecontents*}
4204 % \end{Verbatim} for syntax highlighting
4205 \end{LWRwriteconf}
```

### 39.8 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: 4206 \begin{LWRwriteconf}
4207 \begin{filecontents*}[overwrite]{lwarp.ist}
4208 preamble
4209 "\\begin{theindex}
4210   \\providecommand*\\lettergroupDefault[1]{}%
4211   \\providecommand*\\lettergroup[1]{%
4212     \\par\\textbf{\#1}\\par
4213     \\nopagebreak
4214   }
4215 "
4216 headings_flag 1
4217 heading_prefix "
4218   \\lettergroup{
4219 heading_suffix "}"
4220 delim_0 ", \\hyperindexref{"
4221 delim_1 ", \\hyperindexref{"
4222 delim_2 ", \\hyperindexref{"
4223 delim_n "}, \\hyperindexref{"
4224 delim_r "} -- \\hyperindexref{"
4225 delim_t "}"
```

---

```

4226 page_compositor "."
4227 \end{filecontents*}
4228 % \end{Verbatim}% for syntax highlighting
4229 \end{LWRwriteconf}
```

### 39.9 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:**

```

4230 \begin{LWRwriteconf}
4231 \begin{filecontents*}[overwrite]{lwarp.xdy}
4232 (require "tex/inputenc/latin.xdy")
4233 (merge-rule "\\PS *" "Postscript")
4234 (require "texindy.xdy")
4235 (require "page-ranges.xdy")
4236 (require "book-order.xdy")
4237 (define-location-class "arabic-page-numbers"
4238   ("arabic-numbers") :min-range-length 1)
4239 (require "makeindex.xdy")
4240 (define-attributes ((hyperindexref)))
4241 (markup-locref :open "\hyperindexref{" :close "}")
4242 (markup-locref :open "\hyperindexref{" :close "}" :attr "hyperpage")
4243 (markup-locref :open "\textbf{\hyperindexref{" :close "}}" :attr "textbf")
4244 (markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
4245 (define-location-class-order ("roman-page-numbers"
4246           "arabic-page-numbers"
4247           "alpha-page-numbers"
4248           "Roman-page-numbers"
4249           "Alpha-page-numbers"
4250           "see"
4251           "seealso"))
4252 \end{filecontents*}
4253 % \end{Verbatim}% for syntax highlighting
4254 \end{LWRwriteconf}
```

### 39.10 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:**

```

4255 \begin{LWRwriteconf}
4256 \immediate\openout\LWR@quickfile=l warp_one_limage.txt
4257 \immediate\write\LWR@quickfile{%
4258     pdfseparate -f \LWRpercent 1 -l \LWRpercent 1 \LWRpercent 4_html.pdf %
4259     \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent\LWRpercent d.pdf%
4260 }
4261 \immediate\write\LWR@quickfile{%
4262     pdfcrop --hires \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf %
4263     \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4264 }
4265 \immediate\write\LWR@quickfile{%
4266     pdftocairo -svg -noshrink \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf %
4267     \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.svg%
4268 }
4269 \immediate\write\LWR@quickfile{%
4270     del \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4271 }
4272 \immediate\write\LWR@quickfile{%
4273     del \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf%
4274 }
4275 \immediate\write\LWR@quickfile{exit}
4276 \immediate\closeout\LWR@quickfile
4277 \end{LWRwriteconf}
```

### 39.11 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 L<sup>A</sup>T<sub>E</sub>X 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:**

```

4278 \begin{LWRwriteconf}
4279 \begin{filecontents*}[overwrite]{l warp_mathjax.txt}
4280 <script>
4281 // L warp MathJax emulation code
4282 //
4283 // Based on code by Davide P. Cervone.
4284 // Equation numbering: https://github.com/mathjax/MathJax/issues/2427
4285 // Starred and ifnextchar macros: https://github.com/mathjax/MathJax/issues/2428
4286 //
4287 // Modified by Brian Dunn to adjust equation numbering and add subequations.
```

```
4288 //  
4289 // LaTeX can use \seteqnumber{subequations?}{section}{number} before each equation.  
4290 // subequations? is 0 usually, 1 if inside subequations.  
4291 // section is a string printed as-is, or empty.  
4292 // number is auto-incremented by MathJax between equations.  
4293 //  
4294 MathJax = {  
4295   subequations: "0",  
4296   section: "",  
4297   loader: {  
4298     load: ['[tex]/tagFormat'],  
4299   },  
4300   startup: {  
4301     ready() {  
4302       // These would be replaced by import commands if you wanted to make  
4303       // a proper extension.  
4304       const Configuration = MathJax._.input.tex.Configuration.Configuration;  
4305       const CommandMap = MathJax._.input.tex.SymbolMap.CommandMap;  
4306       const Macro = MathJax._.input.tex.Symbol.Macro;  
4307       const TexError = MathJax._.input.tex.TexError.default;  
4308       const ParseUtil = MathJax._.input.tex.ParseUtil.default;  
4309       const expandable = MathJax._.util.Options.expandable;  
4310  
4311       // Insert the replacement string into the TeX string, and check  
4312       // that there haven't been too many maxro substitutions (prevents  
4313       // infinite loops).  
4314       const useArgument = (parser, text) => {  
4315         parser.string = ParseUtil.addArgs(parser, text, parser.string.slice(parser.i));  
4316         parser.i = 0;  
4317         if (++parser.macroCount > parser.configuration.options.maxMacros) {  
4318           throw new TexError('MaxMacroSub1',  
4319             'MathJax maximum macro substitution count exceeded; ' +  
4320             'is there a recursive macro call?');  
4321         }  
4322       }  
4323  
4324       // Create the command map for \ifstar, \ifnextchar, \seteqnumber  
4325       new CommandMap('ifstar-ifnextchar-seteqnumber', {  
4326         ifstar: 'IfstarFunction',  
4327         ifnextchar: 'IfnextcharFunction',  
4328         seteqnumber: 'SeteqnumberFunction'  
4329       }, {  
4330         // This function implements an ifstar macro.  
4331         IfstarFunction(parser, name) {  
4332           const resultstar = parser.GetArgument(name);  
4333           const resultnostar = parser.GetArgument(name);  
4334           const star = parser.GetStar(); // true if there is a *  
4335           useArgument(parser, star ? resultstar : resultnostar);  
4336         },  
4337  
4338         // This function implements an ifnextchar macro.  
4339         IfnextcharFunction(parser, name) {  
4340           let whichchar = parser.GetArgument(name);  
4341           if (whichchar.match(/^(:0x[0-9A-F]+|[0-9]+)$/i)) {  
4342             // $ syntax highlighting
```

```
4343         whichchar = String.fromCodePoint(parseInt(whichchar));
4344     }
4345     const resultnextchar = parser.GetArgument(name);
4346     const resultnotnextchar = parser.GetArgument(name);
4347     const gotchar = (parser.GetNext() === whichchar);
4348     useArgument(parser, gotchar ? resultnextchar : resultnotnextchar);
4349 },
4350
4351 // This function modifies the equation numbers.
4352 SeteqnumberFunction(parser, name) {
4353     // Get the macro parameters
4354     const star = parser.GetStar(); // true if there is a *
4355     const optBrackets = parser.GetBrackets(name); // contents of optional brackets
4356     const newsubequations = parser.GetArgument(name); // the subequations argument
4357     const neweqsection = parser.GetArgument(name); // the eq section argument
4358     const neweqnumber = parser.GetArgument(name); // the eq number argument
4359     MathJax.config.subequations=newsubequations; // a string with boolean meaning
4360     MathJax.config.section=neweqsection; // a string with numeric meaning
4361     parser.tags.counter = parser.tags.allCounter = neweqnumber;
4362 }
4363 });
4364
4365 // Create the ifstar-ifnextchar-setequnumber package
4366 Configuration.create('ifstar-ifnextchar-setequnumber', {
4367     handler: {macro: ['ifstar-ifnextchar-setequnumber']}
4368 });
4369
4370 MathJax.startup.defaultReady();
4371
4372 // For forward references:
4373 MathJax.startup.input[0].preFilters.add(({math}) => {
4374     if (math.inputData.recompile){
4375         MathJax.config.subequations = math.inputData.recompile.subequations;
4376         MathJax.config.section = math.inputData.recompile.section;
4377     }
4378 });
4379 MathJax.startup.input[0].postFilters.add(({math}) => {
4380     if (math.inputData.recompile){
4381         math.inputData.recompile.subequations = MathJax.config.subequations;
4382         math.inputData.recompile.section = MathJax.config.section;
4383     }
4384 });
4385 } // ready
4386 }, // startup
4387
4388 tex: {
4389     packages: {'[+]': ['tagFormat', 'ifstar-ifnextchar-setequnumber']},
4390     tags: "ams",
4391     tagFormat: {
4392         number: function (n) {
4393             if(MathJax.config.subequations==0)
4394                 return(MathJax.config.section + n);
4395             else
4396                 return(MathJax.config.section + String.fromCharCode(96+n));
4397     },
4398 }
```

```

4398      },
4399  }
4400 }
4401 </script>
4402
4403 <script
4404   id="MathJax-script"
4405   src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-chtml.js"
4406 ></script>
4407 \end{filecontents*}
4408 % \end{Verbatim}% for syntax highlighting
4409 \end{LWRwriteconf}

```

### 39.12 `lwarpmk.lua` — `lwarpmk` option

Opt	<code>lwarpmk</code>	Creates a local copy of <code>lwarpmk</code> .
Prog	<code>lwarpmk</code>	Command-line utility to process <code>lwarp</code> 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 `lwarp`.

```

4410 \begin{LWRcreatelwarpmk}

4411 \begin{filecontents*}[overwrite]{lwarpmk.lua}
4412 #!/usr/bin/env texlua
4413
4414 -- Copyright 2016-2020 Brian Dunn
4415
4416
4417 printversion = "v0.89"
4418 requiredconfversion = "2" -- also at *lwarpmk.conf
4419
4420 function printhelp ()
4421 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.") ;
4422 end
4423
4424
4425 function printusage ()
4426 --
4427 -- Print the usage of the lwarpmk command:
4428 --
4429 print ( [[

```

```
4430
4431 lwarpmk print [-p project]: Compile the print version if necessary.
4432 lwarpmk print1 [-p project]: Forced single compile of the print version.
4433 lwarpmk printindex [-p project]: Process print indexes.
4434 lwarpmk printglossary [-p project]: Process the glossary for the print version.
4435 lwarpmk html [-p project]: Compile the HTML version if necessary.
4436 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
4437 lwarpmk htmlindex [-p project]: Process HTML indexes.
4438 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.
4439 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
4440 lwarpmk limages [-p project]: Process the "lateximages" created by lwarp.sty.
4441 lwarpmk pdftohtml [-p project]:
4442     For use with latexmk or a Makefile:
4443         Converts project_html.pdf to project_html.html and individual HTML files.
4444     Finishes the HTML conversion even if there was a compile error.
4445 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
4446 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
4447 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
4448     *.idx, *.ind, *.bb1, *.log, *_html_inc.*., .gl*,
4449     *_html.pdf, *_html.html, *_html.sidetoc
4450 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
4451 lwarpmk cleanlimages: Removes all images from the "lateximages" directory.
4452 lwarpmk -v: Print the version number.
4453 lwarpmk -h: Print this help message.
4454 lwarpmk --help: Print this help message.
4455
4456 ]] )
4457 -- printconf ()
4458 end
4459
4460
4461 function splitfilename ( pathandfilename )
4462 --
4463 -- Separates out the path and extension from a filename.
4464 -- Returns path, filename with extension, and extension.
4465 -- Ex: thispath, thisfilename, thisextension = splitfilename ("path/to/filename.ext")
4466 --
4467 -- https://www.fhug.org.uk/wiki/wiki/doku.php?id=plugins:code_snippets:
4468 --     split_filename_in_to_path_filename_and_extension
4469 --
4470     if lfs.attributes(pathandfilename,"mode") == "directory" then
4471         local strPath = pathandfilename:gsub("[\\/]$","",) -- $ (syntax highlighting)
4472             return strPath.."\\","",""
4473     end
4474     pathandfilename = pathandfilename..
4475     return pathandfilename:match("^(.-)([^\\/]-%.(^\\/.%-)%.)%?$")
4476 end
4477
4478
4479 function splitfile (destfile,sourcefile)
4480 --
4481 -- Split one large sourcefile into a number of files,
4482 -- starting with destfile.
4483 -- The file is split at each occurrence of <!--|Start file|newfilename|*
4484 --
```

```
4485 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;
4486 local sfile = io.open(sourcefile)
4487 io.output(destfile)
4488 for line in sfile:lines() do
4489 i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*)|")
4490 if ( (i~= nil) and (copen == "<!--") and (cstart == "Start file")) then
4491     -- split the file
4492     io.output(newfilename) ;
4493 else
4494     -- not a splitpoint
4495     io.write (line .. "\n") ;
4496 end
4497 end -- do
4498 io.close(sfile)
4499 end -- function
4500
4501
4502 function cvalueerror ( line, linenum , cvalue )
4503 --
4504 -- Incorrect value, so print an error and exit.
4505 --
4506     print ("lwarpmk: ===")
4507     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
4508     print (
4509         "lwarpmk: incorrect variable value \"\" .. cvalue ..
4510         "\" in lwarpmk.conf.\n"
4511     ) ;
4512     print ("lwarpmk: ===")
4513 --     printconf () ;
4514     os.exit(1) ;
4515 end
4516
4517
4518 function printhowtorecompile ()
4519 -- Tells the user how to recompile to regenerate the configuration files.
4520     print ("lwarpmk: The configuration files lwarpmk.conf and "..sourcename.."lwarpmkconf" )
4521     print ("lwarpmk: must be updated. To do so, recompile" )
4522     print ("lwarpmk: " , sourcename.."tex" )
4523     if ( printlatexcmd == "" ) then
4524         print ("lwarpmk: using xe/lua/pdflatex," )
4525     else
4526         print ("lwarpmk: using the command:")
4527         print ("lwarpmk: " , printlatexcmd )
4528     end
4529     print ("lwarpmk: then use lwarpmk again.")
4530 end -- printhowtorecompile
4531
4532
4533 function ignoreconf ()
4534 -- Global argument index
4535 argindex = 2
4536 end
4537
4538 function loadconf ()
4539 --
```

```
4540 -- Load settings from the project's "lwarpmk.conf" file:
4541 --
4542 -- Default configuration filename:
4543 local conffile = "lwarpmk.conf"
4544 local confroot = "lwarpmk"
4545 -- Global argument index
4546 argindex = 2
4547 -- Optional configuration filename:
4548 if ( arg[argindex] == "-p" ) then
4549     argindex = argindex + 1
4550     confroot = arg[argindex]
4551     conffile = confroot.."lwarpmkconf"
4552     argindex = argindex + 1
4553 end
4554 -- Additional defaults:
4555 confversion = "0"
4556 opsystem = "Unix"
4557 imagesdirectory = "lateximages"
4558 imagesname = "image-"
4559 latexmk = "false"
4560 printlatexcmd = ""
4561 HTMLlatexcmd = ""
4562 printindexcmd = ""
4563 HTMLindexcmd = ""
4564 latexmkindexcmd = ""
4565 -- to be removed:
4566 -- indexprog = "makeindex"
4567 -- makeindexstyle = "lwarp.ist"
4568 -- xindylanguage = "english"
4569 -- xindycodepage = "utf8"
4570 -- xindystyle = "lwarp.xdy"
4571 -- pdftotextenc = "UTF-8"
4572 glossarycmd = "makeglossaries"
4573 -- Verify the file exists:
4574 if (lfs.attributes(conffile,"mode")==nil) then
4575     -- file not exists
4576     print ("lwarpmk: ===")
4577     print ("lwarpmk: File \\" .. conffile .. "\\" does not exist.")
4578     print ("lwarpmk: Move to the project's source directory,")
4579     print ("lwarpmk: recompile using pdflatex, xelatex, or lualatex,")
4580     print ("lwarpmk: then try using lwarpmk again.")
4581     if ( arg[argindex] ~= nil ) then
4582         print (
4583             "lwarpmk: (\\" .. confroot ..
4584             "\\" does not appear to be a project name.)"
4585         )
4586     end
4587     print ("lwarpmk: ===")
4588     printhelp () ;
4589     os.exit(1) -- exit the entire lwarpmk script
4590 else -- file exists
4591 -- Read the file:
4592 print ("lwarpmk: Reading " .. conffile .. ".")
4593 local cfile = io.open(conffile)
4594 -- Scan each line, parsing each line as: name = [[string]]
```

```
4595 local linenum = 0
4596 for line in cfile:lines() do -- scan lines
4597   linenum = linenum + 1
4598   i,j,cvarname,cvalue = string.find (line,"([%w_-]*%)%s*=%s*%[%([%^%]*)&%]" ) ;
4599   -- Error if incorrect enclosing characters:
4600   if ( i == nil ) then
4601     print ("lwarpmk: ===")
4602     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
4603     print ("lwarpmk: Incorrect entry in " .. conffile .. ".\n" ) ;
4604     print ("lwarpmk: ===")
4605   --   printconf () ;
4606   os.exit(1) ;
4607 end -- nil
4608 if ( cvarname == "confversion" ) then
4609   confversion = cvalue
4610 elseif ( cvarname == "opsystem" ) then
4611   -- Verify choice of opsystem:
4612   if ( (cvalue == "Unix") or (cvalue == "Windows") ) then
4613     opsystem = cvalue
4614   else
4615     cvalueerror ( line, linenum , cvalue )
4616   end
4617 elseif ( cvarname == "sourcename" ) then sourcename = cvalue
4618 elseif ( cvarname == "homehtmlfilename" ) then homehtmlfilename = cvalue
4619 elseif ( cvarname == "htmlfilename" ) then htmlfilename = cvalue
4620 elseif ( cvarname == "imagesdirectory" ) then imagesdirectory = cvalue
4621 elseif ( cvarname == "imagesname" ) then imagesname = cvalue
4622 elseif ( cvarname == "latexmk" ) then latexmk = cvalue
4623 elseif ( cvarname == "printlatexcmd" ) then printlatexcmd = cvalue
4624 elseif ( cvarname == "HTMLlatexcmd" ) then HTMLlatexcmd = cvalue
4625 elseif ( cvarname == "printindexcmd" ) then printindexcmd = cvalue
4626 elseif ( cvarname == "HTMLindexcmd" ) then HTMLindexcmd = cvalue
4627 elseif ( cvarname == "latexmkindexcmd" ) then latexmkindexcmd = cvalue
4628 elseif ( cvarname == "glossarycmd" ) then glossarycmd = cvalue
4629 elseif ( cvarname == "pdftotextenc" ) then pdftotextenc = cvalue
4630 else
4631   print ("lwarpmk: ===")
4632   print ("lwarpmk: " .. linenum .. " : " .. line ) ;
4633   print (
4634     "lwarpmk: Incorrect variable name \" .. cvarname .. \" in " ..
4635     conffile .. ".\n"
4636   ) ;
4637   print ("lwarpmk: ===")
4638   --   printconf () ;
4639 os.exit(1) ;
4640 end -- cvarname
4641 end -- do scan lines
4642 io.close(cfile)
4643 end -- file exists
4644 -- Error if sourcename is "lwarp".
4645 -- This could happen if a local copy of lwarp has recently been recompiled.
4646 if sourcename=="lwarp" then
4647   print ("lwarpmk: ===")
4648   print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
4649   print ("lwarpmk: and \"lwarpmk.conf\" is no longer set for your own project.")
```

```
4650     print ("lwarpmk: (Perhaps you are not in your project's directory?)")
4651     print ("lwarpmk: In your project directory, recompile your project")
4652     print ("lwarpmk: using pdf/lua/xelatex <projectname>.")
4653     print ("lwarpmk: After a recompile, \"lwarpmk.conf\" will be set for your project,")
4654     print ("lwarpmk: and you may again use lwarpmk.")
4655     print ("lwarpmk: ===")
4656     os.exit(1)
4657 end -- sourcename of "lwarp"
4658 -- Select some operating-system commands:
4659 if opsystem=="Unix" then -- For Unix / Linux / Mac OS:
4660     rmname = "rm"
4661     mvname = "mv"
4662     cpname = "cp"
4663     touchnamepre = "touch"
4664     touchnamepost = ""
4665     newtouchname = "touch"
4666     dirslash = "/"
4667     opquote= "\'"
4668     cmdgroupopenname = " ( "
4669     cmdgroupclosename = " ) "
4670     seqname = " && "
4671     bgname = " &"
4672 elseif opsystem=="Windows" then -- For Windows
4673     rmname = "DEL"
4674     mvname = "MOVE"
4675     cpname = "COPY"
4676     touchnamepre = "COPY /b"
4677     touchnamepost = "+,,"
4678     newtouchname = "echo empty >"
4679     dirslash = "\\"
4680     opquote= "\""
4681     cmdgroupopenname = ""
4682     cmdgroupclosename = ""
4683     seqname = " & "
4684     bgname = ""
4685 else
4686     print ("lwarpmk: ===")
4687     print ("lwarpmk: Select Unix or Windows for opsystem. ")
4688     print ("lwarpmk: ===")
4689     os.exit(1)
4690 end --- for Windows
4691 -- Warning if the operating system does not appear to be correct,
4692 -- in case files were transferred to another system.
4693 if ( package.config:sub(1,1) ~= dirslash ) then
4694     print ("lwarpmk: ===")
4695     print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system. ")
4696     printhowtorecompile ()
4697     print ("lwarpmk: ===")
4698     os.exit(1)
4699 end
4700 -- Error if the configuration file's version is not current:
4701 if ( confversion ~= requiredconfversion ) then
4702     print ("lwarpmk: ===")
4703     printhowtorecompile ()
4704     print ("lwarpmk: ===")
```

```
4705     os.exit(1)
4706 end
4707 end -- loadconf
4708
4709
4710 function executecheckerror ( executecommands , errormessage )
4711 --
4712 -- Execute an operating system call,
4713 -- and maybe exit with an error message.
4714 --
4715 local err
4716 err = os.execute ( executecommands )
4717 if ( err ~= 0 ) then
4718     print ("lwarpmk: ==")
4719     print ("lwarpmk: " .. errormessage )
4720     print ("lwarpmk: ==")
4721     os.exit(1)
4722 end
4723 end -- executecheckerror
4724
4725
4726 function refreshdate ()
4727 os.execute(touchnamepre .. " " .. sourcename .. ".tex" .. touchnamepost)
4728 end
4729
4730
4731
4732 function reruntoget (filesource)
4733 --
4734 -- Scan the LaTeX log file for the phrase "Rerun to get",
4735 -- indicating that the file should be compiled again.
4736 -- Return true if found.
4737 --
4738 local fsource = io.open(filesource)
4739 for line in fsource:lines() do
4740 if ( string.find(line,"Rerun to get") ~= nil ) then
4741     io.close(fsource)
4742     return true
4743 end -- if
4744 end -- do
4745 io.close(fsource)
4746 return false
4747 end
4748
4749
4750
4751 function onetime (latexcmd, fsuffix)
4752 --
4753 -- Compile one time, return true if should compile again.
4754 -- fsuffix is "" for print, "_html" for HTML output.
4755 --
4756 print("lwarpmk: Compiling with: " .. latexcmd)
4757 executecheckerror (
4758     latexcmd ,
4759     "Compile error."
```

```
4760 )
4761 return (reruntoget(sourcename .. fsuffix .. ".log") ) ;
4762 end
4763
4764
4765 function manytimes (latexcmd, fsuffix)
4766 --
4767 -- Compile up to five times.
4768 -- fsuffix is "" for print, "_html" for HTML output
4769 --
4770 if onetime(latexcmd, fsuffix) == true then
4771 if onetime(latexcmd, fsuffix) == true then
4772 if onetime(latexcmd, fsuffix) == true then
4773 if onetime(latexcmd, fsuffix) == true then
4774 if onetime(latexcmd, fsuffix) == true then
4775 end end end end end
4776 end
4777
4778
4779 function verifyfileexists (filename)
4780 --
4781 -- Exit if the given file does not exist.
4782 --
4783 if (lfs.attributes ( filename , "modification" ) == nil ) then
4784     print ("lwarpmk: ===")
4785     print ("lwarpmk: " .. filename .. " not found." ) ;
4786     print ("lwarpmk: ===")
4787     os.exit (1) ;
4788 end
4789 end
4790
4791
4792
4793 function pdftohtml ()
4794 --
4795 -- Convert <project>.pdf into HTML files:
4796 --
4797 -- Convert to text:
4798 print ("lwarpmk: Converting " .. sourcename
4799     .."_html.pdf to " .. sourcename .. "_html.html")
4800 os.execute("pdftotext -enc " .. pdftotextenc .. " -nopgbrk -layout "
4801     .. sourcename .. "_html.pdf " .. sourcename .. "_html.html")
4802 -- Split the result into individual HTML files:
4803 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
4804 end
4805
4806
4807 function removeaux ()
4808 --
4809 -- Remove auxiliary files:
4810 -- All .aux files are removed since there may be many bbl*.aux files.
4811 -- Also removes sourcename_html.pdf, sourcename_html.html,
4812 -- and sourcename_html.sidetoc, plus comment_*.cut.
4813 --
4814 os.execute ( rmname .. " *.aux " ..
```

```
4815     sourcename .. ".toc" .. sourcename .. "_html.toc" ..
4816     sourcename .. ".lof" .. sourcename .. "_html.lof" ..
4817     sourcename .. ".lot" .. sourcename .. "_html.lot" ..
4818     sourcename .. ".bbl" .. sourcename .. "_html.bbl" ..
4819     " *.idx" ..
4820     " *.ind" ..
4821     sourcename .. ".ps" .. sourcename .. "_html.ps" ..
4822     sourcename .. ".log" .. sourcename .. "_html.log" ..
4823     sourcename .. ".gl*" .. sourcename .. "_html.gl*" ..
4824     sourcename .. "_html.pdf" ..
4825     sourcename .. "_html.html" ..
4826     sourcename .. "_html.sidetoc" ..
4827     " *_html_inc.*" ..
4828     " comment_*_.cut"
4829   )
4830 end
4831
4832 function checkhtmlpdfexists ()
4833 --
4834 -- Error if the HTML document does not exist.
4835 -- The lateximages are drawn from the HTML PDF version of the document,
4836 -- so "lwarpmk html" must be done before "lwarpmk limages".
4837 --
4838 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
4839 if ( htmlpdffile == nil ) then
4840   print ("")
4841   print ("lwarpmk: ===")
4842   print ("lwarpmk: The HTML version of the document does not exist.")
4843   print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
4844   print ("lwarpmk: ===")
4845   os.exit(1)
4846 end
4847 io.close (htmlpdffile)
4848 end -- checkhtmlpdfexists
4849
4850
4851 function warnlimages ()
4852 --
4853 -- Warning of a missing <sourcename>-images.txt file:
4854   print ("lwarpmk: ===")
4855   print ("lwarpmk: \"\" .. sourcename .. "-images.txt\" does not exist.")
4856   print ("lwarpmk: Your project does not use SVG math or other lateximages,")
4857   print ("lwarpmk: or the file has been deleted somehow.")
4858   print ("lwarpmk: Use \"lwarpmk html1\" to recompile your project")
4859   print ("lwarpmk: and recreate \"\" .. sourcename .. "-images.txt\"")
4860   print ("lwarpmk: If your project does not use SVG math or other lateximages,")
4861   print ("lwarpmk: then \"\" .. sourcename .. "-images.txt\" will never exist, and")
4862   print ("lwarpmk: \"lwarpmk limages\" will not be necessary.")
4863   print ("lwarpmk: ===")
4864 end -- warnlimages
4865
4866
4867 function warnlimagesrecompile ()
4868 -- Warning if must recompile before creating limages:
4869   print ("")
```

```
4870     print ("lwarpmk: ===")
4871     print ("lwarpmk: Cross-references are not yet correct.")
4872     print ("lwarpmk: The document must be recompiled before creating the lateximages.")
4873     print ("lwarpmk: Enter \"lwarpmk html1\" again, then try \"lwarpmk limages\" again.")
4874     print ("lwarpmk: ===")
4875 end --warnlimagesrecompile
4876
4877
4878 function checklimages ()
4879 --
4880 -- Check <sourcename>.txt to see if need to recompile first.
4881 -- If any entry has a page number of zero, then there were incorrect images.
4882 --
4883 print ("lwarpmk: Checking for a valid " .. sourcename .. "-images.txt file.")
4884 local limagesfile = io.open(sourcename .. "-images.txt", "r")
4885 if ( limagesfile == nil ) then
4886     warnlimages ()
4887     os.exit(1)
4888 end
4889 -- Track warning to recompile if find a page 0
4890 local pagezerowarning = false
4891 -- Scan <sourcename>.txt
4892 for line in limagesfile:lines() do
4893     -- lwimgpage is the page number in the PDF which has the image
4894     -- lwimghash is true if this filename is a hash
4895     -- lwimgname is the lateximage filename root to assign for the image
4896     i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
4897     -- For each entry:
4898     if ( (i~=nil) ) then
4899         -- If the page number is 0, image references are incorrect
4900         -- and must recompile the source document:
4901         if ( lwimgpage == "0" ) then
4902             pagezerowarning = true
4903         end
4904     end -- if i~=nil
4905 end -- do
4906 -- The last line should be |end|end|end|.
4907 -- If not, the compile must have aborted, and the images are incomplete.
4908 if ( lwimgpage ~= "end" ) then
4909     warnlimagesrecompile()
4910     os.exit(1) ;
4911 end
4912 if ( pagezerowarning ) then
4913     warnlimagesrecompile()
4914     os.exit(1) ;
4915 end -- pagezerowarning
4916 end -- checklimages
4917
4918
4919 function createuniximage ( lwimgfullname )
4920 --
4921 -- Create one lateximage for Unix / Linux / Mac OS.
4922 --
4923 executecheckerror (
4924     cmdgroupopenname ..
```

```
4925     "pdfseparate -f " .. lwimgpage .. " -l " .. lwimgpage .. " " ..
4926         sourcename .. "_html.pdf" ..
4927         imagesdirectory .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
4928         seqname ..
4929     -- Crop the image:
4930     "pdffcrop --hires " .. imagesdirectory .. dirslash .. "lateximagetemp-" ..
4931         lwimgpage .. ".pdf" ..
4932         imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
4933         seqname ..
4934     -- Convert the image to svg:
4935     "pdftocairo -svg -noshrink " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
4936         imagesdirectory .. dirslash .. lwimgname .. ".svg" ..
4937         seqname ..
4938     -- Remove the temporary files:
4939     rmname .. " " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" .. seqname ..
4940     rmname .. " " .. imagesdirectory .. dirslash .. "lateximagetemp-" .. lwimgpage .. ".pdf" ..
4941     cmdgroupclose .. " >/dev/null " .. bgnname
4942     ,
4943     "File error trying to convert " .. lwimgfullname
4944 )
4945 -- Every 32 images, wait for completion at below normal priority,
4946 -- allowing other image tasks to catch up.
4947 numimageprocesses = numimageprocesses + 1
4948 if ( numimageprocesses > 32 ) then
4949     numimageprocesses = 0
4950     print ( "lwarpmk: waiting" )
4951     executecheckerror ( "wait" , "File error trying to wait." )
4952 end
4953 end -- createuniximage
4954
4955
4956 function createwindowsimage ( lwimgfullname )
4957 --
4958 -- Create one lateximage for Windows.
4959 --
4960 -- Every 32 images, wait for completion at below normal priority,
4961 -- allowing other image tasks to catch up.
4962 numimageprocesses = numimageprocesses + 1
4963 if ( numimageprocesses > 32 ) then
4964     numimageprocesses = 0
4965     thiswaitcommand = "/WAIT /BELOWNORMAL"
4966     print ( "lwarpmk: waiting" )
4967 else
4968     thiswaitcommand = ""
4969 end
4970 -- Execute the image generation command
4971 executecheckerror (
4972     "start /B " .. thiswaitcommand .. " \"\" lwarp_one_limage " ..
4973     lwimgpage .. " " ..
4974     lwimghash .. " " ..
4975     lwimgname .. " " ..
4976     sourcename .. " <nul >nul"
4977     ,
4978     "File error trying to create image."
4979 )
```

```
4980 end -- createwindowsimage
4981
4982
4983 function createonelateximage ( line )
4984 --
4985 -- Given the next line of <sourcename>.txt, convert a single image.
4986 --
4987 -- lwimgpage is the page number in the PDF which has the image
4988 -- lwimghash is true if this filename is a hash
4989 -- lwimgname is the lateximage filename root to assign for the image
4990 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
4991 -- For each entry:
4992 if ( (i~nil) ) then
4993     -- Skip if the page number is 0:
4994     if ( lwimgpage == "0" ) then
4995         pagezerowarning = true
4996     -- Skip if the page number is "end":
4997     else if ( lwimgpage == "end" ) then
4998     else
4999         -- Skip if this image is hashed and already exists:
5000     local lwimgfullname = imagesdirectory .. dirslash .. lwimgname .. ".svg"
5001     if (
5002         (lwimghash ~= "true") or
5003         (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
5004     )
5005     then -- not hashed or not exists:
5006         -- Print the name of the file being generated:
5007         print ( "lwarpmk: " .. lwimgname )
5008         -- Touch/create the dest so that only once instance tries to build it:
5009         executecheckerror (
5010             newtouchname .. " " .. lwimgfullname ,
5011             "File error trying to touch " .. lwimgfullname
5012         )
5013         -- Separate out the image into its own single-page pdf:
5014         if opsystem=="Unix" then
5015             createuniximage (lwimgfullname)
5016         elseif opsystem=="Windows" then
5017             createwindowsimage (lwimgfullname)
5018         end
5019         end -- not hashed or not exists
5020     end -- not page "end"
5021     end -- not page 0
5022 end -- not nil
5023 end -- createonelateximage
5024
5025
5026 function createlateximages ()
5027 --
5028 -- Create lateximages based on <sourcename>-images.txt:
5029 --
5030 -- See if the document must be recompiled first:
5031 checklimages ()
5032 -- See if the HTML version exists:
5033 checkhtlpdfexists ()
5034 -- Attempt to create the lateximages:
```

```
5035 print ("lwarpmk: Creating lateximages.")
5036 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5037 if ( limagesfile == nil ) then
5038     warnlimages ()
5039     os.exit(1)
5040 end
5041 -- Create the lateximages directory, ignore error if already exists
5042 err = os.execute("mkdir " .. imagesdirectory)
5043 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
5044 if opsystem=="Windows" then
5045     executecheckerror (
5046         cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
5047         "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
5048     )
5049 end -- create lwarp_one_limage.cmd
5050 -- Track the number of parallel processes
5051 numimageprocesses = 0
5052 -- Track warning to recompile if find a page 0
5053 pagezerowarning = false
5054 -- Scan <sourcename>.txt
5055 for line in limagesfile:lines() do
5056     createonelateximage ( line )
5057 end -- do
5058 io.close(limagesfile)
5059 print ( "lwarpmk limages: ===" )
5060 print ( "lwarpmk limages: Wait a moment for the images to complete" )
5061 print ( "lwarpmk limages: before reloading the page." )
5062 print ( "lwarpmk limages: ===" )
5063 print ( "lwarpmk limages: Done." )
5064 if ( pagezerowarning == true ) then
5065     print ( "lwarpmk limages: WARNING: Images will be incorrect." )
5066     print ( "lwarpmk limages: Enter \"lwarpmk cleanimages\", then" )
5067     print ( "lwarpmk limages: recompile the document one more time, then" )
5068     print ( "lwarpmk limages: repeat \"lwarpmk images\" again." )
5069 end -- pagezerowarning
5070 end -- function
5071
5072
5073 function convertepstopdf ()
5074 --
5075 -- Converts EPS files to PDF files.
5076 -- The filenames are arg[argindex] and up.
5077 -- arg[1] is the command "epstopdf".
5078 --
5079 ignoreconf ()
5080 for i = argindex , #arg do
5081     if (lfs.attributes(arg[i],"mode")==nil) then
5082         print ("lwarpmk: File \" .. arg[i] .. \" does not exist.")
5083     else
5084         print ("lwarpmk: Converting \" .. arg[i] .. \"")
5085         thispath, thisfilename, thisextension = splitfilename(arg[i])
5086         if ( thispath == nil ) then
5087             os.execute ( "epstopdf " .. arg[i] )
5088         else
5089             os.execute (
```

```
5090           "epstopdf" ..
5091           thispath .. thisfilename .. "." .. thisextension .. " " ..
5092           thispath .. thisfilename .. ".pdf"
5093       )
5094   end
5095 end -- if
5096 end -- do
5097 end --function
5098
5099
5100 function convertpdftosvg ()
5101 --
5102 -- Converts PDF files to SVG files.
5103 -- The filenames are arg[argindex] and up.
5104 -- arg[1] is the command "pdftosvg".
5105 --
5106 ignoreconf ()
5107 for i = argindex , #arg do
5108     if (lfs.attributes(arg[i],"mode")==nil) then
5109         print ("lwarpmk: File \"" .. arg[i] .. "\" does not exist.")
5110     else
5111         print ("lwarpmk: Converting \"" .. arg[i] .. "\"")
5112         thispath, thisfilename, thisextension = splitfilename(arg[i])
5113         if ( thispath == nil ) then
5114             os.execute ( "pdftocairo -svg" .. arg[i] )
5115         else
5116             os.execute (
5117                 "pdftocairo -svg" ..
5118                 thispath .. thisfilename .. "." .. thisextension .. " " ..
5119                 thispath .. thisfilename .. ".svg"
5120             )
5121         end
5122     end -- if
5123 end -- do
5124 end --function
5125
5126
5127 -- Force an update and conclude processing:
5128 function updateanddone ()
5129 print ("lwarpmk: Forcing an update of " .. sourcename .. ".tex.")
5130 refreshdate ()
5131 print ("lwarpmk: " .. sourcename .. ".tex is ready to be recompiled.")
5132 print ("lwarpmk: Done.")
5133 end -- function
5134
5135
5136 -- Start of the main code: --
5137
5138
5139 -- lwarpmk --version :
5140
5141 if (arg[1] == "--version") then
5142 print ( "lwarpmk: " .. printversion )
5143
5144 else -- not --version
```

```
5145
5146
5147 -- print intro:
5148
5149 print ("lwarpmk: .. printversion .. " Automated make for the LaTeX Lwarf package.")
5150
5151
5152 -- lwarpmk print:
5153
5154 if arg[1] == "print" then
5155 loadconf ()
5156 if ( latexmk == "true" ) then
5157   print ("lwarpmk: Compiling with: .. printlatexcmd")
5158   executecheckerror (
5159     printlatexcmd ,
5160     "Compile error."
5161   )
5162   print ("lwarpmk: Done.")
5163 else -- not latexmk
5164   verifyfileexists (sourcename .. ".tex") ;
5165   -- See if up to date:
5166   if (
5167     ( lfs.attributes ( sourcename .. ".pdf" , "modification" ) == nil ) or
5168     (
5169       lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5170       lfs.attributes ( sourcename .. ".pdf" , "modification" )
5171     )
5172   ) then
5173     -- Recompile if not yet up to date:
5174     manytimes(printlatexcmd, "")
5175     print ("lwarpmk: Done.") ;
5176   else
5177     print ("lwarpmk: .. sourcename .. ".pdf is up to date.") ;
5178 end
5179 end -- not latexmk
5180
5181
5182 -- lwarpmk print1:
5183
5184 elseif arg[1] == "print1" then
5185   loadconf ()
5186   verifyfileexists (sourcename .. ".tex") ;
5187   onetime(printlatexcmd, "")
5188   print ("lwarpmk: Done.") ;
5189
5190
5191 -- lwarpmk printindex:
5192 -- Compile the index then touch the source
5193 -- to trigger a recompile of the document:
5194
5195 elseif arg[1] == "printindex" then
5196 loadconf ()
5197 os.execute ( printindexcmd )
5198 print ("lwarpmk: -----")
5199 updateanddone ()
```

```
5200
5201
5202 -- lwarpmk printglossary:
5203 -- Compile the glossary then touch the source
5204 -- to trigger a recompile of the document:
5205
5206 elseif arg[1] == "printglossary" then
5207 loadconf ()
5208 print ("lwarpmk: Processing the glossary.")
5209
5210 os.execute(glossarycmd .. " " .. sourcename)
5211 updateanddone ()
5212
5213
5214 -- lwarpmk html:
5215
5216 elseif arg[1] == "html" then
5217 loadconf ()
5218 if ( latexmk == "true" ) then
5219     print ("lwarpmk: Compiling with: " .. HTMLLatexcmd)
5220     executecheckerror (
5221         HTMLLatexcmd ,
5222         "Compile error."
5223     )
5224     pdftohtml ()
5225     print ("lwarpmk: Done.")
5226 else -- not latexmk
5227     verifyfileexists ( sourcename .. ".tex" ) ;
5228     -- See if exists and is up to date:
5229     if (
5230         ( lfs.attributes ( homehtmlfilename .. ".html" , "modification" ) == nil ) or
5231         (
5232             lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5233             lfs.attributes ( homehtmlfilename .. ".html" , "modification" )
5234         )
5235     ) then
5236         -- Recompile if not yet up to date:
5237         manytimes(HTMLLatexcmd, "_html")
5238         pdftohtml ()
5239         print ("lwarpmk: Done.")
5240     else
5241         print ("lwarpmk: " .. homehtmlfilename .. ".html is up to date.")
5242     end
5243 end -- not latexmk
5244
5245
5246 -- lwarpmk html1:
5247
5248 elseif arg[1] == "html1" then
5249     loadconf ()
5250     verifyfileexists ( sourcename .. ".tex" ) ;
5251     onetime(HTMLLatexcmd, "_html")
5252     pdftohtml ()
5253     print ("lwarpmk: Done.")
5254
```

```
5255
5256 -- lwarpmk pdftohtml:
5257 elseif arg[1] == "pdftohtml" then
5258     loadconf ()
5259     pdftohtml ()
5260
5261
5262 -- lwarpmk htmlindex:
5263 -- Compile the index then touch the source
5264 -- to trigger a recompile of the document:
5265
5266 elseif arg[1] == "htmlindex" then
5267 loadconf ()
5268 os.execute ( HTMLIndexcmd )
5269 print ("lwarpmk: -----")
5270 updateanddone ()
5271
5272
5273 -- lwarpmk htmlglossary:
5274 -- Compile the glossary then touch the source
5275 -- to trigger a recompile of the document.
5276 -- The <sourcename>.xdy file is created by the glossaries package.
5277
5278 elseif arg[1] == "htmlglossary" then
5279 loadconf ()
5280 print ("lwarpmk: Processing the glossary.")
5281 os.execute(glossarycmd .. " " .. sourcename .. "_html")
5282 updateanddone ()
5283
5284
5285 -- lwarpmk limages:
5286 -- Scan the <sourcename>.txt file to create lateximages.
5287
5288 elseif arg[1] == "limages" then
5289 loadconf ()
5290 print ("lwarpmk: Processing images.")
5291 createlateximages ()
5292 print ("lwarpmk: Done.")
5293
5294
5295 -- lwarpmk again:
5296 -- Touch the source to trigger a recompile.
5297
5298 elseif arg[1] == "again" then
5299 loadconf ()
5300 updateanddone ()
5301
5302
5303 -- lwarpmk clean:
5304 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*., .gl*
5305
5306 elseif arg[1] == "clean" then
5307 loadconf ()
5308 removeaux ()
5309 print ("lwarpmk: Done.")
```

```
5310
5311
5312 -- lwarpmk cleanall
5313 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.* , .gl*
5314 --     and also project.pdf, project.dvi, *.html
5315
5316 elseif arg[1] == "cleanall" then
5317 loadconf ()
5318 removeaux ()
5319 os.execute ( rmname .. " " ..
5320     sourcename .. ".pdf" .. sourcename .. "_html.pdf" ..
5321     sourcename .. ".dvi" .. sourcename .. "_html.dvi" ..
5322     "*.html"
5323 )
5324 print ("lwarpmk: Done.")
5325
5326
5327 -- lwarpmk cleanimages
5328 -- Remove images from the imagesdirectory.
5329
5330 elseif arg[1] == "cleanimages" then
5331 loadconf ()
5332 os.execute ( rmname .. " " .. imagesdirectory .. dirslash .. "*" )
5333 print ("lwarpmk: Done.")
5334
5335 -- lwarpmk epstopdf <list of file names>
5336 -- Convert EPS files to PDF using epstopdf
5337 elseif arg[1] == "epstopdf" then
5338 convertepstopdf ()
5339 print ("lwarpmk: Done.")
5340
5341
5342 -- lwarpmk pdftosvg <list of file names>
5343 -- Convert PDF files to SVG using pdftocairo
5344 elseif arg[1] == "pdftosvg" then
5345 convertpdftosvg ()
5346 print ("lwarpmk: Done.")
5347
5348
5349 -- lwarpmk with no argument :
5350
5351 elseif (arg[1] == nil) then
5352 printhelp ()
5353
5354
5355 -- lwarpmk -v:
5356
5357 elseif (arg[1] == "-v" ) then
5358 -- The version number has already been printed
5359 -- by the lwarpmk intro.
5360
5361 -- lwarpmk -h or lwarpmk --help :
5362
5363 elseif (arg[1] == "-h" ) or (arg[1] == "--help") then
5364 printusage ()
```

```

5365
5366
5367 -- Unknown command:
5368
5369 else
5370 printhelp ()
5371 print ("\nlwarpmk: ***** Unknown command \"..arg[1].." . *****\n")
5372 end
5373
5374 end -- not --version
5375 \end{filecontents*}
5376 % \end{Verbatim}% for syntax highlighting

5377 \end{LWRcreatelwarpmk}

```

## 40 Stacks

**for HTML output:** 5378 \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.

### 40.1 Assigning depths

initial depths for empty stack entries:

```
5379 \newcommand*\{\LWR@depthnone\}{-5}
```

All sectioning depths are deeper than \LWR@depthfinished:

```

5380 \newcommand*\{\LWR@depthfinished\}{-4}
5381 \newcommand*\{\LWR@depthbook\}{-2}
5382 \newcommand*\{\LWR@depthpart\}{-1}
5383 \newcommand*\{\LWR@depthchapter\}{0}
5384 \newcommand*\{\LWR@depthsection\}{1}
5385 \newcommand*\{\LWR@depthsubsection\}{2}
5386 \newcommand*\{\LWR@depthsubsubsection\}{3}
5387 \newcommand*\{\LWR@depthparagraph\}{4}
5388 \newcommand*\{\LWR@depth subparagraph\}{5}

```

---

Used by \itemize, \enumerate, \description:

5389 \newcommand\*{\LWR@depthlist}{6}

Used by \item:

5390 \newcommand\*{\LWR@depthlistitem}{7}  
5391 \let\LWR@depthdescitem\LWR@depthlistitem

## 40.2 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.

5392 \newcommand\*{\LWR@closeone}{}% top of the stack  
5393 \newcommand\*{\LWR@closetwo}{}  
5394 \newcommand\*{\LWR@closethree}{}  
5395 \newcommand\*{\LWR@closefour}{}  
5396 \newcommand\*{\LWR@closefive}{}  
5397 \newcommand\*{\LWR@closesix}{}  
5398 \newcommand\*{\LWR@closeseven}{}  
5399 \newcommand\*{\LWR@closeeight}{}  
5400 \newcommand\*{\LWR@closenine}{}  
5401 \newcommand\*{\LWR@closeten}{}  
5402 \newcommand\*{\LWR@closeeleven}{}  
5403 \newcommand\*{\LWR@closetwelve}{}  
5404 \newcommand\*{\LWR@closedepthonne}{\LWR@depthnone}% top of the stack  
5405 \newcommand\*{\LWR@closedepthtwo}{\LWR@depthnone}  
5406 \newcommand\*{\LWR@closedepththree}{\LWR@depthnone}  
5407 \newcommand\*{\LWR@closedepthfour}{\LWR@depthnone}  
5408 \newcommand\*{\LWR@closedepthfive}{\LWR@depthnone}

## 40.3 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}
```

---

5404 \newcommand\*{\LWR@closedepthonne}{\LWR@depthnone}% top of the stack  
5405 \newcommand\*{\LWR@closedepthtwo}{\LWR@depthnone}  
5406 \newcommand\*{\LWR@closedepththree}{\LWR@depthnone}  
5407 \newcommand\*{\LWR@closedepthfour}{\LWR@depthnone}  
5408 \newcommand\*{\LWR@closedepthfive}{\LWR@depthnone}

---

```

5409 \newcommand*{\LWR@closedepthsix}{\LWR@depthnone}
5410 \newcommand*{\LWR@closedepthseven}{\LWR@depthnone}
5411 \newcommand*{\LWR@closedeptheight}{\LWR@depthnone}
5412 \newcommand*{\LWR@closedepthnine}{\LWR@depthnone}
5413 \newcommand*{\LWR@closedepthten}{\LWR@depthnone}
5414 \newcommand*{\LWR@closedeptheleven}{\LWR@depthnone}
5415 \newcommand*{\LWR@closedephtwelve}{\LWR@depthnone}

```

## 40.4 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.

```

5416 \NewDocumentCommand{\LWR@pushclose}{m}
5417 {%
5418 \global\let\LWR@closetwelve\LWR@closeeleven%
5419 \global\let\LWR@closeeleven\LWR@closeten%
5420 \global\let\LWR@closeten\LWR@closenine%
5421 \global\let\LWR@closenine\LWR@closeeight%
5422 \global\let\LWR@closeeight\LWR@closeseven%
5423 \global\let\LWR@closeseven\LWR@closesix%
5424 \global\let\LWR@closesix\LWR@closefive%
5425 \global\let\LWR@closefive\LWR@closefour%
5426 \global\let\LWR@closefour\LWR@closethree%
5427 \global\let\LWR@closethree\LWR@closetwo%
5428 \global\let\LWR@closetwo\LWR@closeone%
5429 \global\csletcs{\LWR@closeone}{\LWR@printclose#1}%
5430 \global\let\LWR@closedephtwelve\LWR@closedeptheleven%
5431 \global\let\LWR@closedeptheleven\LWR@closedepthten%
5432 \global\let\LWR@closedepthten\LWR@closedepthnine%
5433 \global\let\LWR@closedepthnine\LWR@closedeptheight%
5434 \global\let\LWR@closedeptheight\LWR@closedepthseven%
5435 \global\let\LWR@closedepthseven\LWR@closedepthsix%
5436 \global\let\LWR@closedepthsix\LWR@closedepthfive%
5437 \global\let\LWR@closedepthfive\LWR@closedepthfour%
5438 \global\let\LWR@closedepthfour\LWR@closedepththree%
5439 \global\let\LWR@closedepththree\LWR@closedepthtwo%
5440 \global\let\LWR@closedepthtwo\LWR@closedepthonne%
5441 \global\csletcs{\LWR@closedepthonne}{\LWR@depth#1}%
5442 }

```

\LWR@popclose Pops one action and its depth off the stacks.

```

5443 \newcommand*{\LWR@popclose}{%
5445 \global\let\LWR@closeone\LWR@closetwo%
5446 \global\let\LWR@closetwo\LWR@closethree%
5447 \global\let\LWR@closethree\LWR@closefour%
5448 \global\let\LWR@closefour\LWR@closefive%
5449 \global\let\LWR@closefive\LWR@closesix%
5450 \global\let\LWR@closesix\LWR@closeseven%
5451 \global\let\LWR@closeseven\LWR@closeeight%

```

---

```

5452 \global\let\LWR@closeeight\LWR@close-nine%
5453 \global\let\LWR@close-nine\LWR@close-ten%
5454 \global\let\LWR@close-ten\LWR@close-eleven%
5455 \global\let\LWR@close-eleven\LWR@close-twelve%
5456 \global\let\LWR@close-depth-one\LWR@close-depth-two%
5457 \global\let\LWR@close-depth-two\LWR@close-depth-three%
5458 \global\let\LWR@close-depth-three\LWR@close-depth-four%
5459 \global\let\LWR@close-depth-four\LWR@close-depth-five%
5460 \global\let\LWR@close-depth-five\LWR@close-depth-six%
5461 \global\let\LWR@close-depth-six\LWR@close-depth-seven%
5462 \global\let\LWR@close-depth-seven\LWR@close-depth-eight%
5463 \global\let\LWR@close-depth-eight\LWR@close-depth-nine%
5464 \global\let\LWR@close-depth-nine\LWR@close-depth-ten%
5465 \global\let\LWR@close-depth-ten\LWR@close-depth-eleven%
5466 \global\let\LWR@close-depth-eleven\LWR@close-depth-twelve%
5467 }

5468 \end{warpHTML}

```

## 41 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:** 5469 `\begin{warpHTML}`

```
\LWR@setexparray {<name>} {<index>} {<contents>}

5470 \NewDocumentCommand{\LWR@setexparray}{m m m}{%
5471   \let\LWR@temp@par\par%
5472   \let\par\relax%
5473   \edef\LWR@thisexparrayname{\#1\#2}%
5474   \ifstrempty{\#3}%
5475     {\csdef{\LWR@thisexparrayname}{} }%
5476     {\csdef{\LWR@thisexparrayname}{\#3}}%
5477   \let\par\LWR@temp@par%
5478 }
```

```
\LWR@getexparray {<name>} {<index>}

5479 \newcommand*{\LWR@getexparray}[2]{%
5480   \nameuse{\#1\#2}%
5481 }

5482 \end{warpHTML}
```

## 42 Localizing catcodes

**for HTML & PRINT:** 5483 `\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.

```
5484 \newcommand{\StartDefiningTabulars}{%
5485   \LWR@traceinfo{StartDefiningTabulars}%
5486   \warpHTMLonly{\catcode`\&=\active}%
5487 }
```

`\StopDefiningTabulars` Place after defining something with & in it.

```
5488 \newcommand{\StopDefiningTabulars}{%
5489   \LWR@traceinfo{StopDefiningTabulars}%
5490   \warpHTMLonly{\catcode`\&=4}%
5491 }
```

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.

```
5492 \newbool{LWR@mathmacro}
5493 \boolfalse{LWR@mathmacro}
```

`\StartDefiningMath` Place before defining something with \$ in it.

```
5494 \newcommand{\StartDefiningMath}{%
5495   \LWR@traceinfo{StartDefiningMath}%
5496   \warpHTMLonly{\catcode`\$=\active}%
5497 }
```

`\StopDefiningMath` Place after defining something with \$ in it.

```
5498 \newcommand{\StopDefiningMath}{%
5499   \LWR@traceinfo{StopDefiningMath}%
5500   \warpHTMLonly{\catcode`\$=3}% math shift
5501 }
```

```
5502 \end{warpall}
```

## 43 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 `lwarp`:

---

```
\xpatchcmd{\macro}
  {$math expression$}
  {\inlinemathother$math expression$\inlinemathnormal}
  {}
  {\typeout{Error patching macro.}}
```

---

**for HTML & PRINT:** 5503 `\begin{warpall}`

**Bool LWR@dynamicmath** True to mark inline math which is dynamic in nature, thus should not be hashed for reuse.  
**Default: false**

```
5504 \newbool{LWR@dynamicmath}
5505 \boolfalse{LWR@dynamicmath}
```

**\inlinemathother** Place before using `$ ... $` or `\( ... \)` if the contents of the math are not static, depending on counters or dynamic macros.

```
5506 \newcommand{\inlinemathother}{%
5507 \LWR@traceinfo{\inlinemathother}%
5508 \booltrue{LWR@dynamicmath}%
5509 }
```

**\inlinemathnormal** Place after using `$ ... $` or `\( ... \)` with dynamic contents.

```
5510 \newcommand{\inlinemathnormal}{%
5511 \LWR@traceinfo{\inlinemathnormal}%
5512 \boolfalse{LWR@dynamicmath}%
5513 }

5514 \end{warpall}
```

## 44 HTML entities

**for HTML output:** 5515 \begin{warpHTML}

    HTML Unicode entities:

5516 \let\LWR@origampersand\&

\HTMLentity {<entitytag>}

5517 \newcommand\*{\HTMLentity}[1]{%  
5518 % \LWR@traceinfo{HTMLentity \detokenize{\#1}}%  
5519 \begingroup%  
5520 \LWR@FBcancel%  
5521 \LWR@origampersand#1;%  
5522 \endgroup%  
5523 % \LWR@traceinfo{HTMLentity done}%  
5524 }

\HTMLunicode {<hex\_unicode>}

5525 \newcommand\*{\HTMLunicode}[1]{\HTMLentity{\LWR@origpound{}x#1}}

\&

5526 \renewrobustcmd\*{\&}{\HTMLentity{amp}}

\textless

5527 \let\LWR@origtextless\textless  
5528 \renewrobustcmd\*{\textless}{\HTMLentity{lt}}

\textgreater

5529 \let\LWR@origtextgreater\textgreater  
5530 \renewrobustcmd\*{\textgreater}{\HTMLentity{gt}}

5531 \end{warpHTML}

## 45 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:** 5532 \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.

```
5533 \providecommand*{\BaseJobname}{\jobname}
```

\HTMLFilename The prefix for all generated HTML files other than the home page, defaulting to empty. See section [7.6.1](#).

```
5534 \providecommand*{\HTMLFilename}{}{}
```

\HomeHTMLFilename The filename of the home page, defaulting to the \BaseJobname. See section [7.6.1](#).

```
5535 \providecommand*{\HomeHTMLFilename}{\BaseJobname}
```

\SetHTMLFileName {<number>}

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.

```
5536 \newcommand*{\SetHTMLFileName}[1]{%
  5537   \setcounter{LWR@htmlfilename}{#1}%
  5538 }
```

Bool FileSectionNames Selects how to create HTML file names.

Defaults to use section names in the filenames.

```
5539 \newbool{FileSectionNames}
5540 \booltrue{FileSectionNames}

5541 \end{warpall}
```

**for HTML output:** 5542 \begin{warpHTML}

Updated each time a new HTML file is begun. Used to provide HTML previous/next web page links.

```
5543 \newcounter{LWR@HTMLpagenum}
5544 \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.

```
5545 \newcounter{LWR@htmlseqfilename}
5546 \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.

```
5547 \newbool{LWR@setseqfilelabel}
5548 \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.

```
5549 \newcounter{LWR@htmlfilename}
5550 \setcounter{LWR@htmlfilename}{0}
```

\LWR@htmlsectionfilename {*htmlfilename or name*}

Prints the filename for a given section: \HTMLFilename{}filename/name.html

```
5551 \newcommand*{\LWR@htmlsectionfilename}[1]{%
5552 \LWR@traceinfo{LWR@htmlsectionfilename A !\detokenize{#1}!}%
5553 \begingroup%
```

Disable CJK xpinyin while generating file names.

```
5554 \LWR@disablepinyin%
```

Section 0 or empty is given the home filename. The filename must be detokenized for underscores.

```
5555 % \LWR@traceinfo{about to assign temp}%
5556 \LWR@sanitize{#1}%
5557 \LWR@traceinfo{about to compare with ??}%
5558 \ifdefstring{\LWR@sanitized}{??}%
5559   {\LWR@traceinfo{found ??}}%
5560   {\LWR@traceinfo{not found ??}}%
5561 \LWR@traceinfo{about to compare with zero or empty}%
5562 \ifboolexpr{%
5563   test {\ifdefstring{\LWR@sanitized}{0}} or
5564   test {\ifdefstring{\LWR@sanitized}{}} or
5565   test {\ifdefstring{\LWR@sanitized}{??}}%
5566 }%
5567 {%
5568   \LWR@traceinfo{LWR@htmlsectionfilename B \HomeHTMLFilename.html}%
5569   \HomeHTMLFilename.html%
5570 }%
```

For a LATEX section named “Index” or “index” without a prefix, create a filename with a trailing -0 to avoid colliding with the HTML filename index.html:

```
5571 {%
5572   \LWR@traceinfo{LWR@htmlsectionfilename C \LWR@sanitized}%
5573   \ifboolexpr{%
5574     test{\ifdefvoid{\HTMLFilename}} and
```

```

5575      (
5576          test{\ifdefstring{\LWR@sanitized}{Index}} or
5577          test{\ifdefstring{\LWR@sanitized}{index}}
5578      )
5579  }%
5580 {%
5581     \LWR@traceinfo{Adding a zero to the index filename.}%
5582     \LWR@sanitized-0.html%
5583 }%

```

Otherwise, create a filename with the chosen prefix:

```

5584   {%
5585     \HTMLFilename\LWR@isolate{\LWR@sanitized}.html%
5586   }%
5587 }%
5588 \LWR@traceinfo{\LWR@htmlsectionfilename Z}%
5589 \endgroup%
5590 }

```

\LWR@htmlrefsectionfilename {*<label>*}

Prints the filename for the given label

```

5591 \newcommand*{\LWR@htmlrefsectionfilename}[1]{%
5592   \LWR@traceinfo{\LWR@htmlrefsectionfilename: !\detokenize{#1}!}%

```

\LWR@nullfonts to allow math in a section name.

```

5593 \begingroup%
5594 \LWR@nullfonts%
5595 \LWR@htmlsectionfilename{\LWR@htmlfileref{#1}}%
5596 \endgroup%
5597 \LWR@traceinfo{\LWR@htmlrefsectionfilename: done}%
5598 }

```

5599 \end{warpHTML}

## 46 Homepage link

**for HTML & PRINT:** 5600 \begin{warpall}

\linkhomename Holds the default name for the home link.

```

5601 \newcommand{\linkhomename}{Home}
5602 \end{warpall}

```

**for HTML output:** 5603 \begin{warpHTML}

\LinkHome May be used wherever you wish to place a link back to the homepage. The filename must be detokenized for underscores.

```
5604 \newcommand*\{\LinkHome\}{%
5605     \LWR@subhyperrefclass{\HomeHTMLFilename.html}{\linkhomename}{linkhome}%
5606 }

5607 \end{warpHTML}
```

**for PRINT output:** 5608 \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.

```
5609 \AtBeginDocument{%
5610 \ifundefined{hyperref}{%
5611     \newcommand*\{\LinkHome\}{%
5612         \linkhomename\ --- page \pageref{\BaseJobname-page-LWRfirstpage}%
5613     }%
5614 }{%
5615     \newcommand*\{\LinkHome\}{%
5616         \hyperref[\BaseJobname-page-LWRfirstpage]{\linkhomename}%
5617     }%
5618 }%
5619 }
5620
5621 \AfterEndPreamble{\label{\BaseJobname-page-LWRfirstpage}{}}

5622 \end{warpprint}
```

**for HTML output:** 5623 \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.

```
5624 \newcommand*\{\LWR@topnavigation\}{%
5625     \LWR@htmlelementclassline{nav}{topnavigation}{\LinkHome}%
5626 }
```

\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.

```
5627 \newcommand*\{\LWR@botnavigation\}{%
5628     \LWR@htmlelementclassline{nav}{botnavigation}{\LinkHome}%
5629 }
```

```
5630 \end{warpHTML}
```

## 47 Previous/next navigation links

**for HTML & PRINT:** 5631 \begin{warpall}

\linkpreviousname What to call the link to the previous web page.

5632 \newcommand\*\{\linkpreviousname\}{Previous}

\linknextname What to call the link to the next web page.

5633 \newcommand\*\{\linknextname\}{Next}

5634 \end{warpall}

**for PRINT output:** 5635 \begin{warpprint}

\LinkPrevious Creates a link to the previous web page if there is one.

5636 \newcommand\*\{\LinkPrevious\}{}%

\LinkNext Creates a link to the next web page if there is one.

5637 \newcommand\*\{\LinkNext\}{}%

5638 \end{warpprint}

**for HTML output:** 5639 \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-\*

```
5640 \newcommand*\{\LinkPrevious\}{%
5641     \ifnumless{\value{LWR@htmlseqfilenumber}}{1}{}{%
5642         \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}-1}%
5643         \LWR@subhyperrefclass{%
5644             \LWR@htmlrefsectionfilename{%
5645                 \BaseJobname-autofile-\arabic{LWR@tempcountone}}%
5646             }%
5647         }{\linkpreviousname\{linkhome\}}%
5648     }%
5649 }
```

\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

```

5650 \newcommand*{\LinkNext}{%
5651     \ifcsdef{r@\BaseJobname-autofile-last@lwarp}{%
5652         \edef\LWR@tempone{%
5653             \LWR@htmlfileref{\BaseJobname-autofile-\arabic{\LWR@htmlseqfilenumber}}%
5654         }%
5655         \edef\LWR@temptwo{%
5656             \LWR@htmlfileref{\BaseJobname-autofile-last}%
5657         }%
5658         \ifdefequal{\LWR@tempone}{\LWR@temptwo}{}{%
5659             \setcounter{\LWR@tempcountone}{\value{\LWR@htmlseqfilenumber}+1}%
5660             \LWR@subhyperrefclass{%
5661                 \LWR@htmlrefsectionfilename{%
5662                     \BaseJobname-autofile-\arabic{\LWR@tempcountone}}%
5663                 }%
5664             }{\linknextname}{linkhome}%
5665         }%
5666     }%
5667 }
5668 \end{warpHTML}

```

## 48 \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:** 5669 \begin{warpHTML}

\LWRPrintStack Prints the closedepth stack.

```

5670 \newcommand*{\LWR@subprintstack}{%
5671 \LWR@closedepthonel\ \LWR@closedepthtwol\ \LWR@closedepththreel\%
5672 \LWR@closedepthfourl\ \LWR@closedepthfivel\ \LWR@closedepthsixl\%
5673 \LWR@closedepthsevenl\ \LWR@closedeptheightl\ \LWR@closedeptninel\%
5674 \LWR@closedepthtenl\ \LWR@closedepthelevell\ \LWR@closedepthtwelvel\%
5675 }
5676
5677 \newcommand*{\LWRPrintStack}{%
5678 \LWR@startpars
5679 \LWR@subprintstack
5680 }
5681 \end{warpHTML}

```

**for PRINT output:** 5682 \begin{warpprint}

```

5683 \newcommand*{\LWRPrintStack}{}%
5684 \end{warpprint}

```

## 49 Closing stack levels

**for HTML output:** 5685 \begin{warpHTML}

Close one nested level:

```
5686 \newcommand*{\LWR@closeoneprevious}{%
5687
5688 \LWR@closeone
5689
5690 \LWR@popclose
5691 }
```

\LWR@closeprevious {*<sectintype>*} Close everything up to the given depth:

```
5692 \newcommand*{\LWR@closeprevious}[1]{%
5693 \LWR@traceinfo{%
5694     LWR@closeprevious to depth \csuse{LWR@depth#1}, %
5695     depths are \LWR@subprintstack%
5696 }%
```

Close any pending paragraph:

```
5697 \LWR@stoppars%
```

Close anything nested deeper than the desired depth. First close anything deeper, then at most one of the same level.

```
5698 \whileboolexpr{test{\ifnumcomp{\LWR@closedepthone}{>}{\csuse{LWR@depth#1}}}}{%
5699 }%
5700     \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone}%
5701     \LWR@closeoneprevious%
5702 }%
5703 \ifboolexpr{test{\ifnumcomp{\LWR@closedepthone}{=}{\csuse{LWR@depth#1}}}}{%
5704 }%
5705     \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone}%
5706     \LWR@closeoneprevious%
5707 }{%
5708 \LWR@traceinfo{LWR@closeprevious: done, depths are \LWR@subprintstack}%
5709 }
```

```
5710 \end{warpHTML}
```

## 50 PDF pages and styles

**for HTML output:** 5711 \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.

```
5712 \newcommand{\LWR@forcenewpage}{%
5713 \LWR@traceinfo{\LWR@forcenewpage}%
5714 \ifinner\else%
5715 \LWR@stoppars\LWR@maybe@orignewpage\LWR@startpars%
5716 \fi%
5717 }
```

`\pagestyle`, etc. are nullified for HTML output.

```
\pagestyle {\langle style\rangle}
```

```
5718 \renewcommand*{\pagestyle}[1]{}
```

```
\thispagestyle {\langle style\rangle}
```

```
5719 \renewcommand*{\thispagestyle}[1]{}
```

```
\markboth {\langle left\rangle} {\langle right\rangle}
```

```
5720 \renewcommand*{\markboth}[2]{}
```

```
\markright {\langle right\rangle}
```

```
5721 \renewcommand*{\markright}[1]{}
```

```
\raggedbottom
```

```
5722 \renewcommand*{\raggedbottom}{}{}
```

```
\flushbottom
```

```
5723 \renewcommand*{\flushbottom}{}{}
```

```
\sloppy
```

```
5724 \renewcommand*{\sloppy}{}{}
```

```
\fussy
```

```
5725 \renewcommand*{\fussy}{}{}
```

```
\pagenumbering * {\langle commands\rangle}
```

```
5726 \RenewDocumentCommand{\pagenumbering}{s m}{}{}
```

```
5727 \end{warpHTML}
```

## 51 HTML tags, spans, divs, elements

for HTML output: 5728 \begin{warpHTML}

### 51.1 Mapping L<sup>A</sup>T<sub>E</sub>X sections to HTML sections

```

5729 \newcommand*\LWR@tagtitle}{h1}
5730 \newcommand*\LWR@tagtitleend}{/h1}
5731 \newcommand*\LWR@tagbook}{div class="book"}
5732 \newcommand*\LWR@tagbookend}{/div}
5733 \newcommand*\LWR@tagpart}{h2}
5734 \newcommand*\LWR@tagpartend}{/h2}
5735 \newcommand*\LWR@tagchapter}{h3}
5736 \newcommand*\LWR@tagchapterend}{/h3}
5737 \newcommand*\LWR@tagsection}{h4}
5738 \newcommand*\LWR@tagsectionend}{/h4}
5739 \newcommand*\LWR@tagssubsection}{h5}
5740 \newcommand*\LWR@tagssubsectionend}{/h5}
5741 \newcommand*\LWR@tagssubsectionend}{h6}
5742 \newcommand*\LWR@tagssubsectionend}{/h6}
5743 \newcommand*\LWR@tagparagraph}{span class="paragraph"}
5744 \newcommand*\LWR@tagparagraphend}{/span}
5745 \newcommand*\LWR@tag subparagraph}{span class="subparagraph"}
5746 \newcommand*\LWR@tag subparagraphend}{/span}
5747
5748 \newcommand*\LWR@tagregularparagraph}{p}

```

### 51.2 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.)

```

5749 \providecommand*\LWR@FBcancel(){}
5750
5751 \AtBeginDocument{%

```

In some circumstances, \NoAutoSpacing may be defined when \frenchbsetup is not.

```

5752 \@ifundefined{NoAutoSpacing}%
5753     {}%
5754     {%
5755         \LetLtxMacro{\LWR@FBcancel}{\NoAutoSpacing}%
5756     }%
5757
5758 \@ifundefined{frenchbsetup}%
5759 {}%
5760 {}%
5761     \frenchbsetup{FrenchFootnotes=false}%

```

```

5762 %
5763   \renewrobustcmd*{\FBcolonspace}{%
5764     \begingroup%
5765     \LWR@FBcancel%
5766     \LWR@origampersand{}nbsp;%
5767     \endgroup%
5768   }%
5769   \renewrobustcmd*{\FBthinspace}{%
5770     \begingroup%
5771     \LWR@FBcancel%
5772     \LWR@origampersand\LWR@origpound{}x202f;% \
5773     \endgroup%
5774   }%
5775   \renewrobustcmd*{\FBguillspace}{%
5776     \begingroup%
5777     \LWR@FBcancel%
5778     \LWR@origampersand{}nbsp;% ~, for \og xyz \fg{}%
5779     \endgroup%
5780   }%
5781   \DeclareDocumentCommand{\FBmedkern}{}{%
5782     \begingroup%
5783     \LWR@FBcancel%
5784     \LWR@origampersand\LWR@origpound{}x202f;% \
5785     \endgroup%
5786   }%
5787   \DeclareDocumentCommand{\FBthickkern}{}{%
5788     \begingroup%
5789     \LWR@FBcancel%
5790     \LWR@origampersand{}nbsp;% ~
5791     \endgroup%
5792   }%
5793   \renewrobustcmd*{\~}{\HTMLentity{nbsp}}% was overwritten by babel-french
5794   \ifFBunicode%
5795   \else%
5796     \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}%
5797     \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
5798   \fi%
5799 }%
5800 }

```

### 51.3 HTML output formatting

Helps format the output HTML code for human readability.

\LWR@indentHTML Newline and indent the output HTML code.

```

5801 \newcommand*{\LWR@indentHTML}{%
5802   \LWR@orignewline\LWR@origrule{2em}{0pt}%
5803 }

```

\LWR@indentHTMLtwo Newline and indent the output HTML code.

---

```

5804 \newcommand*{\LWR@indentHTMLtwo}{%
5805     \LWR@orignewline\LWR@origrule{4em}{0pt}%
5806 }

```

## 51.4 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.

```

5807 \newcommand*{\LWR@htmltagc}[1]{%
5808 \LWR@traceinfo{\LWR@htmltagc !\detokenize{\#1}!}%
5809 \begingroup%
5810 \LWR@FBcancel%
5811 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
5812 \protect\LWR@origtextless%
5813 \LWR@isolate{\#1}%
5814 \protect\LWR@origtextgreater%
5815 \endgroup%
5816 }

```

\LWR@spanwarnformat {*object*}

Warns if the given object is used inside a span.

```

5817 \newcommand*{\LWR@spanwarnformat}[1]{%
5818     \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
5819         \PackageWarning{lwarp}{%
5820             A #1 is being used inside a span.\MessageBreak
5821             Formatting may be lost,%
5822         }%
5823     }{}%
5824 }

```

\LWR@spanwarninvalid {*object*}

Warns if the given object is used inside a span.

```

5825 \newcommand*{\LWR@spanwarninvalid}[1]{%
5826     \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
5827         \PackageWarning{lwarp}{%
5828             A #1 is being used inside a span.\MessageBreak
5829             This generates invalid HTML,%
5830         }%
5831     }{}%
5832 }

```

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.

```

5833 \newcommand*\LWR@nestspanitem{%
5834 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
5835 \LWR@origitem%
5836 }
5837
5838 \newenvironment*\LWR@nestspan{%
5839 {%
5840 \LWR@traceinfo{LWR@nestspan starting}%
5841 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
5842 {%
5843   \LWR@traceinfo{LWR@nestspan: inside a lateximage}%
5844 }%
5845 {%
5846   \LWR@traceinfo{LWR@nestspan: NOT inside a lateximage}%
5847   \addtocounter{LWR@spandepth}{1}%

```

Nullify several objects inside the span:

```

5848 \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}%
5849   {\LWR@spanwarnformat{minipage or \protect\parbox}}%
5850   {}%
5851 \RenewDocumentEnvironment{BlockClass}{o m}%
5852   {\LWR@spanwarnformat{multi-paragraph object}}%
5853   {}%
5854 \renewcommand{\BlockClassSingle}[2]{%
5855   {\LWR@spanwarnformat{multi-paragraph object}}%
5856   ##2%
5857 }%
5858 \renewcommand{\LWR@forcenewpage}{}%
5859 \renewcommand{\LWR@liststart}{%
5860   \let\item\LWR@nestspanitem%
5861 }%
5862 \renewcommand{\LWR@listend}{\LWR@htmltagc{br /}\LWR@htmltagc{br /}}%
5863 \renewenvironment{quote}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
5864 \renewenvironment{quotation}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
5865 }% not in a lateximage
5866 \LWR@traceinfo{LWR@nestspan starting: done}%
5867 }% starting env
5868 {%
5869 \LWR@traceinfo{LWR@nestspan ending}%
5870 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
5871 {}%
5872 {\addtocounter{LWR@spandepth}{-1}}%
5873 \LWR@traceinfo{LWR@nestspan ending: done}%
5874 }%
5875
5876 \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.

```

5877 \NewDocumentCommand{\LWR@htmlspan}{m +m}{%
5878 \LWR@ensuredoingapar%
5879 \LWR@htmlltagc{#1}%
5880 \begin{LWR@nestspan}%
5881 #2%
5882 \LWR@htmlltagc{/#1}%
5883 \end{LWR@nestspan}%
5884 }

\LWR@htmlspanclass [⟨style⟩] {⟨class⟩} {⟨text⟩}

5885 \NewDocumentCommand{\LWR@htmlspanclass}{o m +m}{%
5886 \LWR@traceinfo{\LWR@htmlspanclass |#1|#2|}%
5887 \LWR@ensuredoingapar%
5888 \LWR@subhtmlelementclass{span}[#1]{#2}%
5889 \begin{LWR@nestspan}%
5890 #3%
5891 \LWR@htmlltagc{/span}%
5892 \LWR@traceinfo{\LWR@htmlspanclass done}%
5893 \end{LWR@nestspan}%
5894 }

\LWR@htmltag {⟨tag⟩}

Print an HTML tag: <tag>

5895 \newcommand*{\LWR@htmltag}[1]{%
5896 % \LWR@traceinfo{\LWR@htmltagb !\detokenize{#1}!}%
5897 \LWR@htmlltagc{#1}%
5898 % \LWR@traceinfo{\LWR@htmltagb: done}%
5899 }

```

## 51.5 Block tags and comments

In the following, \origttfamily breaks ligatures, which may not be used for HTML codes:

```

\LWR@htmlopencomment
\LWR@htmlclosecomment
5900 \newcommand*{\LWR@htmlopencomment}{%
5901 {%
5902 % \LWR@traceinfo{\LWR@htmlopencomment}%
5903 \begingroup%
5904 \LWR@FBcancel%
5905 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
5906 \LWR@print@bbox{\LWR@origtextless{}!-/-}%
5907 \endgroup%
5908 }%
5909 }

```

```

5910
5911 \newcommand*{\LWR@htmlclosecomment}{%
5912 {%
5913 % \LWR@traceinfo{\LWR@htmlclosecomment}%
5914 \begingroup%
5915 \LWR@FBcancel%
5916 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
5917 \LWR@print@mbox{-/-\LWR@origtextgreater}%
5918 \endgroup%
5919 }%
5920 }

\LWR@htmlcomment  {\langle comment\rangle}

5921 \newcommand{\LWR@htmlcomment}[1]{%
5922 \LWR@htmlopencomment{}%
5923 {%
5924     \LWR@print@normalfont%
5925     \LWR@origttfamily% break ligatures
5926     #1%
5927 }%
5928 \LWR@htmlclosecomment{}}

\LWR@htmlblockcomment  {\langle comment\rangle}

5929 \newcommand{\LWR@htmlblockcomment}[1]
5930 {\LWR@stoppars\LWR@htmlcomment{\#1}\LWR@startpars}

\LWR@htmlblocktag  {\langle tag\rangle} print a stand-alone HTML tag

5931 \newcommand*{\LWR@htmlblocktag}[1]{%
5932 \LWR@stoppars%
5933 \LWR@htmlltag{\#1}%
5934 \LWR@startpars%
5935 }

```

## 51.6 Div class and element class

\LWR@subhtmlelementclass {\langle element\rangle} [⟨style⟩] {\⟨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.

```

5936 \NewDocumentCommand{\LWR@subhtmlelementclass}{m O{} m}{%
5937 \LWR@traceinfo{\LWR@subhtmlelementclass !#1!#2!#3!}%
5938 \ifblank{#2}{%
5939 {%
5940     \LWR@htmlltag{%

```

```

5941      #1 % space
5942      class=\textquotedbl#3\textquotedbl\ % space
5943  }%
5944 }%
5945 {%
5946   non-empty option
5947   \LWR@htmntag{%
5948     #1\LWR@indentHTML%
5949     class=\textquotedbl#3\textquotedbl\LWR@indentHTML%
5949     style=\textquotedbl#2\textquotedbl\LWR@newline%
5950   }%
5951 }%
5952 \LWR@traceinfo{\LWR@subhtmlelementclass done}%
5953 }

\LWR@htmlelementclass {<element>} {<class>} [<style>]

5954 \NewDocumentCommand{\LWR@htmlelementclass}{m o m}{%
5955 \LWR@stoppars%
5956 \LWR@forceemptyline%
5957 \LWR@subhtmlelementclass{#1}[#2]{#3}%
5958 \LWR@startpars%
5959 }

\LWR@htmlelementclassend {<element>} {<class>}

5960 \newcommand*{\LWR@htmlelementclassend}[2]{%
5961 \LWR@stoppars%
5962 \LWR@htmntag{/#1}%
5963 \ifbool{HTMLDebugComments}{%
5964   \LWR@htmlcomment{End of #1 ``#2''}%
5965 }{}%
5966 \LWR@startpars%
5967 }

\LWR@htmldivclass [<style>] {<class>}

5968 \NewDocumentCommand{\LWR@htmldivclass}{o m}{%
5969 \LWR@htmlelementclass{div}{#1}{#2}%
5970 }

\LWR@htmldivclassend {<class>}

5971 \newcommand*{\LWR@htmldivclassend}[1]{%
5972 \LWR@htmlelementclassend{div}{#1}%
5973 }

```

## 51.7 Single-line elements

A single-line element, without a paragraph tag for the line of text:

```
\LWR@htmlelementclassline {\langle element \rangle} [\langle style \rangle] {\langle class \rangle} {\langle text \rangle}

5974 \NewDocumentCommand{\LWR@htmlelementclassline}{m o m +m}{%
5975 \LWR@stoppars
5976 \LWR@forceemptyline%
5977 \LWR@subhtmlelementclass{#1}[#2]{#3}%
5978 #4%
5979 \LWR@htmlltag{/#1}
5980 \LWR@startpars
5981 }
```

## 51.8 HTML5 semantic elements

```
\LWR@htmlelement {\langle element \rangle}

5982 \newcommand*{\LWR@htmlelement}[1]{%
5983 \LWR@htmlblocktag{#1}
5984 }

\LWR@htmlelementend {\langle element \rangle}

5985 \newcommand*{\LWR@htmlelementend}[1]{%
5986 \LWR@stoppars
5987 \LWR@htmlltag{/#1}
5988 \LWR@startpars
5989 }
5990
5991 \end{warpHTML}
```

## 51.9 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 93.

**Env** **BlockClass** [\langle style \rangle] {\langle class \rangle} High-level interface for <div> classes.

Ex: \begin{BlockClass}{class} text \end{BlockClass}

**for PRINT output:** 5992 \begin{warpprint}
5993 \NewDocumentEnvironment{BlockClass}{o m}{ }{ }%
5994 \end{warpprint}

**for HTML output:** 5995 \begin{warpHTML}
5996
5997 \NewDocumentEnvironment{LWR@print@BlockClass}{o m}{ }{ }%

```

5998
5999 \NewDocumentEnvironment{LWR@HTML@BlockClass}{o m}%
6000     {\LWR@htmldivclass[#1]{#2}}
6001     {\LWR@htmldivclassend{#2}}
6002
6003 \LWR@formattedeenv{BlockClass}
6004 \end{warpHTML}

```

\BlockClassSingle {<class>} {<text>} A single-line <div>, without a paragraph tag for the line of text.

**for HTML & PRINT:** 6005 \begin{warpall}  
 6006 \newcommand{\BlockClassSingle}[2]{#2}  
 6007 \end{warpall}

**for HTML output:** 6008 \begin{warpHTML}  
 6009 \newcommand{\LWR@HTML@BlockClassSingle}[2]{%  
 6010 \LWR@htmlelementclassline{div}{#1}{#2}%
 6011 }
 6012
 6013 \LWR@formattedeenv{BlockClassSingle}
 6014 \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:** 6015 \begin{warpprint}  
 6016 \NewDocumentCommand{\InlineClass}{D{()}{}} o m +m}{#4}%
 6017 \end{warpprint}

**for HTML output:** 6018 \begin{warpHTML}  
 6019 \NewDocumentCommand{\LWR@print@InlineClass}{D{()}{}} o m +m}{#4}%
 6020
 6021 \NewDocumentCommand{\LWR@HTML@InlineClass}{D{()}{}} o m +m}{%
 6022 \ifbool{FormatWP}{%
 6023 \LWR@htmllspanclass[#1]{#3}{#4}%
 6024 }{%
 6025 \LWR@htmllspanclass[#2]{#3}{#4}%
 6026 }%
 6027 }
 6028
 6029 \LWR@formattedeenv{InlineClass}
 6030 \end{warpHTML}

Env LWR@BlockClassWP {<WPstyle>} {<HTMLstyle>} {<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:** 6031 \begin{warpprint}

---

```

6032 \NewDocumentEnvironment{LWR@BlockClassWP}{m m m}{}{}%
6033 \end{warpprint}

for HTML output: 6034 \begin{warpHTML}
6035 \NewDocumentEnvironment{LWR@print@LWR@BlockClassWP}{m m m}{}{}%
6036 \NewDocumentEnvironment{LWR@HTML@LWR@BlockClassWP}{m m m}{}%
6037 {%
6038 \LWR@stoppars%
6039 \ifbool{FormatWP}%
6040 {%
6041     \addtocounter{LWR@thisautoidWP}{1}%

6042     \LWR@htmlltag{%
6043         div class=\textquotedbl#3\textquotedbl\ % space
6044         id=\textquotedbl%
6045             \LWR@print@mbox{autoidWP-\arabic{LWR@thisautoidWP}}%
6046             \textquotedbl%
6047             \ifblank{#1}{}{ style=\textquotedbl#1\textquotedbl}%
6048     }%
6049 }% FormatWP
6050 {%
6051     \LWR@htmlltag{%
6052         div class=\textquotedbl#3\textquotedbl%
6053             \ifblank{#2}{}{ style=\textquotedbl#2\textquotedbl}%
6054     }%
6055 }% not FormatWP
6056 \LWR@startpars%
6057 }
6058 {\LWR@htmldivclassend{#3}}
6059
6060 \LWR@formattedenv{LWR@BlockClassWP}
6061 \end{warpHTML}

```

## 51.10 Closing HTML tags

**for HTML output:** 6062 \begin{warpHTML}

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```

6063 \newcommand*{\LWR@printclosebook}%
6064     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing book}}{}}
6065 \newcommand*{\LWR@printclosepart}%
6066     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing part}}{}}
6067 \newcommand*{\LWR@printclosechapter}%
6068     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing chapter}}{}}
6069 \newcommand*{\LWR@printclosesection}%
6070     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing section}}{}}
6071 \newcommand*{\LWR@printclosesubsection}%
6072     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
6073 \newcommand*{\LWR@printclosesubsubsection}%
6074     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsubsection}}{}}

```

---

```

6075 \newcommand*{\LWR@printcloseparagraph}{}
6076     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing paragraph}}{}}
6077 \newcommand*{\LWR@printclosesubparagraph}{}
6078     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subparagraph}}{}}

```

Lists require closing HTML tags:

```

6079 \newcommand*{\LWR@printcloselistitem}{}
6080     {\LWR@htmlltag{/li}}
6081 \newcommand*{\LWR@printclosedescitem}{}
6082     {\LWR@htmlltag{/dd}}
6083 \newcommand*{\LWR@printcloseitemize}{}
6084     {\LWR@htmlltag{/ul}}
6085 \newcommand*{\LWR@printcloseenumerate}{}
6086     {\LWR@htmlltag{/ol}}
6087 \newcommand*{\LWR@printclosedescription}{}
6088     {\LWR@htmlltag{/dl}}

```

```
6089 \end{warpHTML}
```

## 52 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 53 has high-level commands which allow paragraph-tag generation to start/stop. Even when allowed (`\LWR@doingstartpars`), tags are not generated until a L<sup>A</sup>T<sub>E</sub>X 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:** 6090 `\begin{warpHTML}`

Ctr `LWR@spandepth` Do not create paragraph tags inside of an HTML span.

```

6091 \newcounter{LWR@spandepth}
6092 \setcounter{LWR@spandepth}{0}

```

Bool `LWR@doingstartpars` Tells whether paragraphs may be generated.

```

6093 \newbool{LWR@doingstartpars}
6094 \boolfalse{LWR@doingstartpars}

```

Bool `LWR@doingapar` Tells whether have actually generated and are currently processing paragraph text.

```

6095 \newbool{LWR@doingapar}
6096 \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:

---

```

6097 \newcommand*{\LWR@ensuredoingapar}{%
6098 \ifbool{\LWR@doingstartpars}{%
6099 {\global\booltrue{\LWR@doingapar}}{%
6100 {}{%
6101 }{%

```

\PN@parnotes@auto Redefined by parnotes to print paragraph notes at the end of each paragraph.

```

6102 \def\PN@parnotes@auto{}{%

```

\LWR@openparagraph

```

6103 \newcommand*{\LWR@openparagraph}{%
6104 {}{%

```

See if paragraph handling is enabled:

```

6105 \ifbool{\LWR@doingstartpars}{%
6106 {}% handling pars

```

See if have already started a `lateximage` or a `<span>`. If so, do not generate nested paragraph tags.

```

6107 \ifboolexpr{%
6108   test {\ifnumcomp{\value{\LWR@lateximagedepth}}>}{0}{} or
6109   test {\ifnumcomp{\value{\LWR@spandepth}}>}{0}{}}
6110 }% 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>`.

```

6111 {}% no nested par tags

```

Else: No `lateximage` or `<span>` has been started yet, so it's OK to generate paragraph tags.

```

6112 {}% yes nest par tags

```

If `parnotes` is used, paragraph notes are inserted before starting the next paragraph:

```

6113 \PN@parnotes@auto%

```

The opening paragraph tag:

```

6114 \LWR@htmlltagc{\LWR@tagregularparagraph}\LWR@orignewline%

```

Now have started a paragraph.

```

6115 \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.)

---

```

6116      \let\par\LWR@closeparagraph%
6117      }% end of yes nest par tags
6118 }% end of handling pars
6119 {}% not handling pars
6120 }

```

\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`.

```

6121 \newcommand*{\LWR@closeparagraph@br}{%
6122 {%
6123   \ifboolexpr{%
6124     test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}} and
6125     test {\ifnumcomp{\value{\LWR@lateximagedepth}}{=}{0}} and
6126     not bool {\LWR@intabularmetadata}%
6127   }%
6128   {\unskip\LWR@htmltagc{br /}}%
6129   {}%
6130 }

```

\LWR@closeparagraph

```

6131 \newcommand*{\LWR@closeparagraph}{%
6132 {%
6133 % \LWR@traceinfo{\LWR@closeparagraph}%

```

See if paragraph handling is enabled:

```
6134 \ifbool{\LWR@doingapar}{%
```

If currently in paragraph mode:

```
6135 {}% handling pars
```

See if already started a `lateximage` or a `<span>`:

```

6136 \ifboolexpr{%
6137   test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
6138   test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}%
6139 }

```

Add a parbreak if in a span, not in a `lateximage`, and not in table metadata.

```

6140 {}% no nested par tags
6141   \LWR@closeparagraph@br%
6142 }% no nested par tags

```

If have not already started a `lateximage` or a `<span>`:

```
6143 {}% yes nest par tags
```

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.)

```
6144      \@hspacer{\fill}\% \hspace*\{\fill\}
6145      \leavevmode\LWR@orignewline%
6146      \LWR@htmltagc{/ \LWR@tagregularparagraph}\%
```

No longer doing a paragraph:

```
6147      \global\boolfalse{LWR@doingapar}\%
```

Disable the special `minipage` & `\hspace` interaction until a new minipage is found:

```
6148      \global\boolfalse{LWR@minipagethispar}\%
```

If `parnotes` is used, paragraph notes are inserted after ending the previous paragraph:

```
6149      \PN@parnotes@auto%
6150      }% end of yes nest par tags
6151 }% end of handling pars
```

Add a parbreak if in a span, not in a `lateximage`, and not in table metadata.

```
6152 { % not handling pars
6153     \LWR@closeparagraph@br%
6154 } % not handling pars
```

In most cases, finish with a LATEX `\par`, but in the case of paragraphs between lines in a tabular fetch the next token instead:

```
6155 \ifboolexpr{%
6156     not bool {LWR@doingapar} and
6157     test {\ifnumcomp{\value{LWR@tabulardepth}}{>}{0}} and
6158     test {
6159         \ifnumcomp{\value{LWR@tabulardepth}}{=}{\value{LWR@tabularpardepth}}
6160     } and
6161     bool {LWR@intabularmetadata} and
6162     not bool {LWR@tableparcell} and
6163     test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}}
6164 }%
6165 { %
6166     \LWR@getmynexttoken%
6167 }{ %
6168     \LWR@origpar%
6169 }%
6170 }

6171 \end{warpHTML}
```

## 53 Paragraph start/stop handling

These commands allow/disallow the generation of HTML paragraph tags.

Section 52 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:** 6172 \begin{warpHTML}

\LWR@startpars Begin handling HTML paragraphs. This allows an HTML paragraph to start, but one has not yet begun.

```
6173 \newcommand*\LWR@startpars{%
6174 {%
6175 % \LWR@traceinfo{\LWR@startpars}%
```

Ignore if inside a lateximage or <span>:

```
6176 \ifboolexpr{%
6177   test {\ifnumcomp{\value{\LWR@lateximagedepth}}>}{0}{} or
6178   test {\ifnumcomp{\value{\LWR@spandepth}}>}{0}{}%
6179 }%
6180 {}%
6181 {%
```

See if currently handling HTML paragraphs:

```
6182 \ifbool{\LWR@doingstartpars}{%
```

If already in paragraph mode, do nothing.

```
6183 {}%
```

If not currently in paragraph mode:

```
6184 {%
```

At the start of each paragraph, generate an opening tag:

```
6185 \PushPreHook{par}{\LWR@openparagraph}{%
```

At the end of each paragraph, generate closing tag then do regular /par actions:

```
6186 \let\par\LWR@closeparagraph
6187 }% an intentionally blank line
```

Are now handling paragraphs, but have not yet actually started one:

```
6189 \global\setbool{\LWR@doingstartpars}{true}{%
```

No <par> tag yet to undo:

```
6190 \global\boolfalse{\LWR@doingapar}{%
6191 }% nestspan
```

---

```
6192 % \LWR@traceinfo{LWR@startpars: done}%
6193 }
```

\LWR@stopars Stop handling HTML paragraphs. Any currently open HTML paragraph is closed, and no more will be opened.

```
6194 \newcommand*\LWR@stopars{%
6195 {%
```

Ignore if inside a `lateximage` or `<span>`:

```
6196 \ifboolexpr{%
6197     test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6198     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}%
6199 }%
6200 { }%
6201 {%
```

See if currently handling HTML paragraphs:

```
6202 \ifbool{LWR@doingapar}{%
```

if currently in an HTML paragraph:

```
6203 {%
```

Print a closing tag:

```
6204 \leavevmode\LWR@orignewline%
6205 \LWR@htmltagc{/LWR@tagregularparagraph}%
6206 \LWR@orignewline%
```

No longer have an open HTML paragraph:

```
6207 \global\boolfalse{LWR@doingapar}{%
```

Disable the special `minipage` & `\hspace` interaction until a new minipage is found:

```
6208 \global\boolfalse{LWR@minipagethispar}%
6209 }%
```

If was not in an HTML paragraph:

```
6210 { }%
```

See if currently allowing HTML paragraphs:

```
6211 \ifbool{LWR@doingstartpars}{%
```

If so: clear the par hook to no longer catch paragraphs:

```
6212 {\ClearPreHook{par}}%
```

Else: Do nothing:

```
6213      {}%
```

No longer in paragraph mode:

```
6214      \global\setbool{LWR@doingstartpars}{false}%
```

No <p> tag to undo:

```
6215      \global\boolfalse{LWR@doingapar}%
6216 }% nestspan
6217 }
```

```
6218 \end{warpHTML}
```

## 54 Indentfirst

Pkg indentfirst indentfirst redefines \@afterindentfalse to be \@afterindenttrue. This is reversed \AtBeginDocument here.

**for HTML output:** 6219 \begin{warpHTML}

```
6220 \AtBeginDocument{
6221     \def\@afterindentfalse{\let\if@afterindent\iffalse}
6222     \@afterindentfalse
6223 }
6224 \let\LWR@afterindent@syntaxhighlight\fi% syntax highlighting
```

```
6225 \end{warpHTML}
```

## 55 Page headers and footers

**for HTML & PRINT:** 6226 \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.

```
6227 \newcommand{\LWR@firstpagetop}{} % for the home page alone
6228 \newcommand{\LWR@firstpagebottom}{} % for the home page alone
6229 \newcommand{\LWR@pagetop}{} % for all other pages
6230 \newcommand{\LWR@pagebottom}{}%
```

```
\HTMLFirstPageTop {\text and logos}
```

```
6231 \newcommand{\HTMLFirstPageTop}[1]{%
6232     \renewcommand{\LWR@firstpagetop}{#1}%
6233 }
```

```
\HTMLFirstPageBottom {<text and logos>}

6234 \newcommand{\HTMLFirstPageBottom}[1]{%
6235     \renewcommand{\LWR@firstpagebottom}{#1}%
6236 }

\HTMLPageTop {<text and logos>}

6237 \newcommand{\HTMLPageTop}[1]{%
6238     \renewcommand{\LWR@pagetop}{#1}%
6239 }

\HTMLPageBottom {<text and logos>}

6240 \newcommand{\HTMLPageBottom}[1]{%
6241     \renewcommand{\LWR@pagebottom}{#1}%
6242 }

6243 \end{warpall}
```

## 56 CSS

**for HTML output:** 6244 \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.

```
6245 \newcommand*{\LWR@currentcss}{lwarp.css}
```

\CSSFilename {<new-css-filename.css>} Assigns the css file to be used by the following HTML pages.

```
6246 \newcommand*{\CSSFilename}[1]{%
6247 \renewcommand*{\LWR@currentcss}{#1}%
6248 @onelvel@sanitize\LWR@currentcss%
6249 }
6250
6251 \end{warpHTML}
```

**for PRINT output:** 6252 \begin{warpprint}
6253 \newcommand\*{\CSSFilename}[1]{}
6254 \end{warpprint}

## 57 MathJax script

**for HTML output:** 6255 \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.

```
6256 \newcommand*{\LWR@mathjaxfilename}{lwarp_mathjax.txt}
```

`\MathJaxFilename {<filename>}` Assigns the MathJax script file to be used by the following HTML pages.

```
6257 \newcommand*{\MathJaxFilename}[1]{%
6258     \renewcommand*{\LWR@mathjaxfilename}{#1}%
6259     \@onelvel@sanitize\LWR@mathjaxfilename%
6260 }
6261
6262 \end{warpHTML}
```

**for PRINT output:** 6263 `\begin{warpprint}`  
 6264 `\newcommand*{\MathJaxFilename}[1]{}%`  
 6265 `\end{warpprint}`

## 58 Title, HTML meta author, HTML meta description

**for HTML output:** 6266 `\begin{warpHTML}`

`\title {<title>}` Modified to remember `\thetitle`, which is used to set the HTML page titles.

```
6267 \let\LWR@origtitle\title
6268
6269 \renewcommand*{\title}[1]{%
6270     \LWR@origtitle{#1}%
6271     \begingroup%
6272         \renewcommand{\thanks}[1]{}%
6273         \protected@xdef\thetitle{#1}%
6274     \endgroup%
6275 }
```

```
6276 \end{warpHTML}
```

**for HTML & PRINT:** 6277 `\begin{warpall}`

`\HTMLTitle {<Titlename>}` The Title to place into an HTML meta tag. The default is to use the document `\title`'s setting.

```
6278 \providecommand{\thetitle}{\BaseJobname}
6279
6280 \newcommand{\theHTMLTitle}{\thetitle}
6281
6282 \newcommand{\HTMLTitle}[1]{\renewcommand{\theHTMLTitle}{#1}}
```

---

\HTMLAuthor {⟨authorname⟩} 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.

```
6283 \providecommand{\theauthor}{}
6284
6285 \newcommand{\theHTMLAuthor}{\theauthor}
6286
6287 \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 {⟨New HTML meta description.⟩} Assigns the HTML file's description meta tag.

```
6288 \newcommand{\LWR@currentHTMLDescription}{}
6289
6290 \newcommand{\HTMLDescription}[1]{%
6291 \renewcommand{\LWR@currentHTMLDescription}{#1}
6292 }
6293
6294 \end{warpall}
```

## 59 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**, `\footnotemark` If using MATHJAX, after each math expression with a \footnotemark, adjust the footnote counter by the number of \footnotemarks:

```
\[ (math expression with two instances of \footnotemark) \]
\warpHTMLonly{\addtocounter{footnote}{2}}
```

Similarly for `endnotes`, but *not* sidenotes.

Also for MATHJAX, \footnotename is used for a \footnotemark if the actual footnote number is not known. To redefine it, provide it before loading l warp:

```
\providecommand{\footnotename}{something}
\usepackage{l warp}
```

Similar for sidenotes. For endnotes:

```
\def\endnotename{something}% \def allows name to start with "end"
```

For the pagernote package, there is no \pagenotename to define, since there is no \pagenotemark command.

**footmisc** The footmisc stable option is emulated by l warp.

### ⚠ 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 l warp preloads footmisc, the stable option must be declared before l warp is loaded:

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{l warp}
...
```

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 handle differently.

## 59.1 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 59.4 for the implementation.

## 59.2 Minipage footnotes

See section 59.5 for how minipage footnotes are gathered. See section 92.4 for how minipage footnotes are placed into the document.

### 59.3 Titlepage thanks

See section 67.7 for titlepage footnotes.

### 59.4 Regular page footnote implementation

**for HTML & PRINT:** 6295 \begin{warpall}

**Ctr** **FootnoteDepth** Determines how deeply to place footnotes in the HTML files, similar to `tocdepth`. The default of 3 places footnotes before each `\subsubsection` or higher. See table 11 for a table of L<sup>A</sup>T<sub>E</sub>X section headings.

```
6296 \newcounter{FootnoteDepth}
6297 \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.)

```
6298 \newcounter{footnoteReset}
6299 \setcounter{footnoteReset}{0}
```

```
6300 \end{warpall}
```

**for HTML output:** 6301 \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.

```
6302 \newbox\LWR@footnotebox
```

Much of the following has unneeded print-mode formatting removed.

```
\@makefntext {\langle text\rangle}
```

```
6303 \long\def\@makefntext#1{\textsuperscript{\@thefnmark}~#1}
```

```
\@makefnmark
```

```
6304 \def\@makefnmark{%
6305     \textsuperscript{\@thefnmark}%
6306 }
```

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`.

```
6307 \long\def\LWR@footnotetext#1#2{%
6308 \LWR@traceinfo{\LWR@footnotetext}%
6309 \global\setbox\csname #2\endcsname=\vbox{%
```

Add to any current footnotes:

```
6310 \unvbox\csname #2\endcsname%
```

Remember the footnote number for `\ref`:

```
6311 \protected@edef@\currentlabel{%
6312   \csname p@footnote\endcsname\@thefnmark%
6313 }% @currentlabel
```

Open a group:

```
6314 \color@begingroup%
```

Disable CJK `xpinyin` while generating footnotes.

```
6315 \LWR@disablepinyin%
```

Use `HTML` superscripts in the footnote even when the main text is inside a `lateximage`, because the footnote will be in `HTML`:

```
6316 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
6317 \ifthenelse{%
6318   \boolean{\LWR@doingstartpars} \AND%
6319   \cntttest{\value{\LWR@lateximagedepth}}{=}{0}%
6320 }%
6321 {}%
6322 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
```

Append the footnote to the list:

```
6323 \makefntext{#1}%
```

Closing paragraph tag:

```

6324     \ifthenelse{%
6325         \boolean{LWR@doingstartpars} \AND%
6326         \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
6327     }%
6328     {\par}%
6329     {%
6330         \LWR@htmlltagc{/ \LWR@tagregularparagraph}%
6331         \LWR@orignewline%
6332     }%

```

Close the group:

```

6333     \color@endgroup%
6334 }% vbox

```

Paragraph handling:

```

6335 \LWR@ensuredoingapar%
6336 }%

```

\LWR@footnotetext {<text>}

```
6337 \long\def\LWR@footnotetext#1{\LWR@footnotetext{#1}{\LWR@footnotebox}}
```

\@footnotetext {<text>}

```
6338 \LetLtxMacro\@footnotetext\LWR@footnotetext
```

## 59.5 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.

```
6339 \newbox\LWR@mpfootnotes
```

\@mpfootnotetext {<text>}

```

6340 \long\def\@mpfootnotetext#1{%
6341 \LWR@traceinfo{@mpfootnotetext}%
6342 \global\setbox\LWR@mpfootnotes\vbox{%
6343     \unvbox\LWR@mpfootnotes%
6344     \reset@font\footnotesize%
6345     \hsize\columnwidth%
6346     \parboxrestore%
6347     \protected@edef\@currentlabel{%
6348         \csname p@mpfootnote\endcsname\@thefnmark}%
6349     \color@begingroup%

```

Use paragraph tags if in a tabular data cell or a `\textrimage`:

```

6350  \ifthenelse{%
6351      \boolean{LWR@doingstartpars} \AND%
6352      \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
6353  }%
6354  {}%
6355  {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%

6356  \@makefntext{%
6357      \ignorespaces#1%
6358  }%

```

Don't add the closing paragraph tag if are inside a `\textrimage`:

```

6359  \ifthenelse{\cnttest{\value{LWR@lateximagedepth}}{>}{0}}{%
6360  {}%
6361  {}%
6362  \leavevmode\LWR@orignewline%
6363  \LWR@htmltagc{/}\LWR@tagregularparagraph}%
6364  \LWR@origpar}%
6365  {}%
6366  \color@endgroup}%
6367 }% vbox

```

Paragraph handling:

```

6368 \LWR@ensuredoingapar%
6369 \LWR@traceinfo{@mpfootnotetext: done}%
6370 }

```

`\thempfootnote` Redefined to remove the `\itshape`, which caused an obscure compiling error in some situations.

```

6371 \AtBeginDocument{%
6372     \def\thempfootnote{\alph{mpfootnote}}%
6373 }

```

## 59.6 Printing pending footnotes

`\LWR@@printpendingfootnotes {⟨footnote counter name⟩}`

```

6374 \newcommand*{\LWR@printpendingfootnotes}[1]{%
6375 \expandafter\ifvoid\csname LWR@#1box\endcsname\else
6376     \LWR@forcenewpage
6377     \begin{BlockClass}{footnotes}
6378     \null
6379     \unvbox\csuse{\LWR@#1box}%
6380     \setbox\csuse{\LWR@#1box}=\vbox{%
6381     \end{BlockClass}%
6382     \ifltxcounter{\#1Reset}{%

```

---

```

6383      \ifnumgreater{\value{#1Reset}}{0}{%
6384          \setcounter{#1}{\value{#1Reset}}%
6385          \addtocounter{#1}{-1}%
6386      }{}%
6387  }{}%
6388 \fi
6389 }
```

\LWR@printpendingfootnotes Enclose the footnotes in a class, print, then clear. For `manynotes`, new footnotes may be added via `\appto`.

```

6390 \newcommand*{\LWR@printpendingfootnotes}{%
6391     \LWR@printpendingfootnotes{footnote}%
6392 }
```

\LWR@maybeprintpendingfootnotes {⟨depth⟩} Used to print footnotes before sections only if formatting for an EPUB or word processor:

```

6393 \newcommand*{\LWR@maybeprintpendingfootnotes}[1]{%
6394 \ifboolexpr{%
6395     not test{\ifnumcomp{#1}{>}{\value{FootnoteDepth}}} or
6396     bool{FormatEPUB} or
6397     bool{FormatWP}
6398 }%
6399 {\LWR@printpendingfootnotes}%
6400 }%
6401 }
```

\LWR@printpendingmpfootnotes Enclose the minipage footnotes in a class, print, then clear.

```

6402 \newcommand*{\LWR@printpendingmpfootnotes}{%
6403 \ifvoid\LWR@mpfootnotes\else
6404     \LWR@forcenewline
6405     \begin{BlockClass}{footnotes}
6406         \null
6407         \unvbox\LWR@mpfootnotes
6408         \setbox\LWR@mpfootnotes=\vbox{%
6409             \end{BlockClass}
6410 \fi
6411 }
```

```
6412 \end{warpHTML}
```

## 60 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:** 6413 \begin{warpHTML}

\marginpar [⟨left⟩] {⟨right⟩}

```
6414 \renewcommand{\marginpar}[2][]{%
6415 \ifbool{FormatWP}{%
6416 {%
6417 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{}{marginblock}%
6418 #2
6419 \end{LWR@BlockClassWP}
6420 }%
6421 {%
6422     \LWR@htmlspanclass{marginpar}{#2}%
6423 }%
6424 }
```

\marginparBlock [⟨left⟩] {⟨right⟩}

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

HTML version.

```
6425 \newcommand{\marginparBlock}[2][]{%
6426 \LWR@stoppars%
6427 \ifbool{FormatWP}{%
6428 {%
6429     \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{}{marginblock}%
6430     #2
6431     \end{LWR@BlockClassWP}
6432 }{%
6433     \begin{BlockClass}{width:2in; float:right; margin:10pt}{marginparblock}%
6434     #2
6435     \end{BlockClass}
6436 }%
6437 \LWR@startpars%
6438 }
```

\reversemarginpar

```
6439 \renewcommand*{\reversemarginpar}{}%
```

\normalmarginpar

```
6440 \renewcommand*{\normalmarginpar}{}%
```

```
6441 \end{warpHTML}
```

**for PRINT output:** 6442 \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.

```
6443 \LetLtxMacro\marginparBlock\marginpar
```

```
6444 \end{warpprint}
```

## 61 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:** 6445 \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.

```
6446 \newcounter{FileDepth}
6447 \setcounter{FileDepth}{-5}
```

Bool CombineHigherDepths Combile higher-level sections together into one file?

```
6448 \newbool{CombineHigherDepths}
6449 \booltrue{CombineHigherDepths}
```

\FilenameLimit Maximum length of the generated filenames.

```
6450 \newcommand*\{\FilenameLimit\}{80}
```

```
6451 \end{warpall}
```

**for HTML output:** 6452 \begin{warpHTML}

\LWR@thisfilename The currently-active filename or number. At first, this is the homepage.

```
6453 \AtBeginDocument{
6454 \ifbool{FileSectionNames}%
6455   {\newcommand*\{\LWR@thisfilename\}{\HomeHTMLfilename}}
6456   {\newcommand*\{\LWR@thisfilename\}{0}}
6457 }
```

\LWR@thisfilename The filename being sanitized.

```
6458 \newcommand*{\LWR@thisfilename}{}%
```

\LWR@simplifyname \* {*expression*} Simplify \LWR@thisfilename.

If starred, detokenizes the input expression. If found, changes the expression to a single detokenized dash.

```
6459 \NewDocumentCommand{\LWR@simplifyname}{s m}{%
6460 \IfBooleanTF{#1}{%
6461   \StrSubstitute{\LWR@thisfilename}%
6462     {\detokenize{#2}}%
6463     {\detokenize{-}}[\LWR@thisfilename]%
6464 }{%
6465   \StrSubstitute{\LWR@thisfilename}%
6466     {#2}%
6467     {\detokenize{-}}[\LWR@thisfilename]%
6468 }
6469 }
```

\LWR@simplifycustom User-defined filename simplifications. Redefine with \newcommand.

```
6470 \newcommand*{\LWR@simplifycustom}{}%
```

\FilenameSimplify \* {*phrase*} Assign a user-defined filename simplification. Appends to \LWR@simplifycustom.

```
6471 \NewDocumentCommand{\FilenameSimplify}{s m}{%
6472 \IfBooleanTF{#1}{%
6473   \appto{\LWR@simplifycustom}{%
6474     \LWR@simplifyname*{#2}}%
6475   }{%
6476   \appto{\LWR@simplifycustom}{%
6477     \LWR@simplifyname{#2}}%
6478   }%
6479 }%
6480 }%
6481 }
```

\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.

```
6482 \newcommand*{\LWR@avoiddupfilenames}{%
6483   To avoid duplicate filenames, use the optional\MessageBreak
6484   short Table of Contents entry:\MessageBreak
6485   \space\space\protect\section[Unique name, no math]{Name with math}%
6486   \MessageBreak
6487   or use \protect\texorpdfstring, from the hyperref package:\MessageBreak
6488   \space\space%
6489   \protect\section{\MessageBreak
6490     \space\space\space\space\protect\texorpdfstring\MessageBreak}
```

---

```

6491           \space\space\space\space\space\space%
6492           {Name with math}{Unique name, no math}\MessageBreak
6493           \space\space}
6494 }
```

\LWR@filenamenoblanks {*filename*}

Convert blanks into dashes, removes short words, store result in  
\LWR@thisfilename.

Also see \LWR@nullfonts for nullified macros.

```

6495 \newcommand*{\LWR@filenamenoblanks}[1]{%
6496 \begingroup
```

Locally temporarily disable direct-formatting commands, not used in filenames:

```

6497 \LWR@nullfonts%
6498 \renewcommand*{\LWR@htmlltagc}[1]{}
6499 \edef\LWR@thisnewfilename{#1}
```

Replaces common macros with hyphens. (\& is done by \LWR@nullfonts.)

```

6500 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}
6501 \LWR@simplifyname{\_}
6502 \LWR@simplifyname{\#}
6503 \LWR@simplifyname{\textbackslash}
6504 \LWR@simplifyname{\protect}
6505 \LWR@simplifyname{\ }
6506 \LWR@simplifyname{\textless}
6507 \LWR@simplifyname{\textgreater}
```

```
6508 \edef\LWR@thisnewfilename{\detokenize\expandafter{\LWR@thisnewfilename}}%
```

Warn if there is dollar math in the section name:

```

6509 \ifbool{FileSectionNames}{%
6510   \IfSubStr{\LWR@thisnewfilename}{\LWRdollar}{%
6511     \PackageWarning{lwarp}{%
6512       This section name:\MessageBreak
6513       \space\space‘‘\detokenize\expandafter{\#1}’’\MessageBreak
6514       at the line number listed below,\MessageBreak
6515       is using $dollar-delimited math$,
6516       which generates\MessageBreak
6517       complicated file names. It is better to use\MessageBreak
6518       \space\space%
6519       \protect\section{Name with \protect\(\ parenthesis math\protect\)}%
6520       \MessageBreak
6521       The math then will be removed from the file name.\MessageBreak
6522       \MessageBreak
6523       \LWR@avoiddupfilenames%
```

```
6525           \MessageBreak
6526           This section is found before or%
6527       }
6528   }{ }%
6529 }{ }
```

```
6530 \LWR@traceinfo{\LWR@filenamenoblanks edef: !\LWR@thisnewfilename!}%
6531 \fullexpandarg%
```

Convert spaces into hyphens:

```
6532 \LWR@simplifyname*{ }
```

Convert punctuation into hyphens:

```
6533 \LWR@simplifyname*{*}
6534 \LWR@simplifyname*{()}
6535 \LWR@simplifyname*{()}
6536 \LWR@simplifyname*{.}
6537 \LWR@simplifyname*{!}
6538 \LWR@simplifyname*{,}
6539 \LWR@simplifyname*{'}
6540 \LWR@simplifyname*{+}
6541 \LWR@simplifyname*{/}
6542 \LWR@simplifyname*{:}
6543 \LWR@simplifyname*{;}
6544 \LWR@simplifyname*{=}
6545 \LWR@simplifyname*{?}
6546 \LWR@simplifyname*{@}
6547 \LWR@simplifyname*{^}
6548 \LWR@simplifyname*{&}
```

```
6549 \LWR@simplifyname*{"}
6550 \LWR@simplifyname*{<}
6551 \LWR@simplifyname*{>}
```

```
6552 \LWR@simplifyname{\LWRbackslash}
```

Braces are removed entirely to avoid extra dashes in the result.

```
6553 \StrSubstitute{\LWR@thisnewfilename}%
6554   {\LWRleftbrace}{}[\LWR@thisnewfilename]%
6555 \StrSubstitute{\LWR@thisnewfilename}%
6556   {\LWRrightbrace}{}[\LWR@thisnewfilename]%
```

```
6557 \LWR@simplifyname{\LWRpercent}
6558 \LWR@simplifyname{\LWRdollar}
```

```
6559 \LWR@simplifyname*{|}
6560 \LWR@simplifyname*{^}
6561 \LWR@simplifyname*{~}
6562 \LWR@simplifyname*{[]}
6563 \LWR@simplifyname*{[]}
6564 \LWR@simplifyname*{`}
```

Convert short words:

```
6565 \LWR@simplifyname*{-s-}
6566 \LWR@simplifyname*{-S-}
6567 \LWR@simplifyname*{-a-}
6568 \LWR@simplifyname*{-A-}
6569 \LWR@simplifyname*{-an-}
6570 \LWR@simplifyname*{-AN-}
6571 \LWR@simplifyname*{-to-}
6572 \LWR@simplifyname*{-TO-}
6573 \LWR@simplifyname*{-by-}
6574 \LWR@simplifyname*{-BY-}
6575 \LWR@simplifyname*{-of-}
6576 \LWR@simplifyname*{-OF-}
6577 \LWR@simplifyname*{-and-}
6578 \LWR@simplifyname*{-AND-}
6579 \LWR@simplifyname*{-for-}
6580 \LWR@simplifyname*{-FOR-}
6581 \LWR@simplifyname*{-the-}
6582 \LWR@simplifyname*{-THE-}
```

Convert custom words:

```
6583 \LWR@simplifycustom%
```

If pdflATEX and not utf8 encoding, don't try to convert emdash, endash:

```
6584 \ifPDFTeX% pdflatex or dvi latex
6585 \ifdefstring{\inputencodingname}{utf8}{%
6586     \LWR@simplifyname*{-}
6587 %     emdash
6588     \LWR@simplifyname*{-}
6589 %     endash
6590 }{}}%
6591 \else% not PDFTeX
6592     \LWR@simplifyname*{-}
6593     \LWR@simplifyname*{-}
6594 \fi%
```

Convert multiple hyphens:

```
6595 \LWR@simplifyname*{----}
6596 \LWR@simplifyname*{---}
6597 \LWR@simplifyname*{--}
6598 \LWR@simplifyname*{-}
```

If starts with a dash, remove the leading dash:

```
6599 \IfBeginWith{\LWR@thisnewfilename}{\detokenize{-}}{%
6600     \StrGobbleLeft{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
6601 }{}}
```

If ends with a dash, remove the trailing dash:

---

```
6602 \IfEndWith{\LWR@thisnewfilename}{\detokenize{-}}{%
6603     \StrGobbleRight{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
6604 }{}}
```

Limits the length of the filename:

```
6605 \StrLeft{\LWR@thisnewfilename}{\FilenameLimit}[\LWR@thisnewfilename]%
```

Return the global result:

```
6606 \global\let\LWR@thisfilename\LWR@thisnewfilename%
6607 \endgroup%
6608 \LWR@traceinfo{\LWR@filenamenoblanks: result is \LWR@thisfilename}%
6609 }
```

**Ctr** Remembers which autopage label was most recently generated. Used to avoid duplicates.  
 $\LWR@previousautopagelabel$

```
6610 \newcounter{\LWR@previousautopagelabel}
6611 \setcounter{\LWR@previousautopagelabel}{-1}
```

File  $*_{\text{html}}.\text{aux}$  A new entry in the  $*_{\text{html}}.\text{aux}$  file is used to help cross-references:

```
\newlabel{autopage-<nnn>}{{<x>}{<y>}}
```

$\LWR@newautopagelabel$   $\{\langle \text{pagenumber counter} \rangle\}$

$\text{\BaseJobname}$  is added to the label in case  $\text{xr}$  or  $\text{xr-hyper}$  are used.

```
6612 \newcommand*{\LWR@newautopagelabel}[1]{%
6613 \ifnumequal{\value{\LWR@previousautopagelabel}}{\value{page}}{%
6614 {}% no action if this autopage label has already been defined
6615 {}%
6616 \label{\BaseJobname-autopage-\arabic{#1}}%
6617 \setcounter{\LWR@previousautopagelabel}{\value{page}}%
6618 }%
6619 }
```

## 61.1 Sanitizing expressions for HTML

Math expressions are converted to `lateximages`, and some math environments may contain &, <, or >, which should not be allowed inside an HTML `<alt>` tag, so must convert them to HTML entities.

$\LWR@replacestrings$   $\{\langle \text{search} \rangle\} \{\langle \text{replace} \rangle\}$

Replaces strings inside  $\text{\tmpb}$ .

Modified from the original by PETR OLSAK, from the `opmac` package.

```

6620 \bgroup
6621 \catcode`!=3 \catcode?=3
6622
6623 \long\gdef\LWR@replacestrings@addto#1#2{%
6624     \expandafter\def\expandafter#1\expandafter{#1#2}%
6625 }
6626
6627 \gdef\LWR@replacestrings#1#2{%
6628     \long\def\LWR@replacestringsA##1{\def\tmpb{##1}\LWR@replacestringsB}%
6629     \long\def\LWR@replacestringsB##1#1{%
6630         \ifx##1\relax \else\LWR@replacestrings@addto\tmpb{#2##1}%
6631         \expandafter\LWR@replacestringsB\fi%
6632     }%
6633     \improved version <May 2016> inspired
6634     \long\def\LWR@replacestringsA##1?{%
6635         \def\tmpb{##1}%
6636     }\expandafter\LWR@replacestringsA\tmpb%
6637 }
6638 \egroup

```

\LWR@subHTMLsanitize \LWR@strresult must first be set by \LWR@HTMLsanitize, \LWR@HTMLsanitizeexpand, or \CustomizeMathJax.

```

6639 \catcode`\#=12
6640 \catcode`\&=12
6641 \newcommand{\LWR@subHTMLsanitize}{%

```

The &, <, and > may be interpreted by the browser:

```

6642 \edef\tmpb{\detokenize\expandafter{\LWR@strresult}}%
6643 \LWR@replacestrings{&}{&}%
6644 \LWR@replacestrings{<}{<}%
6645 \LWR@replacestrings{>}{>}%

```

The double quote occasionally causes problems.

```
6646 \LWR@replacestrings{"}{"}%
```

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.

```

6647 \LWR@replacestrings{##}{#}%
6648 \edef\LWR@strresult{\detokenize\expandafter{\tmpb}}%
6649 }
6650 \catcode`\#=6
6651 \catcode`\&=4

```

\LWR@HTMLsanitize {\text{}}

```
6652 \newrobustcmd{\LWR@HTMLsanitize}[1]{%
```

Cancel French **babel** character handling, and fully expand the strings:

```

6653 \begingroup%
6654 \LWR@FBcancel%
6655 \fullexpandarg%
6656 \protect\StrSubstitute{\detokenize{#1}}%
6657 {\detokenize{\&}{\detokenize{\&}{[\LWR@strresult]}%}
6658 \LWR@subHTMLsanitize%
6659 \LWR@strresult%
6660 \endgroup%
6661 }

```

\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.

```

6662 \edef\LWR@beginspaceleftbrace{\begin \LWRleftbrace}
6663 \edef\LWR@beginspaceleftbrace{\detokenize\expandafter{\LWR@beginspaceleftbrace}}
6664 \edef\LWR@beginleftbrace{\begin\LWRleftbrace}
6665 \edef\LWR@beginleftbrace{\detokenize\expandafter{\LWR@beginleftbrace}}
6666
6667 \edef\LWR@endspacerrightbrace{\end \LWRrightbrace}
6668 \edef\LWR@endspacerrightbrace{\detokenize\expandafter{\LWR@endspacerrightbrace}}
6669 \edef\LWR@endrightbrace{\end\LWRrightbrace}
6670 \edef\LWR@endrightbrace{\detokenize\expandafter{\LWR@endrightbrace}}
6671
6672 \newrobustcmd{\LWR@HTMLsanitizeexpand}[1]{%

```

Cancel French **babel** character handling, and fully expand the strings:

```

6673 \begingroup%
6674 \LWR@FBcancel%
6675 \fullexpandarg%

```

The difference between this and \LWR@HTMLsanitize (without “expand”) is the following \expandafter:

```

6676 \protect\StrSubstitute{\detokenize\expandafter{#1}}%
6677 {\detokenize{\&}{\detokenize{\&}{[\LWR@strresult]}%}

```

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.

```

6678 \protect\StrSubstitute{\LWR@strresult}%
6679 {\LWR@beginspaceleftbrace}{\LWR@beginleftbrace}{[\LWR@strresult]}%
6680 \protect\StrSubstitute{\LWR@strresult}%
6681 {\LWR@endspacerrightbrace}{\LWR@endrightbrace}{[\LWR@strresult]}%

6682 \LWR@subHTMLsanitize%
6683 \LWR@strresult%
6684 \endgroup%
6685 }

```

## 61.2 Customizing MATHJAX

\LWR@customizedMathJax Additional MATHJAX definitions to be added to the start of each HTML page.

```
6686 \newcommand*\LWR@customizedMathJax{}
```

Bool Used to issue only one warning about using a \CustomizeMathJax per macro.

```
LWR@warnedcustomizemathjax
6687 \newbool{LWR@warnedcustomizemathjax}
6688 \boolfalse{LWR@warnedcustomizemathjax}
```

\LWR@subcustomizedmathjax {*macro definition*}

```
6689 \newcommand*\LWR@subcustomizedmathjax[1]{%
6690   \begingroup%
6691   \LWR@FBcancel%
6692   \fullexpandarg%
6693   \protect\StrSubstitute{\detokenize{\#1}}{%
6694     {\detokenize{\&}}{\detokenize{\&}}[\LWR@strresult]%
6695   }\LWR@subHTMLsanitize%
6696   \xdef\LWR@customizedMathJax{%
6697     \LWR@customizedMathJax%
6698     \LWR@strresult%
6699   }%
6700   \endgroup%
6701 }
6702 \@onlypreamble\LWR@subcustomizedmathjax
```

\CustomizeMathJax {*macro definition*}

A warning is issued if a very long argument is given.

```
6703 \newcommand*\CustomizeMathJax[1]{%
6704   \ifbool{LWR@warnedcustomizemathjax}{}{%
6705     \StrLen{\detokenize{\#1}}[\LWR@tempone]%
6706     \ifnumgreater{\LWR@tempone}{200}{%
6707       \AtEndDocument{%
6708         \PackageWarningNoLine{lwarp}{%
6709           To ensure faster MathJax compilation, place each\MessageBreak
6710           custom macro in its own \protect\CustomizeMathJax.\MessageBreak
6711           See the Lwarp documentation regarding customizing\MessageBreak
6712           MathJax%
6713         }%
6714       }%
6715       \booltrue{LWR@warnedcustomizemathjax}%
6716     }{}%
6717   }%
6718   \appto{\LWR@customizedMathJax{\LWRbackslash()}}{%
6719     \LWR@subcustomizedmathjax{\#1}%
6720     \appto{\LWR@customizedMathJax{\LWRbackslash}\par}{%
6721   }%
6722 \@onlypreamble\CustomizeMathJax
```

---

```
\LWR@infoprocessingmathjax {⟨package name⟩}

6723 \newcommand*{\LWR@infoprocessingmathjax}[1]{%
6724 \typeout{---}
6725 \typeout{Package lwarp: Processing MathJax customizations for #1.}
6726 \typeout{\space\space This may take a moment.}
6727 \typeout{---}
6728 }
```

**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.

```
6729 \providecommand{\footnotename}{footnote}
6730
6731 % due to warpMathJax:
6732 \end{warpHTML}
6733
6734 \begin{warpMathJax}
6735 \xdef\LWR@customizedMathJax{\LWR@customizedMathJax%
6736     \LWRbackslash(%
6737     \LWRbackslash{}newcommand%
6738     \{\LWRbackslash{}footnotename\}%
6739     \{\footnotename\}%
6740     \LWRbackslash)\par%
6741 }
6742 \end{warpMathJax}
```

\LWRfootnote is set per equation if a footnote is detected in the equation's math expression, otherwise it defaults to \footnotename.

```
6743 \begin{warpMathJax}
6744 \CustomizeMathJax{\def\LWRfootnote{1}}
6745 \CustomizeMathJax{\newcommand{\footnote}[2][\LWRfootnote]{{}^{\mathrm{\#1}}}}
6746 \CustomizeMathJax{\newcommand{\footnotemark}[1][\LWRfootnote]{{}^{\mathrm{\#1}}}}
```

Various other customizations:

```
6747 \CustomizeMathJax{\newcommand\ensuremath[1]{#1}}
6748 \CustomizeMathJax{%
6749     \newcommand{\LWRframebox}[2][]{\fbox{#2}}
6750     \newcommand{\framebox}[1][]{\LWRframebox}
6751 }
6752 \CustomizeMathJax{\newcommand{\setlength}[2]{}}
6753 \CustomizeMathJax{\newcommand{\addtolength}[2]{}}
6754 \CustomizeMathJax{\newcommand{\setcounter}[2]{}}
```

---

```

6755 \CustomizeMathJax{\newcommand{\addtocounter}{2}{}}
6756 \CustomizeMathJax{\newcommand{\cline}[1]{}}
6757 \CustomizeMathJax{\newcommand{\directlua}[1]{\text{(directlua)}}}
6758 \CustomizeMathJax{\newcommand{\luatexdirectlua}[1]{\text{(directlua)}}}

\protect, \mathchar, and \delimiter are silently discarded; and \mathcode and
\delcode are ignored.

6759 \CustomizeMathJax{\newcommand{\protect}{}}
6760 \CustomizeMathJax{\def\LWRabsorbnr{\#1 {}}}
6761 \CustomizeMathJax{\def\LWRabsorbqtnr{\#1 {}}}
6762 \CustomizeMathJax{\def\mathchar{\ifnextchar"\LWRabsorbqtnr\LWRabsorbnr}}
6763 \CustomizeMathJax{\def\mathcode{\#1=\mathchar}}
6764 \CustomizeMathJax{\let\delcode\mathcode}
6765 \CustomizeMathJax{\let\delimiter\mathchar}
6766 \end{warpMathJax}
6767
6768 \begin{warpHTML}% due to warpMathJax

```

\LWR@customizeMathJax Prints MathJax commands to the HTML output.

```

6769 \newcommand{\LWR@customizeMathJax}{%
6770 \ifbool{mathjax}{%
6771 \LWR@stopars
6772 \LWR@htmlcomment{MathJax customizations:}
6773
6774 \begin{BlockClass}{hidden}
6775 \LWR@stopars

```

Avoid ligatures while printing MATHJAX customizations:

```

6776 {
6777   \LWR@print@ttfamily
6778   \LWR@customizedMathJax
6779 }
6780 \LWR@startpars
6781 \end{BlockClass}
6782
6783 \LWR@startpars
6784 }{%
6785 }

6786 \end{warpHTML}

```

**for PRINT output:** 6787 \begin{warpprint}

\CustomizeMathJax The print-mode version:

```

6788 \newcommand*{\CustomizeMathJax}[1]{}
6789 \FilenameSimplify * {\langle expression \rangle}

```

---

6789 \NewDocumentCommand{\FilenameSimplify}{s m}{}{}

6790 \end{warpprint}

**for HTML output:** 6791 \begin{warpHTML}

\LWR@createfooter If specified, create the first or later web page footer.

```

6792 \newcommand*{\LWR@createfooter}{%
6793     \ifnumless{\value{LWR@htmleqfilenumber}}{1}{%
6794         \ifdefempty{\LWR@firstpagebottom}{%
6795             \LWR@htmlelement{footer}%
6796             \LWR@firstpagebottom%
6797             \LWR@htmlelementend{footer}%
6798         }%
6799     }%
6800     }%
6801 }%
6802 \ifdefempty{\LWR@pagebottom}{%
6803     \LWR@htmlelement{footer}%
6804     \LWR@pagebottom%
6805     \LWR@htmlelementend{footer}%
6806 }%
6807 }%
6808 }%
6809 }%
6810 }
```

\LWR@newhtmlfile {\i<section name>i}

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.

```

6811 \newcommand*{\LWR@newhtmlfile}[1]{%
6812 \LWR@traceinfo{\LWR@newhtmlfile}}
```

At the bottom of the ending file:

```

6813 \LWR@htmlelementclassend{section}{textbody}%
6814 \LWR@htmlelementclassend{div}{bodycontainer}%
6815 \LWR@htmlelementclassend{div}{bodyandsidetoc}%
6816 %
6817 \LWR@printpendingfootnotes%
6818
```

No footer between files if EPUB:

```
6819 \ifbool{FormatEPUB}{}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

---

```

6820 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
6821   {}
6822   {\ifnumcomp{\value{LWR@htmlfilename}}{>}{0}{\LWR@botnavigation}{}}

```

End of this HTML file:

```

6823 \LWR@stoppars
6824 \LWR@htmlltag{/body}\LWR@orignewline
6825 \LWR@htmlltag{/html}\LWR@orignewline
6826 \LWR@traceinfo{\LWR@newhtmlfile: about to \LWR@orignewline}
6827 \LWR@maybe@orignewline

6828 \addtocounter{\LWR@htmlfilename}{1}%
6829 \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.

```

6830 \ifbool{FileSectionNames}%
6831 {%

```

Convert the section name to a filename with blanks and common words removed. The resulting filename is in \LWR@thisfilename.

```

6832 \LWR@filenamenoblanks{#1}%

```

Create a macro name from the MD5 hash of the file name, to detect duplicates:

```

6833 \edef\LWR@hashedname{\LWR@mdfive{\LWR@thisfilename}}%

```

If the macro name is not yet defined, this filename is unique.

```

6834 \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.

```

6835 \csdef{\LWR@filename\LWR@hashedname}{}%
6836 }{%

```

If the filename is not unique, create an error.

```

6837 \PackageError{lwarp}%
6838   {%
6839     The section name:\MessageBreak
6840     '#1',\MessageBreak
6841     at the line number listed below,\MessageBreak
6842     generates the filename\MessageBreak
6843     '\LWR@thisfilename',\MessageBreak

```

```

6844           which appears to be a duplicate. There is a\MessageBreak
6845           previous section with an identical or similar name.\MessageBreak
6846           While generating file names, Lwarp sanitizes math,\MessageBreak
6847           most symbols, and a few common short words,\MessageBreak
6848           and this may cause a conflict.\MessageBreak
6849           Enter 'H' for possible solutions%
6850       }%
6851   {%
6852       \LWR@avoiddupfilenames%
6853   }%
6854 }%
6855 }%

```

If using file numbers instead of names, the name is set to the next file number.

```
6856 {\renewcommand*{\LWR@thisfilename}{\arabic{LWR@htmlfilenumber}}}
```

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.

```
6857 \LWR@traceinfo{\LWR@newhtmlfile: about to print start file}%


```

\LWR@nullfonts to allow math in a section name.

```

6858 \begingroup%
6859 \LWR@nullfonts%
6860 \LWR@htmlblockcomment{%
6861 |Start file|%
6862 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
6863 }
6864 \endgroup%

```

At the top of the starting file:

```
6865 \LWR@stopars
6866
```

Start a new file with the given section name:

```
6867 \LWR@filestart[#1]
6868
```

Track the PDF page numbers of the HTML output:

```
6869 \setcounter{\LWR@latestautopage}{\value{page}}%
6870 \LWR@newautopagelabel{\LWR@latestautopage}%
```

No navigation between files if formatting for an EPUB or word processor:

```

6871 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
6872   {}
6873   {\LWR@topnavigation}
6874
```

No header if between files if formatting for an EPUB or word processor:

```

6875 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
6876     {}
6877     {

6878         \ifdefempty{\LWR@pagetop}{}{
6879             \LWR@htmlelement{header}
6880
6881             \LWR@pagetop
6882
6883             \LWR@htmlelementend{header}
6884         }
6885     }
6886
6887

```

The container for the sidetoc and text body:

```
6887 \LWR@htmlelementclass{div}{bodyandsidetoc}
```

No sidetoc if formatting for an EPUB or word processor:

```

6888 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
6889     {}
6890     {\LWR@sidetoc}
6891

```

Start of the <textbody>:

```
6892 \LWR@htmlelementclass{div}{bodycontainer}
6893 \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.

```
6894 \boolfalse{\LWR@setseqfilelabel}
```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```

6895 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}%
6896     {}%
6897     {%
6898         \ifcsvvoid{thetitle}{}{%
6899             \LWR@printthetitle%
6900         }%
6901     }%

```

Keep paragraph tags disabled for now:

```
6902 \LWR@stoppars
6903
```

If using MATHJAX, print the customizations here.

---

```

6904 \LWR@customizeMathJax

6905 \LWR@traceinfo{\LWR@newhtmlfile: done}
6906 }

6907 \end{warpHTML}

```

## 62 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.

X<sub>E</sub>L<sup>A</sup>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:** 6908 \begin{warpHTML}

### 62.1 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.

```

6909 \newbool{\LWR@forcinghtmlpage}
6910 \boolfalse{\LWR@forcinghtmlpage}
6911
6912 \newcommand*{\ForceHTMLPage}{%
6913 \global\booltrue{\LWR@forcinghtmlpage}%
6914 }

```

- \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.

---

```

6915 \newbool{LWR@forcinghtmtoc}
6916 \boolfalse{LWR@forcinghtmtoc}
6917
6918 \newcommand*{\ForceHTMLTOC}{%
6919 \global\booltrue{LWR@forcinghtmtoc}%
6920 }

6921 \end{warpHTML}

for PRINT output: 6922 \begin{warpprint}
6923 \newcommand*{\ForceHTMLPage}{}%
6924 \newcommand*{\ForceHTMLTOC}{}%
6925 \end{warpprint}

for HTML output: 6926 \begin{warpHTML}

```

## 62.2 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.

```

6927 \newbool{LWR@mainmatter}
6928 \DeclareDocumentCommand{\mainmatter}{}{%
6929 \booltrue{LWR@mainmatter}%
6930 }

```

`\frontmatter` Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```

6931 \DeclareDocumentCommand{\frontmatter}{}{%
6932 \boolfalse{LWR@mainmatter}%
6933 }

```

`\backmatter` Declare the back matter section of the document. Does not reset the page number.

```

6934 \DeclareDocumentCommand{\backmatter}{}{%
6935 \boolfalse{LWR@mainmatter}%
6936 }

```

## 62.3 Sectioning support macros

`\LWR@sectionnumber {<section type>}`

Typeset a section number and its trailing space with css formatting:

```

6937 \newcommand*{\LWR@sectionnumber}[1]{%
6938 \InlineClass{sectionnumber}{#1}%
6939 }

```

**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.

```
6940 \newcommand*{\LWR@createautosec}[1]{%
6941 \LWR@htmntag{%
6942     #1 % space
6943     id=\textquotedbl\LWR@print@mbox{autosec-\arabic{page}}\textquotedbl%
6944 }%
6945 }
```

\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.

```
6946 \NewDocumentCommand{\LWR@pushoneclose}{m}{%
6947 \LWR@traceinfo{\LWR@pushoneclose #1}%
6948     \LWR@pushclose{#1}%
6949 }
```

\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.

```
6950 \NewDocumentCommand{\LWR@startnewdepth}{m}{%
```

Close any stacked sections up to this new one.

```
6951 \LWR@closeprevious{#1}%
```

Push a new section depth:

```
6952 \LWR@pushoneclose{#1}%
6953 }
```

**Ctrl 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.

```
6954 \newcounter{LWR@prevFileDepth}
6955 \setcounter{LWR@prevFileDepth}{\LWR@depthsubparagraph}
```

\@secCntFormat {<sectiontype>}

6956 \def\@secCntFormat#1{\csname the#1\endcsname\quad}

\simpleChapterDelim Used by `tocbibind` and `anonchap`.

6957 \newcommand\*\simpleChapterDelim{}

\@chapCntFormat {<sectiontype>}

\let to \@secCntFormat by default, but may be redefined by `\simplechapter` and `\restorechapter` from `tocbibind` or `anonchap`.

6958 \let\@chapCntFormat\@secCntFormat

\@partCntFormat {<sectiontype>}

\let to \@secCntFormat by default, but may be redefined by `ctex`.

6959 \let\@partCntFormat\@secCntFormat

\@partNameFormat Prints “Part” for part sections.

Nullified by `ctex`.

6960 \newcommand\*\@partNameFormat{\LWR@isolate{\partname}~}%

\LWR@printChapterName Print `\chaptername` in most cases, but this is nullified for `ctexbook`, `komascript`, `ujt*` classes.

6961 \newcommand\*\@LWR@printChapterName{%
 6962 \ifdefvoid{\chaptername}{}{\chaptername~}%
 6963 }

**Ctr** LWR@currentautosec 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.)

6964 \newcounter{LWR@currentautosec}
 6965 \setcounter{LWR@currentautosec}{1}

\LWR@section \* [<TOC name>] {<name>} {<sectiontype>}

The common actions for the high-level sectioning commands.

6966 \DeclareDocumentCommand{\LWR@section}{m m m m}{%
 6967 \IfValueTF{#2}{%
 6968 {\LWR@traceinfo{\LWR@section: starting #4 #2}}%
 6969 {\LWR@traceinfo{\LWR@section: starting #4 #3}}%

Warn if starting a section inside a <span>:

```
6970     \LWR@spanwarninvalid{section}%
6971 \LWR@maybeprintpendingfootnotes{\csuse{\LWR@depth#4}}%
6972 \LWR@stoppars%
6973 \LWR@startnewdepth{#4}%
```

Cancel special minipage horizontal space interaction:

```
6974 \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:

```
6975 \LWR@traceinfo{\LWR@section: testing whether to start a new HTML file}%
6976 \IfBooleanT{#1}{\LWR@traceinfo{\LWR@section: starred}{}}
6977 \ifbool{\LWR@forcinghtmlpage}{\LWR@traceinfo{\LWR@section: forcinghtmlpage}{}}
6978 \ifthenelse{%
6979   \%
6980   \\\NOT\equal{#1}{\BooleanTrue}\}\\OR%
6981   \\\cnttest{\@nameuse{\LWR@depth#4}}{=}{\LWR@depthpart}\}\\OR%
6982   \\\boolean{\LWR@forcinghtmlpage}\}%
6983 \%
6984 \AND%
6985 \cnttest{\@nameuse{\LWR@depth#4}}{<=}{\value{FileDepth}}%
6986 \AND%
6987 \%
6988 \NOT\boolean{CombineHigherDepths}\OR%
6989 \cnttest{\@nameuse{\LWR@depth#4}}{<=}{\value{LWR@prevFileDepth}}%
6990 \%
6991 \AND%
6992 \%
6993 \NOT\isempty{#3}%
6994 \OR%
6995 \\\NOT\equal{#1}{\BooleanTrue}\}%
6996 \%
6997 }%
```

If so: start a new HTML file:

```
6998 {%
6999   \LWR@traceinfo{\LWR@section: new HTML file}%
}
```

See if there was an optional toc name entry:

```
7000 \IfNoValueTF{#2}{}
```

If no optional entry

---

```
7001      {\LWR@newhtmlfile{#3}}%
```

If yes an optional entry

```
7002      {\LWR@newhtmlfile{#2}}%
7003 }% new file
```

Else: No new HTML file:

```
7004 { % 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:

```
7005      \LWR@traceinfo{\LWR@section: not a new HTML file, about to \LWR@orignewpage}%
7006      \LWR@maybe@\orignewpage%
7007 }% not new file
7008
```

Remember this section's name for \nameref:

```
7009 \IfValueT{#3}{%
7010     \LWR@traceinfo{\LWR@section: about to \LWR@setlatestname}%
7011     \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
7012 }%
```

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.

```
7013 \ifbool{HTMLDebugComments}{%
7014     \begingroup%
7015     \LWR@nullfonts%
7016     \IfBooleanTF{#1}{starred}{%
7017         {\LWR@htmlcomment{Opening #4*}}%
7018     }%
7019     \IfNoValueTF{#2}{short TOC}{%
7020         {\LWR@htmlcomment{Opening #4 ‘#3’}}%
7021         {\LWR@htmlcomment{Opening #4 ‘#2’}}%
7022     }%
7023     \LWR@newline%
7024 }{}}
```

For inline sections paragraph and subparagraph, start a new paragraph now:

```
7025 \ifthenelse{%
7026     \cnttest{@nameuse{\LWR@depth#4}}{>=}{\LWR@depthparagraph}%
7027 }%
7028     {\LWR@startpars}%
7029     {}%
```

Create the opening tag with an autosec:

```
7030 \LWR@traceinfo{LWR@section: about to LWR@createautosec}%
7031 \LWR@createautosec{@nameuse{LWR@tag#4}}%
```

```
7032 \setcounter{LWR@currentautosec}{\value{page}}%
```

Check if starred:

```
7033 \IfBooleanTF{#1}%
7034 {%
7035   \LWR@traceinfo{LWR@section: starred}%
}
```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```
7036   \ifbool{LWR@forcinghtmltoc}%
7037   {%
7038     \addcontentsline{toc}{#4}{%
7039       \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7040     }%
7041   }%
7042   {}%
7043 }% starred
```

Not starred, so step counter and add to TOC:

```
7044 { % not starred
```

Only add a numbered TOC entry if section number is not too deep:

```
7045   \ifthenelse{%
7046     \cnttest{@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7047   }%
7048   { % if secnumdepth
```

If in the main matter, step the counter and add the TOC entry. For article class, lwarp assumes that all is mainmatter.

```
7049   \LWR@traceinfo{LWR@section: about to test main matter}%
7050   \ifbool{LWR@mainmatter}%
7051   {%
7052     \LWR@traceinfo{LWR@section: yes mainmatter}%
7053     \refstepcounter{#4}%
```

Add main matter numbered TOC entry with the TOC name or the regular name:

```
7054   \LWR@traceinfo{LWR@section: about to addcontentsline}%
7055   \addcontentsline{toc}{#4}%
7056   {%
7057     \protect\numberline{%
7058       @nameuse{pre#4name}%
7059       @nameuse{the#4}%
7060       @nameuse{post#4name}%
7061     }%
7062   }%
```

```

7063           \ignorespaces%
7064           \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
7065           }%
7066       }%
7067       \LWR@traceinfo{LWR@section: finished addcontentsline}%
7068   }% end of if main matter

```

If not main matter, add unnumbered TOC name or regular name:

```

7069   {%
7070     \LWR@traceinfo{LWR@section: no main matter}%
7071     \addcontentsline{toc}{#4}{%
7072       \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7073       }%
7074     }% end of not main matter
7075   }% end of secnumdepth

```

Deeper than secnumdepth, so add an unnumbered TOC entry:

```

7076   {%
7077     \addcontentsline{toc}{#4}{%
7078       \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7079     }%
7080   }%

```

For part, print “Part”:

```

7081   \ifbool{LWR@mainmatter}{%
7082     {%
7083       \ifthenelse{%
7084         \cnttest{@nameuse{LWR@depth#4}}{<=}{%
7085           {\value{secnumdepth}}\AND%
7086           \cnttest{@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}}%
7087       }%
7088       {\@partnameformat}%
7089     }%

```

Print the section number:

```

7090   \LWR@traceinfo{LWR@section: about to print section number}%
7091   \ifthenelse{%
7092     \cnttest{@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7093   }%
7094   {%
7095     \ifstreq{#4}{part}{%
7096       \protect\LWR@sectionnumber{@partcntformat{#4}}%
7097     }%
7098     \ifstreq{#4}{chapter}{%
7099       {%

```

  

```

7100           \LWR@printchaptername%
7101           \protect\LWR@sectionnumber{@chapcntformat{#4}}%
7102         }%
7103         \protect\LWR@sectionnumber{@seccntformat{#4}}%

```

---

```

7104          }%
7105      }%
7106      {}%
7107      \LWR@traceinfo{\LWR@section: finished print section number}%
7108  }{%
7109 }% not starred

```

Print the section name:

```

7110 \LWR@traceinfo{\LWR@section: about to print the section name}%
7111 \LWR@isolate{\#3}%

```

Close the heading tag, such as /H2:

```

7112 \LWR@traceinfo{\LWR@section: about to close the heading tag}%
7113 \LWR@htmlltag{@nameuse{\LWR@tag#4end}}%
7114 \LWR@orignewline%

```

Generate a L<sup>A</sup>T<sub>E</sub>X label.

Track the PDF page numbers of the HTML output.

```

7115 \LWR@traceinfo{\LWR@section: about to create the LaTeX label}%
7116 \setcounter{\LWR@latestautopage}{\value{page}}%
7117 \LWR@newautopagelabel{\LWR@currentautosec}\LWR@orignewline%

```

If this is the first section found in this file, create a label for previous/next links:

```

7118 \ifbool{\LWR@setseqfilelabel}{}{%
7119   \label{\BaseJobname-autofile-\arabic{\LWR@htmllseqfilenumber}}%
7120   \booltrue{\LWR@setseqfilelabel}%
7121 }%

```

Start paragraph handing unless is an inline paragraph or subparagraph:

```

7122 \ifthenelse{%
7123   \cnttest{@nameuse{\LWR@depth#4}}{<}{\LWR@depthparagraph}%
7124 }%
7125   {\LWR@startpars}%
7126   {}%

```

If not starred, remember the previous depth to possibly trigger a new HTML page.

HOWEVER, allow a \part\* to start a new HTML page. This is used by appendix.

A starred section does not trigger a new 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 \listoftables was tested in the middle of the document. The \chapter\* for the list was not allowing a new HTML page for the section following it while CombineHigherDepths was true.

```

7127 \ifthenelse{%
7128   \NOT\equal{\#1}{\BooleanTrue}\OR%
7129   \cnttest{@nameuse{\LWR@depth#4}}{=}{\LWR@depthpart}%

```

---

```

7130 }%
7131     {%
7132         \setcounter{LWR@prevFileDepth}{\@nameuse{LWR@depth#4}}%
7133     }%
7134     {}%

```

Reset to defaults if not a phantomsection:

```

7135 \ifstrempty{#3}%
7136     {}%
7137     {%
7138         \global\boolfalse{LWR@forcinghtmlpage}%
7139         \global\boolfalse{LWR@forcinghtmltoc}%
7140     }%
7141 %
7142 \LWR@traceinfo{LWR@section: done}%
7143 }

```

## 62.4 Pre- and post- sectioning names

\prebookname Usually null, but is used by `uj*` and `ut*` Japanese classes.

\postbookname

```

7144 \providecommand*\prebookname{}%
7145 \providecommand*\postbookname{}%

```

\prepartname Usually null, but is used by `uj*` and `ut*` Japanese classes.

\postpartname

```

7146 \providecommand*\prepartname{}%
7147 \providecommand*\postpartname{}%

```

\prechaptername Usually null, but is used by `uj*` and `ut*` Japanese classes.

\postchaptername

```

7148 \providecommand*\prechaptername{}%
7149 \providecommand*\postchaptername{}%

```

\presectionname Always null, but provided here for algorithmic simplicity in `\LWR@section`.

\postsectionname

```

7150 \providecommand*\presectionname{}%
7151 \let\postsectionname\presectionname
7152
7153 \let\presubsectionname\presectionname
7154 \let\postsubsectionname\postsectionname
7155
7156 \let\presubsubsectionname\presectionname
7157 \let\postsubsubsectionname\postsectionname
7158
7159 \let\preparagraphname\presectionname
7160 \let\postparagraphname\postsectionname
7161
7162 \let\presubparagraphname\presectionname
7163 \let\postsubparagraphname\postsectionname

```

## 62.5 \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>}

7164 \newcommand{\part@preamble}{}% for koma-script
7165
7166 \DeclareDocumentCommand{\part}{s d() o o d() m}{%
7167     \LWR@section{#1}{#3}{#6}{part}%
7168
7169     \part@preamble% for koma-script
7170     \renewcommand{\part@preamble}{}%
7171 }

\chapter * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7172 \let@\printcites\relax% for quotchap package
7173
7174 \newcommand{\chapter@preamble}{}% for koma-script
7175
7176 \@ifundefined{chapter}
7177 {}
7178 {%
7179     \DeclareDocumentCommand{\chapter}{s d() o o d() m}{%
7180         \LWR@section{#1}{#3}{#6}{chapter}%
7181
7182         \printcites% for quotchap package
7183
7184         \chapter@preamble% for koma-script
7185         \renewcommand{\chapter@preamble}{}%
7186     }
7187 }

\section * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7188 \DeclareDocumentCommand{\section}{s d() o o d() m}{%
7189     \LWR@section{#1}{#3}{#6}{section}%
7190 }

\subsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7191 \DeclareDocumentCommand{\subsection}{s d() o o d() m}{%
7192     \LWR@section{#1}{#3}{#6}{subsection}%
7193 }
```

---

```
\subsubsection * {<2:PDF name>} [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
7194 \DeclareDocumentCommand{\subsubsection}{s d() o o d() m}{%
7195     \LWR@section{#1}{#3}{#6}{subsubsection}%
7196 }

\paragraph * {<2:PDF name>} [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
7197 \DeclareDocumentCommand{\paragraph}{s d() o o d() m}{%
7198     \LWR@section{#1}{#3}{#6}{paragraph}%
7199 }

\subparagraph * {<2:PDF name>} [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
7200 \DeclareDocumentCommand{\subparagraph}{s d() o o d() m}{%
7201     \LWR@section{#1}{#3}{#6}{subparagraph}%
7202 }

7203 \end{warpHTML}
```

## 63 Starting a new file

**for HTML & PRINT:** 7204 \begin{warpall}

\HTMLLanguage Default language for the HTML lang tag.

```
7205 \newcommand*{\LWR@currentHTMLLanguage}{en-US}
7206
7207 \newcommand*{\HTMLLanguage}[1]{%
7208     \renewcommand*{\LWR@currentHTMLLanguage}{#1}%
7209 }
```

\theHTMLTitleSeparator May be used inside \theHTMLTitleSection to separate the website's overall HTML title and the particular page's section name.

```
7210 \ifPDFTeX% pdflatex or dvi latex
7211     \ifdefstring{\inputencodingname}{utf8}{%
7212         \newcommand*{\theHTMLTitleSeparator}{-\ }% EMdash
7213     }{%
7214         \newcommand*{\theHTMLTitleSeparator}{-\ }% hyphen
7215     }%
7216 \else%
7217     \ifpTeX%
7218         \newcommand*{\theHTMLTitleSeparator}{-\ }% hyphen
7219     \else%
7220         \newcommand*{\theHTMLTitleSeparator}{-\ }% EMdash
7221     \fi%
7222 \fi%
```

\HTMLTitleBeforeSection Sets the HTML page's meta title tag to show the website title before the section name.

```
7223 \newcommand*{\HTMLTitleBeforeSection}{%
7224     \def\theHTMLTitleSection{%
7225         \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
7226     }%
7227 }
```

\HTMLTitleAfterSection Sets the HTML page's meta title tag to show the section name before the website title.

```
7228 \newcommand*{\HTMLTitleAfterSection}{%
7229     \def\theHTMLTitleSection{%
7230         \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
7231     }%
7232 }
```

\theHTMLTitleSection Forms the HTML page's meta title tag. The default is to show the website title before the section name.

```
7233 \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.

```
7234 \newcommand*{\theHTMLSection}{}%
7235 \end{warpall}
```

**for HTML output:** 7236 \begin{warpHTML}

\LWR@filestart [*section name*] Creates the opening HTML tags.

```
7237 \newcommand*{\LWR@filestart}[1][]{%
7238 \LWR@traceinfo{\LWR@filestart !#1!}}
```

Locally temporarily disable direct-formatting commands:

```
7239 \begingroup%
7240 \LWR@nullfonts%
```

Save the section name for use while creating the HTML meta title tag:

```
7241 \edef\theHTMLSection{\#1}%
```

Remove extra material:

```
7242 \StrSubstitute{\theHTMLSection}{\protect}{\detokenize{-}}[\theHTMLSection]
7243 \StrSubstitute{\theHTMLSection}{\detokenize{---}}{\detokenize{-}}[\theHTMLSection]
7244 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]
7245 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]
7246 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]
```

If starts with a dash, remove the leading dash:

```
7247 \IfBeginWith{\theHTMLSection}{\detokenize{-}}{%
7248     \StrGobbleLeft{\theHTMLSection}{1}[\theHTMLSection]%
7249 }{}}
```

Create the page's HTML header:

```
7250 \LWR@htmltag{!DOCTYPE html}\LWR@orignewline
```

The language is user-adjustable:

```
7251 \LWR@htmltag{%
7252     html lang=\LWR@orig@textquotedbl\currentHTMLLanguage\LWR@orig@textquotedbl%
7253 }\LWR@orignewline
```

Start of the meta data:

```
7254 \LWR@htmltag{head}\LWR@orignewline
```

Charset is fixed at UTF-8:

```
7255 \LWR@htmltag{%
7256     meta charset=\LWR@orig@textquotedbl{}UTF-8\LWR@orig@textquotedbl\ /%
7257 }\LWR@orignewline
```

Author:

```
7258 \ifthenelse{\equal{\theHTMLAuthor}{}}{%
7259     {}%
7260     {%
7261         \LWR@htmltag{%
7262             meta name=\LWR@orig@textquotedbl{}author\LWR@orig@textquotedbl\ % space
7263             content=\LWR@orig@textquotedbl{}\theHTMLAuthor\LWR@orig@textquotedbl\ /%
7264         }\LWR@orignewline%
7265     }%
7266 }
```

lwarp is the generator:

```
7266 \LWR@htmltag{%
7267     meta % space
7268     name=\LWR@orig@textquotedbl{}generator\LWR@orig@textquotedbl\ % space
7269     content=\LWR@orig@textquotedbl{}LaTeX Lwarp package\LWR@orig@textquotedbl\ /%
7270 }\LWR@orignewline%
```

If there is a description, add it now:

```
7271 \ifdefempty{\LWR@currentHTMLDescription}{%
7272     \LWR@htmltag{%
7273         meta name=\LWR@orig@textquotedbl{}description\LWR@orig@textquotedbl\ % space
7274         content=\LWR@orig@textquotedbl{}\LWR@currentHTMLDescription\LWR@orig@textquotedbl\ /%
7275     }\LWR@orignewline%
7276 }
```

Mobile-friendly viewport:

```
7277 \LWR@htmltag{%
7278     meta % space
7279     name=\LWR@orig@textquotedbl{}viewport\LWR@orig@textquotedbl\ % space
7280     content=\LWR@orig@textquotedbl{}width=device-width, initial-scale=1.0\LWR@orig@textquotedbl\ /%
7281 }\LWR@orignewline
```

IE patch:

```
7282 \LWR@htmltag{!-\/-[if lt IE 9]}\LWR@orignewline
7283 \LWR@htmltag{%
7284     script % space
7285     src=\LWR@orig@textquotedbl{}%
7286         http://html5shiv.googlecode.com/svn/trunk/html5.js%
7287     \LWR@orig@textquotedbl%
7288 }%
7289 \LWR@htmltag{/script}\LWR@orignewline
7290 \LWR@htmltag{![endif]-\/-}\LWR@orignewline
```

The page's title, if there is one. A section name is also added if given.

```
7291 \ifthenelse{\equal{\theHTMLTitle}{}}{%
7292     {}%
7293     {%
7294         \LWR@htmltag{title}%
7295         \ifdefempty{\theHTMLSection}{%
7296             {\theHTMLTitle}%
7297             {\theHTMLTitleSection}%
7298         \LWR@htmltag{/title}\LWR@orignewline%
7299     }%
```

The page's stylesheet:

```
7300 \LWR@htmltag{%
7301     link % space
7302     rel=\LWR@orig@textquotedbl{}stylesheet\LWR@orig@textquotedbl\ % space
7303     type=\LWR@orig@textquotedbl{}text/css\LWR@orig@textquotedbl\ % space
7304     href=\LWR@orig@textquotedbl{}\LWR@currentcss\LWR@orig@textquotedbl\ /%
7305 }%
7306 \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.

```
7307 \ifbool{mathjax}{%
7308 {%
7309     \begingroup%
7310     \LWR@restoreoriglists%
7311     \boolfalse{\LWR@verbtags}%
7312     \IfFileExists{\LWR@mathjaxfilename}{%
7313         {\verbatiminput{\LWR@mathjaxfilename}}%
```

```

7314      {%
7315          \PackageError{lwarp}{%
7316              {%
7317                  \protect\MathJaxFilename\space specified the file\MessageBreak
7318                      \space\space\LWR@mathjaxfilename\MessageBreak
7319                          which does not exist%
7320                  }%
7321          {Specify an existing file, or remove \protect\MathJaxFilename.}%
7322      }%
7323
7324      \booltrue{\LWR@verbtags}%
7325      \endgroup%
7326  \LWR@stopars%
7327 }%
7328

```

End of the header:

```
7328 \LWR@htmltag{/head}\LWR@orignewline
```

Start of the body:

```

7329 \LWR@htmltag{body}\LWR@orignewline
7330 \endgroup
7331 \LWR@traceinfo{\LWR@filestart: done}
7332 }

7333 \end{warpHTML}

```

## 64 Starting HTML output

**for HTML output:** 7334 \begin{warpHTML}

\LWR@LwarpStart Executed at the beginning of the entire document.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```

7335 \catcode`\$=\active
7336 \newcommand*\LWR@LwarpStart{%
7337 {%
7338 \LWR@traceinfo{\LWR@l warpStart}}

```

If formatting for a word processor, force filedepth to single-file only, force HTML debug comments off.

```

7339 \ifbool{FormatWP}{%
7340     \setcounter{FileDepth}{-5}%
7341     \boolfalse{HTMLDebugComments}%
7342 }{%

```

Expand and detokenize \HomeHTMLFilename and \HTMLFilename:

```
7343 \edef\LWR@strresult{\HomeHTMLFilename}
7344 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
7345 \edef\LWR@strresult{\HTMLFilename}
7346 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}
```

Force onecolumn and empty page style:

```
7347 \LWR@origonecolumn%
7348 \LWR@origpagestyle{empty}%
```

No black box for overfull lines:

```
7349 \overfullrule=0pt
```

Reduce chance of line overflow when HTML tags are added:

```
7350 \LWR@print@footnotesize%
```

In PDF output, don't allow line breaks to interfere with HTML tags:

```
7351 \LWR@print@raggedright%
7352 \LetLtxMacro{\\"}{\LWR@endofline}%
```

Spread the lines for *pdftotext* to read them well:

```
7353 \linespread{1.3}%
```

For *pdftotext* to reliably identify paragraph splits:

```
7354 \setlength{\parindent}{0pt}
7355 \setlength{\parskip}{2ex}
```

For the *lateximage* record file:

```
7356 \immediate\openout\LWR@lateximagesfile=\BaseJobname-images.txt
```

Removes space around the caption in the HTML:

```
7357 \setlength{\belowcaptionskip}{0ex}
7358 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
7359 \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:

```
7360 \let\LWR@origcaption\caption
```

Not yet started any paragraph handling:

```
7361 \global\boolfalse{LWR@doingapar}
7362 \global\boolfalse{LWR@doingstartpars}
```

Document and page settings:

```
7363 \mainmatter
7364 \LWR@origpagenumbering{arabic}
```

Start a new HTML file and a header:

```
7365 \LWR@traceinfo{LWR@lwarpStart: Starting new file.}
7366 \LWR@filestart
7367 \LWR@traceinfo{LWR@lwarpStart: Generating first header.}
```

```
7368 \ifdefempty{\LWR@firstpagetop}{ }{%
7369   \LWR@htmlltag{header}\LWR@orignewline
7370   \LWR@startpars
7371   \LWR@firstpagetop
7372   \LWR@stoppars
7373   \LWR@htmlltag{/header}\LWR@orignewline
7374 }%
```

```
7375 \LWR@htmlelementclass{div}{bodywithoutsidetoc}
7376 \LWR@htmlelementclass{div}{bodycontainer}
7377 \LWR@traceinfo{LWR@lwarpStart: Generating textbody.}
7378 \LWR@htmlelementclass{section}{textbody}
```

Create a label for previous/next links, and remember it has been done:

```
7379 \booltrue{LWR@setseqfilelabel}%
7380 \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}
```

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`.

```
7381 \LWR@patchlists
```

Ensure that math mode is active to call `lwarp`'s patches:

```
7382 \catcode`\$=\active
```

Required for `\nameref` to work with SVG math:

```
7383 \immediate\write\@mainaux{\catcode`\string$\active}%
7384 \LetLtxMacro{\LWR@syntaxhighlightone$}{\balance} % balance for editor syntax highlighting
```

Allow HTML paragraphs to begin:

```
7385 \LWR@startpars
```

If using MATHJAX, disable \ensuremath by printing a nullified definition at the start of each file, and add further customizations:

```

7386 \ifbool{mathjax}{
7387     \typeout{---}
7388     \typeout{Package lwarp:}
7389     \typeout{Processing MathJax customizations for the first HTML page.}
7390     \typeout{Later HTML pages will take the same amount of time.}
7391     \typeout{If this takes too long, see the Lwarp manual regarding customizing MathJax.}
7392 }{}
7393
7394 \LWR@customizeMathJax
7395
7396 \ifbool{mathjax}{
7397     \typeout{Done.}
7398     \typeout{---}
7399 }{}

```

First autopage label in case a figure occurs early.

```

7400 \setcounter{LWR@latestautopage}{\value{page}}%
7401 \LWR@newautoglabel{\LWR@currentautosec}%

7402 \LWR@traceinfo{\LWR@lwarpStart: done}
7403 }
7404 \catcode`\$=3% math shift until lwarp starts

7405 \end{warpHTML}

```

## 65 Ending HTML output

**for HTML output:** 7406 \begin{warpHTML}

\LWR@requesttoc {<boolean>} {<suffix>} Requests that a TOC, LOF, or LOTbe generated.

```

7407 \newcommand*{\LWR@requesttoc}[2]{%
7408 \ifbool{#1}{%
7409 {
7410     \expandafter\newwrite\@nameuse{tf@#2}%
7411     \immediate\openout \nameuse{tf@#2} \jobname.#2\relax
7412 }{}%
7413 }

```

\LWR@LwarpEnd Final stop of all HTML output:

```

7414 \newcommand*{\LWR@LwarpEnd}{%
7415 {
7416 \LWR@stopars
7417 \LWR@closeprevious{finished}

```

At the bottom of the ending file:

Close the textbody:

```
7418 \label{\BaseJobname-autofile-last}
7419 \LWR@htmlelementclassend{section}{textbody}
7420 \LWR@htmlelementclassend{div}{bodycontainer}
7421 \LWR@htmlelementclassend{div}{bodyandsidetoc}
```

Print any pending footnotes:

```
7422 \LWR@printpendingfootnotes
```

Create the footer if not EPUB

```
7423 \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.

```
7424 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7425   {}
7426   {
7427     \ifnumcomp{\value{\LWR@htmlfilename}}{>}{0}{\LWR@botnavigation}{}
7428   }
```

  

```
7429 \LWR@stoppars% final stop of all paragraphs
```

Finish the HTML file:

```
7430 \LWR@htmlltag{/body}\LWR@orignewline
7431 \LWR@htmlltag{/html}\LWR@orignewline
```

Seems to be required sometimes:

```
7432 \LWR@maybe@orignewpage
7433 }
```

\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**.

```
7434 \ifdef{\AddToHook}{%
7435   \AddToHook{\enddocument/info}{%
7436     \if@filesw
7437       \ifx \multiplelabels \relax
7438         \if@tempswa
```

This is where warnings of duplicate labels would appear.

```
7439   \else
```

No duplicate labels, so safe to create images.

```

7440           \immediate\write\LWR@lateximagesfile{%
7441               |end|end|end|%
7442           }%
7443           \fi
7444           \fi\fi
7445       }
7446 }% newer kernel
7447 {%
7448     \xpatchcmd{\enddocument}
7449     {%
7450         \if@tempswa
7451             \@latex@warning@no@line{Label(s) may have changed.
7452             Rerun to get cross-references right}%
7453         \fi
7454     }
7455     {%
7456         \if@tempswa
7457             \@latex@warning@no@line{Label(s) may have changed.
7458             Rerun to get cross-references right}%
7459     }

```

No duplicate labels, so safe to create images.

```

7460           \immediate\write\LWR@lateximagesfile{%
7461               |end|end|end|%
7462           }%
7463           \fi
7464       }
7465     {}
7466   {
7467     \AtEndDocument{
7468       \PackageWarningNoLine{lwarp}
7469       {%
7470         Could not patch \protect\enddocument.\MessageBreak
7471         If labels have changed, be sure to recompile before\MessageBreak
7472             creating lateximages with\MessageBreak
7473             \space\space lwarpmk limages,\MessageBreak
7474             or the images may be corrupt%
7475       }
7476     }
7477   }
7478 }% older kernel

```

## 66 Nullifying foreground/background hooks

See **texdoc lthooks-doc** and **texdoc ltshipout-doc**.

```

7479 \ifdef{\RemoveFromHook}{%
7480   \AfterEndPreamble{%
7481     \IfHookEmptyTF{\shipout/background}{}{%

```

---

```

7482          \PackageInfo{lwarp}{Removing background hook}
7483          \RemoveFromHook{shipout/background}[@]
7484      }
7485      \IfHookEmptyTF{shipout/foreground}{}{
7486          \PackageInfo{lwarp}{Removing foreground hook}
7487          \RemoveFromHook{shipout/foreground}[@]
7488      }
7489  }
7490 }{ }

7491 \end{warpHTML}

```

## 67 Title page

### package support

#### ⚠ load order

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 67.8.

### 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

#### ⚠ \theauthor, authblk

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.

### custom titlepages

\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.

### 67.1 Setting the title, etc.

The following provide setting commands for both HTML and print outputs.

### \author   \and

{⟨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`, 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` `\HTMLPageBottom` `\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 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 **LATEX** syntax for `\author`, optionally with `lwarp`'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.

## 67.2 `\if@titlepage`

**for HTML & PRINT:** 7492 `\begin{warpall}`

`\if@titlepage` Some classes do not provide `\if@titlepage`. In this case, provide it and force it `false`.

```
7493 \ifcsvoid{@titlepagefalse}{
7494     \newif\if@titlepage
```

```
7495     \@titlepagefalse  
7496 }{  
  
7497 \end{warpall}
```

### 67.3 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:** 7498 \begin{warpall}  
7499 \providerobustcmd{\affiliation}[1]{  
7500 \end{warpall}

**for PRINT output:** 7501 \begin{warpprint}

```
7502 \AtBeginEnvironment{titlepage}{  
7503 \renewrobustcmd{\affiliation}[1]{\textsc{\small#1}}  
7504 }  
7505  
7506 \AtBeginDocument{  
7507 \@ifpackageloaded{titling}{  
7508 \AtBeginEnvironment{titlingpage}{  
7509 \renewrobustcmd{\affiliation}[1]{\textsc{\small#1}}  
7510 }  
7511 }% titling loaded  
7512 }% AtBeginDocument  
  
7513 \end{warpprint}
```

**for HTML output:** 7514 \begin{warpHTML}

**Env titlepage** Sets up a <div> of class titlepage. Provided even for memoir class, since it is used by \maketitle.

```
7515 \DeclareDocumentEnvironment{titlepage}{}  
7516 {  
7517 \renewrobustcmd{\affiliation}[1]{\InlineClass{affiliation}{##1}}  
7518 \LWR@printpendingfootnotes  
7519 \LWR@forcenewpage  
7520 \BlockClass{titlepage}  
7521 }  
7522 {  
7523 \endBlockClass  
7524 \LWR@printpendingfootnotes  
7525 }  
  
7526 \end{warpHTML}
```

## 67.4 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: 7527 \begin{warpprint}
                      7528 \newcommand*{\printthanks}{\@thanks}
                      7529 \end{warpprint}

for HTML output: 7530 \begin{warpHTML}
                      7531 \newcommand*{\printthanks}{\LWR@stoppars\@thanks\LWR@startpars}
                      7532 \end{warpHTML}
```

## 67.5 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: 7533 \begin{warpHTML}
```

```
\printtitle

7534 \newcommand*{\printtitle}{%
  7535 {%
    7536   \LWR@stoppars%
    7537   \LWR@htmlltag{\LWR@tagtitle}%
    7538   \@title%
    7539   \LWR@htmlltag{\LWR@tagtitleend}%
    7540   \LWR@startpars%
  7541 }
```

\LWR@printthetitle A private version which prints the title without footnotes, used to title each HTML page.

```
7542 \newcommand*{\LWR@printthetitle}{%
  7543 {%
    7544   \LWR@stoppars%
    7545   \LWR@htmlltag{\LWR@tagtitle}%
    7546   \thetitle%
    7547   \LWR@htmlltag{\LWR@tagtitleend}%
    7548   \LWR@startpars%
  7549 }
```

\printauthor HTML version.

```
7550 \newcommand*{\printauthor}{
```

The entire author block is contained in a <div> named author:

```
7551 \begin{BlockClass}{author}
```

---

\and finishes one author and starts the next:

```
7552 \renewcommand{\and}{%
7553 \end{BlockClass}%
7554 \begin{BlockClass}{oneauthor}%
7555 }
```

Individual authors are contained in a <div> named oneauthor:

```
7556 \begin{BlockClass}{oneauthor}%
7557 @author%
7558 \end{BlockClass}%
7559 \end{BlockClass}%
7560 }
```

\printdate

```
7561 \newcommand*{\printdate}{%
7562 \begin{BlockClass}{titledate}%
7563 @date%
7564 \end{BlockClass}%
7565 }
```

```
7566 \end{warpHTML}
```

## 67.6 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:** 7567 \begin{warpprint}

\printtitle

```
7568 \newcommand*{\printtitle}{{\Huge @title}}
```

\printauthor Print mode.

```
7569 \newcommand*{\printauthor}%
7570     {{\large\begin{tabular}[t]{c}\@author\end{tabular}}}
```

\printdate

```
7571 \newcommand*{\printdate}{{\small\textit{@date}}}
```

```
7572 \end{warpprint}
```

## 67.7 \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 59 for other kinds of footnotes.

See \thanksmarkseries{series}, below, to set the style of the footnote marks.

**for HTML output:** 7573 \begin{warpHTML}

```

7574 \@ifclassloaded{memoir}
7575 {
7576 \newcommand{\LWR@setfootnoteseries}{%
7577     \renewcommand\thefootnote{\@arabic\c@footnote}%
7578 }
7579 }% not memoir
7580 \if@titlepage
7581 \newcommand{\LWR@setfootnoteseries}{%
7582     \renewcommand\thefootnote{\@arabic\c@footnote}%
7583 }
7584 \else
7585 \newcommand{\LWR@setfootnoteseries}{%
7586     \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
7587 }
7588 \fi
7589 }% not memoir

```

\LWR@maketitlesetup Patches \thanks macros.

```
7590 \newcommand*\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```

7591 \LWR@setfootnoteseries%
7592 \def\@makefnmark{\textsuperscript{\thefootnote}}
    \thefootnote \Rightarrow \nameuse{arabic}{footnote}, or
    \thefootnote \Rightarrow \nameuse{fnsymbol}{footnote}

```

Redefine the footnote text:

```
7593 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```

7594 \textsuperscript{\@thefnmark}~%
    \makethanksmark \Rightarrow \thanksfootmark \Rightarrow \tamark \Rightarrow
    \@thefnmark \Rightarrow \itshape a (or similar)

```

Print the text:

```
7595 ##1%
7596 }%
7597 }
```

```
\@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*.

```
7598 \def\LWR@HTML@fnsymbol#1{%
7599     \ifcase#1\or *\or
7600     \HTMLentity{dagger}\or
7601     \HTMLentity{Dagger}\or
7602     \HTMLentity{sect}\or
7603     \HTMLentity{para}\or
7604     \HTMLunicode{2016}\or
7605     **\or
7606     \HTMLentity{dagger}\HTMLentity{dagger} \or
7607     \HTMLentity{Dagger}\HTMLentity{Dagger} \else
7608     \@ctrerr\fi%
7609 }
7610 \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.

```
7611 \renewcommand*\maketitle}{%
```

An HTML titlepage <div> is used for all classes.

```
7612 \begin{titlepage}
```

Set up special patches:

```
7613 \LWR@maketitlesetup
```

Typeset the title, etc:

```
7614 \@maketitle
```

Immediately generate any \thanks footnotes:

```
7615 \LWR@stopars\@thanks\LWR@startpars
```

Close the HTML titlepage div and cleanup:

```
7616 \end{titlepage}
7617 \setcounter{footnote}{0}%
7618 \global\let\thanks\relax
```

---

```

7619 \global\let\maketitle\relax
7620 \global\let@\maketitle\relax
7621 \global\let@\thanks@\empty
7622 \global\let@\author@\empty
7623 \global\let@\date@\empty
7624 \global\let@\title@\empty
7625 \global\let\title\relax
7626 \global\let\author\relax
7627 \global\let\date\relax
7628 \global\let\and\relax
7629 }
```

\@maketitle HTML mode. Typesets the title, etc.:

```

7630 \DeclareDocumentCommand{\@maketitle}{}{%
7631   \LWR@stopars%
7632   \LWR@htmlltag{\LWR@tagtitle}%
7633   \@title%
7634   \LWR@htmlltag{\LWR@tagtitleend}%
7635   \LWR@startpars%
7636   \begin{BlockClass}{author}}%
```

For **IEEEtran** class:

```

7637 \renewcommand*\{\cr}{}
7638 \renewcommand*\{\crr}{}
7639 \renewcommand*\{\noalign}{}

7640 \renewcommand{\and}{%
7641   \end{BlockClass}%
7642   \begin{BlockClass}{oneauthor}%
7643 }%
7644 \begin{BlockClass}{oneauthor}%
7645   \@author%
7646 \end{BlockClass}%
7647 \end{BlockClass}%
7648 \begin{BlockClass}{titledate}%
7649   \@date%
7650 \end{BlockClass}%
7651 }
```

\LWR@titlingmaketitle \maketitle for use inside an HTML titlingpage environment.

```
7652 \newcommand*\{\LWR@titlingmaketitle}{}
```

Keep pending footnotes out of the title block:

```
7653 \LWR@stopars \@thanks \LWR@startpars
```

Set up special patches:

```
7654 \LWR@maketitlesetup
```

Typeset the title, etc:

```
7655 \@maketitle
```

Immediately generate any \thanks footnotes:

```
7656 \LWR@stopars\@thanks\LWR@startpars
7657 }
```

```
7658 \end{warpHTML}
```

## 67.8 \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:** 7659 `\begin{warpall}`

`\AddSubtitlePublished` Adds `\published` and `\subtitle`, and related.

```
7660 \newcommand*\{\AddSubtitlePublished\}{%
7661 \@ifpackageLoaded{titling}\% yes titling package
7662   \newcommand{\@published}{}%
7663   \newcommand{\published}[1]{\gdef\@published{\#1}}%
7664   \renewcommand*\{\maketitlehooka\}{\printpublished}%
7665   \newcommand*\{\printpublished\}%
7666     \warpprintonly{\begin{center}\unskip}%
7667     \begin{BlockClass}{published}%
7668     \warpprintonly{\large\itshape}%
7669     \@published%
7670     \end{BlockClass}%
7671     \warpprintonly{\end{center}}%
7672   }%
7673   \newcommand{\@subtitle}{}%
7674   \newcommand{\subtitle}[1]{\gdef\@subtitle{\#1}}%
7675   \renewcommand*\{\maketitlehookb\}{\printsubtitle}%
7676   \newcommand*\{\printsubtitle\}%
7677     \warpprintonly{\begin{center}\unskip}%
7678     \begin{BlockClass}{subtitle}%
7679     \warpprintonly{\Large\itshape}%
7680     \@subtitle%
```

---

```

7681      \end{BlockClass}%
7682      \warpprintonly{\end{center}}%
7683  }%
7684 }% yes titling package
7685 {%- no titling package

7686  \def\@published{}%
7687  \DeclareDocumentCommand{\published}{m}{\gdef\@published{\#1}}%
7688  \DeclareDocumentCommand{\printpublished}{}{%
7689  \def\@subtitle{}%
7690  \DeclareDocumentCommand{\subtitle}{m}{\gdef\@subtitle{\#1}}%
7691  \DeclareDocumentCommand{\printsubtitle}{}{%
7692 }% no titling package
7693 }% \AddSubtitlePublished

7694 \end{warpall}

```

## 68 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:** 7695 `\begin{warpHTML}`

`\abstractname` User-redefinable title for the abstract.

Also over-written by the `babel` package.

7696 `\providecommand*{\abstractname}{Abstract}`

Some classes allow an optional name, so it is allowed here.

**Env** `abstract`

```

7697 \DeclareDocumentEnvironment{abstract}{O{\abstractname}}
7698 {
7699   \LWR@forcenewpage
7700   \BlockClass{abstract}
7701   \BlockClassSingle{abstracttitle}{#1}
7702 }
7703 {
7704   \endBlockClass
7705 }

7706 \end{warpHTML}

```

## 69 Quote and verse

### 69.1 Attributions

\attribution {⟨name⟩}

For use with quote, quotation, verse:

Ex: "A quotation." \attribution{\textsc{Author Name}\\\textsl{Book Title}}

**for HTML & PRINT:** 7707 \begin{warpall}  
 7708 \newcommand{\attribution}[1]{  
 7709     \begin{flushright}  
 7710     \unskip  
 7711     #1  
 7712     \end{flushright}%  
 7713 }  
 7714 \end{warpall}

**for HTML output:** 7715 \begin{warpHTML}  
 7716 \newcommand{\LWR@HTML@attribution}[1]{%  
 7717     \LWR@stoppars%  
 7718     \begin{BlockClass}{attribution}  
 7719     #1  
 7720     \end{BlockClass}  
 7721     \LWR@startpars%  
 7722 }  
 7723 \LWR@formatted{attribution}  
 7724 \end{warpHTML}

### 69.2 Quotes, quotations

**for HTML output:** 7725 \begin{warpHTML}

Env quote  
 7726 \newenvironment\*{\LWR@HTML@quote}{  
 7727 {  
 7728     \LWR@forcenewpage  
 7729     \LWR@htmlblocktag{blockquote}  
 7730 }  
 7731 {\LWR@htmlblocktag{/blockquote}}  
 7732  
 7733 \LWR@formattedenv{quote}

Env quotation

7734 \newenvironment\*{\LWR@HTML@quotation}{  
 7735 {  
 7736     \LWR@forcenewpage

---

```

7737     \LWR@htmlblocktag{blockquote}
7738 }
7739 {\LWR@htmlblocktag{/blockquote}}
7740
7741 \LWR@formattedeenv{quotation}

7742 \end{warpHTML}

```

### 69.3 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.

#### 69.3.1 L<sup>A</sup>T<sub>E</sub>X core verse environment

**for HTML output:** 7743 `\begin{warpHTML}`

Env `verse`

```

7744 \newenvironment{\LWR@HTML@verse}
7745         {\let\\newline% lwarp
7746          \list{}{\itemsep      \z@
7747                  \itemindent   -1.5em%
7748                  \listparindent\itemindent
7749                  \rightmargin \leftmargin

```

---

```

7750           \advance\leftmargin 1.5em}%
7751           \item\relax}
7752           {\endlist}
7753
7754 \LWR@formattede{verse}

7755 \end{warpHTML}
```

**for HTML & PRINT:** 7756 \begin{warpall}

### 69.3.2 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.

```

7757 \newlength{\HTMLvleftskip}
7758 \setlength{\HTMLvleftskip}{1em}
```

Len `\HTMLleftmargini` Sets `\leftmargini` inside a `verse` environment in HTML.

```

7759 \newlength{\HTMLleftmargini}
7760 \setlength{\HTMLleftmargini}{4.5em}
```

```
7761 \end{warpall}
```

## 70 Verbatim and tabbing

**for HTML & PRINT:** 7762 \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.

```

7763 \newlength{\VerbatimHTMLWidth}
7764 \setlength{\VerbatimHTMLWidth}{4in}
7765 \end{warpall}
```

**for HTML output:** 7766 \begin{warpHTML}

Bool `LWR@verbtags` Used to temporarily turn off verbatim tags while doing `\verbatiminput` in the HTML head.

```

7767 \newbool{LWR@verbtags}
7768 \booltrue{LWR@verbtags}
```

---

```
\LWR@atbeginverbatim [<1: style>] {<2: negative \baselineskip \vspace>} {<3: class>}
```

Encloses a verbatim environment with the given css class.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```
7769 \newcommand*{\LWR@atbeginverbatim}[3][]%
7770 {%
```

Avoid excessive space between lines:

```
7771 \setlength{\parskip}{0ex} %
```

Stop generating HTML paragraph tags:

```
7772 \LWR@stoppars%
```

Create a new pre of the given class. The tags may temporarily be turned off for internal use, such as loading the MATHJAX script.

```
7773 \ifbool{\LWR@verbtags}{%
7774     \LWR@htmlltag{pre class=\textquotedbl#3\textquotedbl%
7775         \ifthenelse{\equal{\#1}{}{}}{ style=\textquotedbl#1\textquotedbl}%
7776     }%
7777     \LWR@orignewline% pre
7778     \leavevmode\unskip\LWR@print@vspace*{-\#2\baselineskip}%
7779 }{}}
```

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.

```
7780 \begingroup%
```

```
7781 % \LWR@print@normalsize%
7782 \LWR@print@normalfont%
7783 \LWR@origttfamily%
7784 \LWR@print@small%
```

Since inside a <pre>, restore the original list processing:

```
7785 \LWR@restoreoriglists%
```

Turn off babel-french extra space before punctuation:

```
7786 \LWR@FBcancel%
```

Do not produce HTML tags for \hspace inside a verse par. Restore plain L<sup>A</sup>T<sub>E</sub>X \hspace functionality:

```
7787 \LWR@select@print@hspace%
7788 }
```

---

```
\LWR@afterendverbatim {⟨negative \baselineskip \vspace⟩}
```

Finishes enclosing a verbatim environment.

```
7789 \newcommand*{\LWR@afterendverbatim}[1]{%
7790 \endgroup%
7791 \par%
```

At the end of the environment, close the pre:

```
7792 \ifbool{\LWR@verbtags}{%
7793   \LWR@print@vspace*{-\baselineskip}%
7794   \noindent\LWR@htmltag{/pre}\LWR@orignewline% pre
7795 }{}}
```

Resume regular paragraph handling:

```
7796 \LWR@startpars%
7797 }
```

```
\verbatiminput {⟨filename⟩}
```

Patch \verbatiminput to add HTML tags:

```
7798 \newcommand{\LWR@HTML@verbatim@input}[2]{%
7799   \ifbool{\LWR@verbtags}{\LWR@forcenewpage}{%
7800     \LWR@atbeginverbatim{2.5}{Verbatim}%
7801     \LWR@print@verbatim@input{\#1}{\#2}%
7802     \LWR@afterendverbatim{1.5}%
7803   }
7804
7805 \LWR@formatted{verbatim@input}
```

Env verbatim

```
7806 \AfterEndPreamble{
7807 \LWR@traceinfo{Patching verbatim.}
7808 \AtBeginEnvironment{verbatim}{%
7809   \ifnumcomp{\value{\LWR@lateximagedepth}}{0}%
7810     {}%
7811     {%
7812       \LWR@forcenewpage%
7813       \LWR@atbeginverbatim{2.5}{verbatim}%
7814     }%
7815 }
7816 \AfterEndEnvironment{verbatim}{%
7817   \ifnumcomp{\value{\LWR@lateximagedepth}}{0}%
7818     {}%
7819     {%
7820       \LWR@afterendverbatim{1}%
7821     }%
7822 }
7823 }
```

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.

```

7824 \newcommand*{\LWR@HTML@tabbing}{%
7825     \LWR@forcenewpage%
7826     \LWR@atbeginverbatim{3}{tabbing}%
7827     \let\enskip\LWR@origenskip%
7828     \let\quad\LWR@origquad%
7829     \let\qquad\LWR@origqquad%
7830     \let~\LWR@origtilde%
7831     \let,\LWR@origcomma%
7832     \let\thinspace\LWR@origthinspace%
7833     \let\negthinspace\LWR@orignegthinspace%
7834     \LWR@print@tabbing%
7835 }
7836
7837 \newcommand*{\LWR@HTML@endtabbing}{%
7838     \LWR@print@endtabbing%
7839     \LWR@afterendverbatim{1}%
7840 }
7841
7842 \LWR@formatted{tabbing}
7843 \LWR@formatted{endtabbing}

7844 \end{warpHTML}

```

## 71 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:** 7845 `\begin{warpHTML}`

`\begin{theorem}` {*<name>*} {*<number>*}

```

7846 \renewcommand{\begintheorem}[2]{%
7847 \LWR@forcenewpage
7848 \BlockClass{theoremcontents}
7849 \trivlist
7850 \item[\InlineClass{theoremlabel}{#1\ #2\ }]\itshape
7851 }

```

---

```
\@opargbegintheorem {⟨name⟩} {⟨number⟩} {⟨oparg⟩}
```

LATEX defines this, but amsthm \relaxes it, so it will not be defined if amsthm is loaded before lwarp.

```
7852 \ifundef{\@opargbegintheorem}{}{%
7853   \renewcommand{\@opargbegintheorem}[3]{%
7854     \LWR@forcenewpage
7855     \BlockClass{theoremcontents}
7856     \trivlist
7857     \item[\InlineClass{theoremlabel}{#1\ #2\ (#3)\ }]\itshape
7858   }
7859 }
```

```
\@endtheorem
```

```
7860 \renewcommand*{\@endtheorem}{%
7861 \endtrivlist
7862 \endBlockClass% theoremcontents
7863 }

7864 \end{warpHTML}
```

## 72 Lists

The environments itemize, enumerate, and description are patched when lwarp is started. These patches support the standard LATEX 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 LATEX 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 TeX 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`.

## 72.1 List environment

**for HTML output:** 7865 `\begin{warpHTML}`

`\LWR@printcloselist` May be locally redefined by `enumerate` or `description`.

```
7866 \newcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
```

`\LWR@printopenlist` May be locally redefined by `enumerate` or `description`.

```
7867 \newcommand*{\LWR@printopenlist}{ul style="\LWR@print@mbox{list-style-type:none}"}
```

`\@mklab` Removes PDF spacing.

```
7868 \AtBeginDocument{  
7869 \def\@mklab#1{  
7870 %     \hfil %  
7871 #1}  
7872 \let\makelabel\@mklab  
7873 }
```

`\@donoparitem` Modified for HTML output by replacing TeX boxes with plain text. Also removes PDF spacing.

```
7874 \def\@donoparitem{  
7875     \noparitemfalse  
7876 %     \global\setbox\@labels\hbox{\hskip -\leftmargin  
7877 %                                         \unhbox\@labels  
7878 %                                         \hskip \leftmargin} %  
7879 %     \if@minipage\else  
7880 %         \tempskipa\lastskip  
7881 %         \vskip -\lastskip  
7882 %         \advance\tempskipa\outerparskip  
7883 %         \advance\tempskipa -\parskip  
7884 %         \vskip\tempskipa  
7885 %     \fi  
7886 }
```

`\@item` Modified for HTML output by replacing TeX boxes with plain text. Also removes PDF spacing.

```
7887 \def\LWR@HTML@item[#1]{  
7888 \LWR@traceinfo{@item}}
```

```
7889 \if@noperitem
7890   \odonoperitem
7891 \else
7892 %   \if@inlabel
7893 %     \indent
7894     \par
7895 %   \fi
7896   \ifhmode
7897 %     \unskip\unskip
7898     \par
7899   \fi
7900 \if@newlist
7901   \if@nobreak
7902     \onbitem
7903   \else
7904     \addpenalty\begin{parpenalty}
7905     \addvspace\topsep
7906     \addvspace{-\parskip}%
7907   \fi
7908 \else
7909 %   \addpenalty\itempenalty
7910 %   \addvspace\itemsep
7911   \fi
7912   \global\inlabeltrue
7913 \fi
7914 % \everypar{%
7915 % @minipagefalse
7916 \global\newlistfalse

7917 % \if@inlabel
7918 %   \global\inlabelfalse

7919 %   {\setbox\z@\lastbox
7920 %     \ifvoid\z@
7921 %       \kern-\itemindent
7922 %     \fi}%
7923 %   \box\@labels
7924 %   \penalty\z@
7925 \fi

7926 % \if@nobreak
7927 %   \nobreakfalse
7928 %   \clubpenalty \zM
7929 % \else
7930 %   \clubpenalty \clubpenalty
7931 %   \everypar{}%
7932 % \fi}%

7933 \if@noitemarg
7934   \noitemargfalse
7935 \if@nmbrlist

7936 \refstepcounter\listctr
```

```

7937      \fi
7938  \fi

7939      \makelabel{\#1} % extra space
7940 %   \sbox\@tempboxa{\makelabel{\#1}%
7941 %   \global\setbox\@labels\hbox{%
7942 %       \unhbox\@labels
7943 %       \hskip \itemindent
7944 %       \hskip -\labelwidth
7945 %       \hskip -\labelsep
7946 %       \ifdim \wd\@tempboxa >\labelwidth
7947 %           \box\@tempboxa

7948 %       \else
7949 %           \hbox to\labelwidth {\unhbox\@tempboxa}%
7950 %       \fi
7951 %       \hskip \labelsep}%
7952 \ignorespaces%
7953 }

\@nbitem

7954 \def\@nbitem{%
7955 %   \tempskipa\@outerparskip
7956 %   \advance\tempskipa -\parskip
7957 %   \addvspace\@tempskipa
7958 }

```

\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.

```

7959 \newcommand*{\LWR@listitem}{%
7960 \LWR@stoppars%
7961 \LWR@startnewdepth{listitem}%
7962 \LWR@htmltag{li}%
7963 \LWR@startpars%
7964 \LWR@origitem%
7965 }

```

\LWR@nulllistfills Nullifies various TeX fill commands, in case they are used inside \makelabel. Problems are caused when these are nullified all the time.

```

7966 \newcommand*{\LWR@nulllistfills}{%
7967 \renewcommand*{\hss}{()}%
7968 \renewcommand*{\llap}[1]{##1}%
7969 \renewcommand*{\rlap}[1]{##1}%
7970 \renewcommand*{\hfil}{()}%
7971 \renewcommand*{\hfilneg}{()}%

```

```

7972 \renewcommand*\{\hfill\}{}%
7973 }

Env  list  {\langle label\rangle} {\langle commands\rangle}

7974 \newcommand*{\LWR@liststart}{%
7975 \LWR@traceinfo{\LWR@liststart}%
7976 \LWR@stoppars%
7977 \LWR@pushoneclose{list}%
7978 \LWR@htmlltag{\LWR@printopenlist}\LWR@orignewline%
7979 \LWR@startpars%
7980 \setlength{\topsep}{0pt}%
7981 \setlength{\partopsep}{0pt}%
7982 \setlength{\itemsep}{0pt}%
7983 \setlength{\parsep}{0pt}%
7984 \setlength{\leftmargin}{0pt}%
7985 \setlength{\rightmargin}{0pt}%
7986 \setlength{\listparindent}{0pt}%
7987 \setlength{\itemindent}{0pt}%
7988 \setlength{\labelsep}{1em}%
7989 \LWR@nulllistfills%
7990 }

7991 \newcommand*{\LWR@listend}{%
7992 \LWR@traceinfo{\LWR@listend}%
7993 \LWR@stoppars%
7994 \LWR@closeprevious{list}%
7995 \LWR@startpars%
7996 }

```

## 72.2 Itemize

\LWR@itemizeitem [\langle label\rangle]

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.

```

7997 \newcommand*{\LWR@itemizeitem}{%
7998 \LWR@stoppars%
7999 \LWR@startnewdepth{listitem}%
8000 \LWR@htmlltag{li}%
8001 \LWR@startpars%
8002 \LWR@origitem%
8003 }

```

Env itemize [\langle options\rangle]

```

8004 \newcommand*{\LWR@itemizestart}{%
8005 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}

```

---

```

8006 \renewcommand*{\LWR@printopenlist}{\ul style="\\LWR@print@mbox{list-style-type:none}";}
8007 \let\item\LWR@itemizeitem%
8008 \LWR@nulllistfills%
8009 }

```

## 72.3 Enumerate

An HTML unordered list is used with customized L<sup>A</sup>T<sub>E</sub>X-generated labels.

Env `enumerate` [*<options>*]

```

8010 \newcommand*{\LWR@enumeratestart}{%
8011 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
8012 \renewcommand*{\LWR@printopenlist}{\ul style="\\LWR@print@mbox{list-style-type:none}";}
8013 \let\item\LWR@itemizeitem%
8014 \LWR@nulllistfills%
8015 }

```

## 72.4 Description

`\LWR@descitem` [*<label>*] Handles an `\item` inside a description.

```

8016 \newcommand*{\LWR@descitem}[1][]{%
8017 {%
8018 \LWR@stoppars%
8019 \LWR@setlatestname{#1}%
8020 \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.

```

8021 \begingroup%
8022 \let\LWR@orig@desc@makelabel\makelabel
8023 \renewcommand*{\makelabel}[1]{%
8024   \LWR@htmlltag{dt}%
8025   \LWR@orig@desc@makelabel{#1}%
8026   \LWR@htmlltag{/dt}%
8027 }
8028 \LWR@select@html@nohspace%
8029 \LWR@origitem[#1]%
8030 \endgroup%
8031 \LWR@orignewline%
8032 \LWR@htmlltag{dd}%
8033 \LWR@startpars%
8034 }

```

Env `description` [*<options>*]

```

8035 \newcommand*{\LWR@descriptionstart}{%

```

---

```

8036 \renewcommand*{\LWR@printclosedelist}{\LWR@printclosededescription}
8037 \renewcommand*{\LWR@printopenlist}{dl}
8038 \let\item\LWR@descitem%
8039 \LWR@nulllistfills%
8040 }

```

## 72.5 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.

```

8041 \newcommand*{\LWR@patchlists}{%
8042     \LetLtxMacro{\item}{\LWR@listitem}%
8043     \LetLtxMacro{\@item}{\LWR@HTML@item}%
8044     \renewcommand*{\@trivlist}{%
8045         \LWR@traceinfo{@trivlist start}%
8046         \LWR@liststart%
8047         \LWR@orig@trivlist%
8048         \LWR@traceinfo{@trivlist done}%
8049     }%
8050     \renewcommand*{\trivlist}{%
8051         \LWR@traceinfo{trivlist}%
8052         \LWR@origtrivlist%
8053     }%
8054     \renewcommand*{\endtrivlist}{%
8055         \LWR@traceinfo{endtrivlist start}%
8056         \LWR@origendtrivlist\LWR@listend%
8057         \LWR@traceinfo{endtrivlist done}%
8058     }%
8059     \renewcommand*{\itemize}{%
8060         \LWR@itemizestart\LWR@origitemize%
8061     }%
8062     \renewcommand*{\enumerate}{%
8063         \LWR@enumeratestart\LWR@origenumerate%
8064     }%
8065     \renewcommand*{\description}{%
8066         \LWR@descriptionstart\LWR@origdescription%
8067     }%
8068 }

```

\LWR@restoreoriglists Restores the original trivlist environment.

```

8069 \newcommand*{\LWR@restoreoriglists}{%
8070     \LWR@traceinfo{\LWR@restoreoriglists}%
8071     \LetLtxMacro{\item}{\LWR@origitem}%
8072     \LetLtxMacro{\@item}{\LWR@orig@item}%
8073     \let{@trivlist}{\LWR@orig@trivlist}%
8074     \let{trivlist}{\LWR@origtrivlist}%

```

```

8075 \let\endtrivlist\LWR@origendtrivlist%
8076 \LetLtxMacro\itemize\LWR@origitemize%
8077 \LetLtxMacro\enditemize\LWR@endorigitemize%
8078 \LetLtxMacro\enumerate\LWR@origenumerate%
8079 \LetLtxMacro\endenumerate\LWR@endorigenumerate%
8080 \LetLtxMacro\description\LWR@origdescription%
8081 \LetLtxMacro\enddescription\LWR@endorigdescription%
8082 \let\@mklab\LWR@orig@mklab%
8083 \let\makelabel\LWR@origmakelabel%
8084 \let\@donoparitem\LWR@orig@donoparitem%
8085 \let\@nbitem\LWR@orig@nbitem%
8086 }

8087 \end{warpHTML}

```

## 73 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.

### 73.1 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 % because & is used in a
definition
\newenvironment{outerenvironment}
{
\begin{tabular}{cc}
left & right \\
\end{tabular}
}
\TabularMacro\ResumeTabular
left & right \\
\end{tabular}
}
\StopDefiningTabulars
```

**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:****vertical 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 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 \warphHTML environment, if a “Misplaced \noalign” error occurs, change

This & That \endhead

to

\warpprintonly{This & That \endhead}

**⚠ \warpprintonly****⚠ Misplaced \noalign**

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 `lwarp`'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 \\}
```

 **tabular inside a <span>**

- In L<sup>A</sup>T<sub>E</sub>X, 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:** 8088 `\begin{warpHTML}`

## 73.2 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.

### 73.2.1 `arydshln`

Emulated by the original L<sup>A</sup>T<sub>E</sub>X non-dashed versions.

```
8089 \LetLtxMacro{\hdashline}{\hline}
8090 \LetLtxMacro{\cdashline}{\cline}
8091 \LetLtxMacro{\firstdashline}{\hline}
8092 \LetLtxMacro{\lastdashline}{\hline}
```

## 73.3 Token lookahead

Used by `\LWR@futureonospacelet` to look at the next token.

`\LWR@mynexttoken`

```
8093 \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

```
8094 \def\LWR@futurenonospacelet#1{\def\LWR@cs{#1}%
8095 \afterassignment\LWR@fnslone\let\nexttoken= }
8096
8097 \def\LWR@fnslone{\expandafter\futurelet\LWR@cs\LWR@fnsltwo}
8098
8099 \def\LWR@fnsltwo{%
8100 \expandafter\ifx\LWR@cs@\sptoken\let\next=\LWR@fnsthree%
8101 \else\let\next=\nexttoken\fi\next}
8102
8103 \def\LWR@fnsthree{\afterassignment\LWR@fnslone\let\next= }
```

\LWR@getmynexttoken Looks ahead and copies the next token into \LWR@mynexttoken.

```
8104 \newcommand*\LWR@getmynexttoken}{%
8105   \LWR@traceinfo{\LWR@getmynexttoken}%
8106 % nothing must follow this next line
8107   \LWR@futurenonospacelet\LWR@mynexttoken\LWR@tabledatacolumntag
8108 }
```

### 73.4 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.

```
8109 \newbool{\LWR@startedrow}
8110 \boolefalse{\LWR@startedrow}
```

Bool LWR@tabularcelladded True if have added a data cell for this position.

```
8111 \newbool{\LWR@tabularcelladded}
8112 \boolefalse{\LWR@tabularcelladded}
```

Ctr LWR@hlines Number of \hlines or \midrules above the next row.

```
8113 \newcounter{\LWR@hlines}
```

Ctr LWR@hdashedlines Number of arydshln dashed lines above the next row.

```
8114 \newcounter{\LWR@hdashedlines}
```

Bool LWR@doingtbrule True if the next row will have a top/bottom rule above it.

```
8115 \newbool{LWR@doingtbrule}
8116 \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.

```
8117 \newbool{LWR@doingcmidrule}
8118 \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.

```
8119 \newbool{LWR@tableparcell}
```

Bool LWR@skippingmrowcell True if are doing an empty \multirow cell, and thus there is no data tag to close.

```
8120 \newbool{LWR@skippingmrowcell}
```

Bool LWR@skippingmcolrowcell True if are doing an empty \multicolumnrow cell, and thus there is no data tag to close, and do not print @ and ! columns.

```
8121 \newbool{LWR@skippingmcolrowcell}
```

Bool LWR@usedmultirow Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

```
8122 \newbool{LWR@usedmultirow}
```

Bool LWR@foundmrowcell Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

```
8123 \newbool{LWR@foundmrowcell}
```

Bool LWR@skipatbang True if just finished a \multicolumn so should not create the trailing @ or ! columns table data cells.

```
8124 \newbool{LWR@skipatbang}
```

Bool LWR@emptyatbang True if finishing a row and should print empty @ or ! column table data cells.

```
8125 \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.

```
8126 \newbool{LWR@intabularmetadata}
8127 \boolfalse{LWR@intabularmetadata}
```

Bool LWR@exittingtabular When \end is found, turns off the next opening data tag.

```
8128 \newbool{LWR@exittingtabular}
```

Bool `LWR@tabularmutemods` Mutes HTML output for @, !, < and >.

This is used while printing the final row to generate \bottomrules.

```
8129 \newbool{LWR@tabularmutemods}
```

Bool `LWR@validtablecol` True if found a valid table column type.

```
8130 \newbool{LWR@validtablecol}
```

Bool `LWR@opttablecol` True if found a table column optional argument.

```
8131 \newbool{LWR@opttablecol}
```

Used to add a style to a table data cell:

```
8132 \newbool{LWR@tdhavecellstyle}
```

Ctr `LWR@tabularDepth` Tracks whether & is being used inside a tabular.

```
8133 \newcounter{LWR@tabulardepth}
```

```
8134 \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.

```
8135 \newcounter{LWR@tabularpardepth}
```

```
8136 \setcounter{LWR@tabularpardepth}{0}
```

```
8137 \newcommand*{\LWR@colsresult}{}%temp storage for column format results
```

```
8138 \newcommand*{\LWR@position}{}%
```

```
8139 \newcommand*{\LWR@pleft}{}%
```

```
8140 \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 L<sup>A</sup>T<sub>E</sub>X table column, without @, !, >, <, or the vertical bar.

`\LWR@strresult` Holds the result of Str functions.

```
8141 \providecommand*{\LWR@strresult}{}%
```

```
8142 \providecommand*{\LWR@strresulttwo}{}%
```

`\LWR@origcolspec` Holds the original column specs given to tabular.

```
8143 \newcommand*{\LWR@origcolspec}{}%
```

Ctr `LWR@tablecolspeccwidth` Holds the number of tokens in the table columns specification.

This is 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 L<sup>A</sup>T<sub>E</sub>X columns in the table.)

```
8144 \newcounter{LWR@tablecolspeccwidth}
```

Ctr `LWR@tablecolspeccindex` While parsing the L<sup>A</sup>T<sub>E</sub>X table column specification, starts at 1 and is incremented per token of the specification.

```
8145 \newcounter{LWR@tablecolspeccindex}
```

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.

```
8146 \newcounter{LWR@tableLaTeXcolindex}
```

Ctr `LWR@tabletotalLaTeXcols` While parsing a table column specification, begins at 0 and increments by 1 per L<sup>A</sup>T<sub>E</sub>X table column. Eventually holds the final number of L<sup>A</sup>T<sub>E</sub>X table columns in each row, not counting @ and ! columns. (In HTML, @ and ! cells become their own columns, but are not included in `LWR@tabletotalLaTeXcols`.)

```
8147 \newcounter{LWR@tabletotalLaTeXcols}
```

Ctr `LWR@tabletotalLaTeXcolsnext` Holds the next L<sup>A</sup>T<sub>E</sub>X table column index while parsing, equal to one more than `LWR@tabletotalLaTeXcols`.

```
8148 \newcounter{LWR@tabletotalLaTeXcolsnext}
```

`LWR@colatspec` A data array of specifications for @ columns. The leftmost's index is `leftheadge`, the others are counter values. See section 41.

`LWR@colbangspec` A data array of specifications for ! columns. The leftmost's index is `leftheadge`, the others are counter values. See section 41.

`LWR@colbeforespec` A data array of specifications for > columns.

`LWR@col afterspec` 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 <div>s were added to the current tabular data cell.

```
8149 \newcounter{LWR@cellcolordepth}
```

### 73.4.1 Multicolumn variables

```
8150 \newcounter{LWR@tablemulticolwidth}
```

Indexes into the multicolumn specification:

```
8151 \newcounter{LWR@tablemulticolspos}
```

Remembers multicolumn vertical rules if found in the column spec.

```
8152 \newcounter{LWR@mcolvertbarsl}
8153 \newcounter{LWR@mcolvertbarsr}
8154 \newcounter{LWR@mcolvertbarsldash}
8155 \newcounter{LWR@mcolvertbarsrdash}
8156 \newbool{LWR@mcolvertbaronleft}
```

### 73.4.2 Longtable variables

Bool LWR@starredlongtable Per the caption package, step the counter if longtable\*.

```
8157 \newbool{LWR@starredlongtable}
8158 \boolexfalse{LWR@starredlongtable}
```

### 73.4.3 Midrule variables

Ctr LWR@midrulecounter Indexes across the LWR@midrules and LWR@trim<l/r>rules data arrays.

```
8159 \newcounter{LWR@midrulecounter}
```

## 73.5 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@insertatbangcols

```
8160 \newcommand*{\LWR@insertatbangcols}{%
8161     \ifbool{LWR@skipatbang}{%
8162         {}%
8163         {%
8164             \LWR@printatbang{at}{\arabic{LWR@tableLaTeXcolindex}}%
8165             \LWR@printatbang{bang}{\arabic{LWR@tableLaTeXcolindex}}%
8166         }%
8167     }%
```

\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.

```
8168 \newcommand*{\LWR@closetabledatacell}{%
8169     \booltrue{LWR@intabularmetadata}%
8170     \ifbool{LWR@exittingtabular}{%
8171         {%
```

```

8172      \LWR@stopars%
8173  }%
8174  {%
8175    \ifboolexpr{bool{\LWR@skippingmrowcell} or bool{\LWR@skippingmcolrowcell}}{%
8176      {%
8177        \LWR@stopars%

```

If not skipping a `\multicolumn{row}` cell, insert the @ and ! columns after this non-existent column.

```

8178      \ifbool{\LWR@skippingmcolrowcell}{%
8179        {}%
8180        {\LWR@insertatbangcols}%
8181      }%
8182      {%
8183        \LWR@not skippingmrowcell

```

Insert any < then any @ and ! column contents, unless muted for the `\bottomrule` or a `\multicolumn`:

```

8183      \unskip%
8184      \ifboolexpr{%
8185        bool{\LWR@tabularmutemods} or
8186        bool{\LWR@skipatbang} or
8187        bool{\LWR@emptyatbang}%
8188      }%
8189      {}%
8190      {%
8191        \LWR@getexparray{\LWR@colaferspec}%
8192        {\arabic{\LWR@tableLaTeXcolindex}}%
8193      }%

```

Close paragraphs:

```

8194      \LWR@stopars%
8195      \boolexfalse{\LWR@tableparcell}%

```

Close the table data cell.

Close any color <div>s.

```

8196      \whileboolexpr{test {\ifnumcomp{\value{\LWR@cellcolordepth}}{>}{0}}}{%
8197        \LWR@htmlltag{/div}\LWR@orignewline%
8198        \defaddtocounter{\LWR@cellcolordepth}{-1}%
8199      }%

```

Skip the @ and ! cells if are closing a multicolumn cell.

```

8200      \leavevmode\unskip\LWR@htmlltag{/td}\LWR@orignewline%
8201      \global\booltrue{\LWR@tabularcelladded}%
8202      \LWR@insertatbangcols%
8203      {%
8204        \LWR@not skipping mrowcell

```

```
8205  \boolfalse{LWR@skippingmrowcell}%
8206  \boolfalse{LWR@skippingmcolrowcell}%
8207  \boolfalse{LWR@skipatbang}%
```

Color control. Column is set by `>{}` for each cell, so it must be cleared here.

```
8208  \def\LWR@cellHTMLcolor{}%
8209  \def\LWR@columnHTMLcolor{}%
8210  \defcounter{LWR@cellcolordepth}{0}%
8211 }
```

When not used inside a `tabular`, & performs its original function as recorded here ( with catcode 4 ).

```
8212 \let\LWR@origampmacro&
8213 \end{warpHTML}
```

### 73.5.1 Handling &

**for HTML output:** 8214 `\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.

```
8215 \newcommand*{\LWR@tabularampersand}{%
8216   \LWR@traceinfo{LWR@tabularampersand}%
8217   \ifnumcomp{\value{LWR@tabulardepth}}{>}{0}%
8218   {%
```

If not skipping a multirow cell, close the current data cell.

```
8219      \unskip%
8220      \LWR@closetabledatacell%
```

Move to the next column.

```
8221      \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
8222      \global\boolfalse{LWR@tabularcelladded}%
```

Look at the next token to decide multi or single column data tag.

```
8223      \LWR@getmynexttoken%
8224  }%
```

If not inside a tabular, performs the original action:

```
8225      {%
8226          \LWR@origampmacro%
8227      }%
8228 }
```

& 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.

### 73.5.2 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.

```
8229 \newcommand*{\LWR@tabularfinishrow}{%
```

If not exiting the tabular, or doing a rule, or have already started a row, finish this row:

```
8230  \ifboolexpr{%
8231      not bool {\LWR@exittingtabular} or%
8232      bool{\LWR@doingtbrule} or%
8233      bool{\LWR@doingcmidrule} or%
8234      test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
8235      test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}} or%
8236      bool{\LWR@startedrow}%
8237  }{%
```

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:

```
8238  \ifbool{\LWR@exittingtabular}{%
8239      \booltrue{\LWR@tabularmutemods}%
8240  }{%
8241      \boolfalse{\LWR@tabularmutemods}%
8242  }%
```

Locally reenable the table data tags until finished with the final row:

```
8243  \boolfalse{\LWR@exittingtabular}%
```

Generate table data tags and ampersands until the right edge:

```

8244      \whileboolexpr{%
8245          test {
8246              \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{}
8247                  {\value{LWR@tabletotalLaTeXcols}}
8248          } or %
8249          (%
8250              \bool{LWR@intabularmetadata} and%
8251              not \bool{LWR@tabularcelladded} and%
8252              test {
8253                  \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{}
8254                      {\value{LWR@tabletotalLaTeXcols}}
8255              }%
8256          )%
8257      }%
8258      {%
8259          \LWR@tabledataasinglecolumntag%

```

The following is essentially `\LWR@tabularampersand` with `LWR@emptyatbang` added to empty the following cells:

```

8260      \LWR@closetabledatacell%
8261      \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
8262      \global\boolfalse{LWR@tabularcelladded}%
8263      \booltrue{LWR@emptyatbang}%

```

Starts the next cell:

```

8264      \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{}
8265          {\value{LWR@tabletotalLaTeXcols}}%
8266          {(\LWR@getmynexttoken)}%
8267      }%
8268  }%

```

Reenable the original `LWR@exittingtabular` to close the entire table:

```

8269      \ifbool{LWR@tabularmutemods}{%
8270          \booltrue{LWR@exittingtabular}%
8271      }{%
8272          \boolfalse{LWR@exittingtabular}%
8273      }%
8274      \boolfalse{LWR@tabularmutemods}%

8275      \boolfalse{LWR@emptyatbang}%
8276      }{}% ifboolexpr
8277 }

```

## 73.6 Handling \\

Inside tabular, `\\` is redefined to `\LWR@tabularendofline`

Throws away options `\[dim]` or `\*\*`

---

\LWR@tabularendofline

8278 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%

Finish the row:

```
8279     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{}
8280         {\value{LWR@tabletotalLaTeXcols}}%
8281         {\LWR@tabularfinishrow}%
8282         {\LWR@closetabledatacell}%
8283     \LWR@htmlltag{/tr}\LWR@orignewline%
```

xcolor row color support:

8284 \@rowc@lors%

No longer inside a data cell:

8285 \booltrue{LWR@intabularmetadata}%

Not yet started a table row:

8286 \boolfalse{LWR@startedrow}%

Additional setup:

```
8287     \defcounter{LWR@hlines}{0}%
8288     \defcounter{LWR@hdashedlines}{0}%
8289     \boolfalse{LWR@doingtbrule}%
8290     \boolfalse{LWR@doingcmidrule}%
8291     \LWR@clearmidrules%
```

8292 \def\LWR@rowHTMLcolor{}%

Start at first column:

8293 \defcounter{LWR@tableLaTeXcolindex}{1}%

Have not yet added data in this column:

8294 \global\boolfalse{LWR@tabularcelladded}%

Allow TeX to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```
8295     \LWR@stopars%
8296     \LWR@origpar%
```

Look at the next token to decide between single column data tag or a special case:

```
8297     \LWR@getmynexttoken%
8298 }
```

### 73.7 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}.

```
8299 \newcommand*{\LWR@columnspeclookahead}[1]{%
8300   \setcounter{LWR@tempcountone}{\value{\LWR@tablecolsindex}}%
8301   \addtocounter{LWR@tempcountone}{#1}%
8302   \fullexpandarg%
8303   \StrChar{\LWR@origcolspec}{\arabic{LWR@tempcountone}}[\LWR@strresulttwo]%
```

Get the contents of the first group in \LWR@strresulttwo:

```
8304   \exploregroups%
8305   \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
8306   \noexploregroups%
8307 }
```

### 73.8 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```
8308 \newcommand*{\LWR@colparameter}[]
```

\LWR@parseatcolumn Handles @{text} columns.

```
8309 \newcommand*{\LWR@parseatcolumn}[%
```

Move to the next token after the '@':

```
8310   \LWR@traceinfo{@ column}%
8311   \defaddtocounter{LWR@tablecolsindex}{1}%
```

Read the next token into \LWR@colparameter, expanding once:

```
8312   \LWR@traceinfo{about to read the next token:}%
8313   \expandarg%
8314   \StrChar{\LWR@origcolspec}%
8315     {\arabic{LWR@tablecolsindex}}[\LWR@colparameter]%
8316   \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```
8317   \LWR@traceinfo{have now read the next token}%
8318   \ifnumcomp{\value{LWR@tabletotalTeXcols}}{=}{0}%
8319   {% left edge of the table:
8320     \LWR@traceinfo{@ the left edge}%
8321     \LWR@setexparray[LWR@colatspec]%
```

```

8322      {leftedge}%
8323      {\expandafter\@firstofone\LWR@colparameter}%
8324      \LWR@traceinfo{at the left edge: %
8325          \LWR@getexpararray{\LWR@colatspec}{leftedge}}%
8326      }%
8327      {% not at the left edge:
8328          \LWR@traceinfo{not at the left edge}%
8329          \LWR@setexpararray{\LWR@colatspec}%
8330              {\arabic{\LWR@tabletotalLaTeXcols}}%
8331              {\expandafter\@firstofone\LWR@colparameter}%
8332              \LWR@traceinfo{at \arabic{\LWR@tabletotalLaTeXcols}: %
8333                  \LWR@getexpararray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcols}}}%
8334      }%
8335      \let\LWR@colparameter\relax%
8336      \booltrue{\LWR@validtablecol}%
8337 }

```

\LWR@parsebangcolumn Handles !{text} columns.

```
8338 \newcommand*{\LWR@parsebangcolumn}{%
```

Move to the next token after the '!':

```

8339      \LWR@traceinfo{bang column}%
8340      \defaddtocounter{\LWR@tablecolsindex}{1}%

```

Read the next token into \LWR@colparameter, expanding once:

```

8341      \LWR@traceinfo{about to read the next token:}%
8342      \expandarg%
8343      \StrChar{\LWR@origcolsindex}%
8344          {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
8345      \fullexpandarg%

```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

8346      \LWR@traceinfo{have now read the next token}%
8347      \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8348      {% left edge of the table:
8349          \LWR@traceinfo{at the left edge}%
8350          \LWR@setexpararray{\LWR@colbangspec}%
8351              {leftedge}%
8352              {\expandafter\@firstofone\LWR@colparameter}%
8353      }%
8354      {% not at the left edge:
8355          \LWR@traceinfo{not at the left edge}%
8356          \LWR@setexpararray{\LWR@colbangspec}%
8357              {\arabic{\LWR@tabletotalLaTeXcols}}%
8358              {\expandafter\@firstofone\LWR@colparameter}%
8359          \LWR@traceinfo{bang \arabic{\LWR@tabletotalLaTeXcols}: \LWR@colparameter!}%
8360      }%
8361      \let\LWR@colparameter\relax%
8362      \booltrue{\LWR@validtablecol}%
8363 }

```

\LWR@parsebeforecolumn Handles >{text} columns.

```
8364 \newcommand*{\LWR@parsebeforecolumn}{%
```

Move to the next token after the '>':

```
8365 \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```
8366 \expandarg%
8367 \StrChar{\LWR@origcolspec}%
8368 {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
8369 \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```
8370 \LWR@setexpparray{\LWR@colbeforespec}%
8371 {\arabic{\LWR@tabletotalLaTeXcolsnext}}%
8372 {\expandafter\@firstofone\LWR@colparameter}%
8373 \let\LWR@colparameter\relax%
8374 \booltrue{\LWR@validtablecol}%
8375 }
```

\LWR@parseaftercolumn Handles <{text} columns.

```
8376 \newcommand*{\LWR@parseaftercolumn}{%
```

Move to the next token after the '<':

```
8377 \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```
8378 \expandarg%
8379 \StrChar{\LWR@origcolspec}%
8380 {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
8381 \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```
8382 \LWR@setexpparray{\LWR@col afterspec}%
8383 {\arabic{\LWR@tabletotalLaTeXcols}}%
8384 {\expandafter\@firstofone\LWR@colparameter}%
8385 \let\LWR@colparameter\relax%
8386 \booltrue{\LWR@validtablecol}%
8387 }
```

\LWR@parsebarcolumn Handles vertical rules.

```
8388 \newcommand*{\LWR@parsebarcolumn}{%
8389 \LWR@traceinfo{\LWR@parsebarcolumn}}%
```

Remember the bar at this position:

```

8390  \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8391  {% left edge of the table:
8392      \edef\LWR@tempone{\LWR@getexpparray{LWR@colbarspec}{leftedge}}%
8393      \ifdefstring{\LWR@tempone}{tvertbarl}%
8394          {\LWR@setexpparray{LWR@colbarspec}{leftedge}{tvertbarldouble}}%
8395          {\LWR@setexpparray{LWR@colbarspec}{leftedge}{tvertbarl}}%
8396      }%
8397  {% not at the left edge:
8398      \edef\LWR@tempone{%
8399          \LWR@getexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
8400      }%
8401      \ifdefstring{\LWR@tempone}{tvertbarr}%
8402      {%
8403          \LWR@setexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdouble}}%
8404      }%
8405      {%
8406          \LWR@setexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}{tvertbarr}}%
8407      }%
8408      }%
8409  }%
8410  }%
8411  \booltrue{LWR@validtablecol}%
8412 }
```

\LWR@parsecoloncolumn

Handles vertical rules.

```

8413 \newcommand*{\LWR@parsecoloncolumn}{%
8414     \LWR@traceinfo{LWR@parsecoloncolumn}%
```

Remember the bar at this position:

```

8415  \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8416  {% left edge of the table:
8417      \edef\LWR@tempone{\LWR@getexpparray{LWR@colbarspec}{leftedge}}%
8418      \ifdefstring{\LWR@tempone}{tvertbarldash}%
8419          {\LWR@setexpparray{LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
8420          {\LWR@setexpparray{LWR@colbarspec}{leftedge}{tvertbarldash}}%
8421      }%
8422  {% not at the left edge:
8423      \edef\LWR@tempone{%
8424          \LWR@getexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
8425      }%
8426      \ifdefstring{\LWR@tempone}{tvertbarrdash}%
8427          {\LWR@setexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%
8428          {\LWR@setexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdash}}%
8429      }%
8430      }%
8431  }%
8432  \booltrue{LWR@validtablecol}%
8433 }
```

\LWR@parsesemicoloncolumn Handles vertical rules.

```
8434 \newcommand*\{\LWR@parsesemicoloncolumn\}{%
```

Treat ; as a : column:

```
8435 \LWR@parsecoloncolumn%
```

Skip the following width token:

```
8436 \defaddtocounter{\LWR@tablecolsindex}{1}%
8437 }
```

### 73.9 Parsing ‘l’, ‘c’, or ‘r’ columns

\LWR@parsenormalcolumn {*thiscolumn*}

Add to the accumulated column specs, advance counters, and pre-clear another column of at, before, and after specs.

```
8438 \newcommand*\{\LWR@parsenormalcolumn\}[1]{%
8439   \defaddtocounter{\LWR@tabletotalLaTeXcols}{1}%
8440   \defaddtocounter{\LWR@tabletotalLaTeXcolsnext}{1}%
8441   \LWR@setexpparray{\LWR@tablecolspec}{\arabic{\LWR@tabletotalLaTeXcols}}{\#1}%
8442   \LWR@traceinfo{normal column \arabic{\LWR@tabletotalLaTeXcols}: #1}%
8443   \LWR@setexpparray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8444   \LWR@setexpparray{\LWR@colbangspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8445   \LWR@setexpparray{\LWR@colbeforespec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8446   \LWR@setexpparray{\LWR@colafterspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8447   \LWR@setexpparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8448   \booltrue{\LWR@validtablecol}%
8449 }
```

### 73.10 Parsing ‘p’, ‘m’, or ‘b’ columns

\LWR@parsepcolumn {*thiscolumn*} The width will be ignored.

```
8450 \newcommand*\{\LWR@parsepcolumn\}[1]{%
```

Converts to the given column type:

```
8451 \LWR@parsenormalcolumn{\#1}%
```

Skips the following width token:

```
8452 \defaddtocounter{\LWR@tablecolsindex}{1}%
8453 }
```

### 73.11 Parsing ‘w’ columns

\LWR@parsewcolumn The width will be ignored.

```
8454 \newcommand*{\LWR@parsewcolumn}{%
8455     \LWR@columnspeclookahead{1}%
8456     \expandafter\lwr@parseenormalcolumn\expandafter{\LWR@strresulttwo}%
}
```

Skips the following width and alignment tokens:

```
8457     \defaddtocounter{\LWR@tablecolspectindex}{2}%
8458 }
```

### 73.12 Parsing ‘\*’ columns

\LWR@parsestarcolumn Star columns should already have been expanded, so this should never be used.

```
8459 \newcommand*{\LWR@parsestarcolumn}{%
8460     \defaddtocounter{\LWR@tablecolspectindex}{2}%
8461 }
```

### 73.13 Parsing ‘D’ columns

From the `dcolumn` package.

\LWR@parseDcolumn {*thiscolumn*} The three parameters will be ignored.

```
8462 \newcommand*{\LWR@parseDcolumn}[1]{%
```

Converts to the given column type.

```
8463     \lwr@parseenormalcolumn{#1}%

```

Skips the following three parameters.

```
8464     \defaddtocounter{\LWR@tablecolspectindex}{3}%
8465 }
```

### 73.14 Expanding the star column specifications

Ctr \LWR@starcount Internal count for duplicating star columns.

```
8466 \newcount\LWR@starcount
```

\LWR@expcolspec Temporary storage used to build the expanded column specifier.

```
8467 \newcommand*{\LWR@expcolspec}{}%
```

Ctr \LWR@splitstarindex Indexes into the column specifiers.

```
8468 \newcounter{LWR@splitstarindex}
```

Ctr \LWR@splitstarcopies Number of copies.

```
8469 \newcounter{LWR@splitstarcopies}
```

\LWR@splitstarcontents Contents to duplicate.

```
8470 \newcommand*{\LWR@splitstarcontents}{}%
```

\expandcolspec Expands \LWR@origcolspec for star columns.

```
8471 \newcommand*{\expandcolspec}{%
```

Find the position of any star token.

```
8472 \StrPosition{\LWR@origcolspec}{*}[\LWR@tempone]%
```

Expand until no stars are found:

```
8473 \whileboolexpr{ test {\ifnumgreater{\LWR@tempone}{0}}}%
8474 {%
```

Begin with any characters to the left of the star.

```
8475 \setcounter{LWR@splitstarindex}{\LWR@tempone}%
8476 \addtocounter{LWR@splitstarindex}{-1}%
8477 \StrLeft{\LWR@origcolspec}{\value{LWR@splitstarindex}}[\LWR@expcolspec]%
```

Move past the star to remember its number of copies.

```
8478 \addtocounter{LWR@splitstarindex}{2}%
8479 \StrChar{\LWR@origcolspec}{\value{LWR@splitstarindex}}[\LWR@tempone]%
8480 \setcounter{LWR@splitstarcopies}{\expandafter\firstofone\LWR@tempone}%
```

Move past the number of copies and remember the contents.

```
8481 \addtocounter{LWR@splitstarindex}{1}%
8482 \StrChar{\LWR@origcolspec}{\value{LWR@splitstarindex}}[\LWR@splitstarcontents]%
```

For each copy, append the contents.

```
8483 \ifnumgreater{\value{LWR@splitstarcopies}}{0}%
8484 {%
8485 \LWR@starcount=\value{LWR@splitstarcopies}%
8486 \loop
8487 \appto{\LWR@expcolspec}{%
```

Table 12: Tabular baseline

1	p	m	b	r
			bot	
			mid	bot
1	par	mid	bot	r
	par	mid		
	par			

(Remove the enclosing braces.)

```

8488           \expandafter\@firstofone\LWR@splitstarcontents%
8489           }%
8490           \advance \LWR@starcount -1
8491           \ifnum \LWR@starcount>0 \repeat
8492   }{}%

```

Remove any token to the left, and append the rightmost remaining tokens.

```

8493   \StrGobbleLeft{\LWR@origcolspec}{\value{\LWR@splitstarindex}}[\colspecremainder]%
8494   \appto{\LWR@expcolspec}{\colspecremainder}%

```

Remember the final result.

```
8495   \edef\LWR@origcolspec{\LWR@expcolspec}%
```

See if more stars exist.

```

8496   \StrPosition{\LWR@origcolspec}{*}[\LWR@tempone]%
8497   }%
8498 }
```

### 73.15 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,

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.
-

which is the number of & and \\ in each line, but which does not include @, !, <, > specifications in the count.

```
8499 \newcommand*{\LWR@parsetablecols}[1]{%
8500     \LWR@traceinfo{\LWR@parsetablecols}%
}
```

Remember the original supplied column spec:

```
8501     \renewcommand*{\LWR@origcolspec}{#1}%

```

Remove spaces:

```
8502     \expandarg%
8503     \StrSubstitute{\LWR@origcolspec}{ }{}[\LWR@origcolspec]%
```

Expand any star columns:

```
8504     \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:

```
8505     \defcounter{\LWR@tabletotalLaTeXcols}{0}%
8506     \defcounter{\LWR@tabletotalLaTeXcolsnext}{1}%
8507     \LWR@setexpparray{\LWR@colatsspec}{leftedge}{}%
8508     \LWR@setexpparray{\LWR@colatsspec}{1}{}%
8509     \LWR@setexpparray{\LWR@colatsspec}{2}{}%
8510     \LWR@setexpparray{\LWR@colatsspec}{3}{}%
8511     \LWR@setexpparray{\LWR@colbangspec}{leftedge}{}%
8512     \LWR@setexpparray{\LWR@colbangspec}{1}{}%
8513     \LWR@setexpparray{\LWR@colbangspec}{2}{}%
8514     \LWR@setexpparray{\LWR@colbangspec}{3}{}%
8515     \LWR@setexpparray{\LWR@colbeforespec}{1}{}%
8516     \LWR@setexpparray{\LWR@colbeforespec}{2}{}%
8517     \LWR@setexpparray{\LWR@colbeforespec}{3}{}%
8518     \LWR@setexpparray{\LWR@colafterspec}{1}{}%
8519     \LWR@setexpparray{\LWR@colafterspec}{2}{}%
8520     \LWR@setexpparray{\LWR@colafterspec}{3}{}%
8521     \LWR@setexpparray{\LWR@colbarspec}{leftedge}{}%
8522     \LWR@setexpparray{\LWR@colbarspec}{1}{}%
8523     \LWR@setexpparray{\LWR@colbarspec}{2}{}%
8524     \LWR@setexpparray{\LWR@colbarspec}{3}{}%
```

Starting at the first column specification:

```
8525     \defcounter{\LWR@tablecolspecindex}{1}%

```

Place the colspecs string length into `\LWR@strresult`, and remember the number of characters in the column specification:

```

8526   \expandarg%
8527   \StrLen{\LWR@origcolsing}{[\LWR@strresult]}%
8528   \fullexpandarg%
8529   \LWR@traceinfo{original column spec length: \LWR@strresult}%
8530   \defcounter{LWR@tablecolsingwidth}{\LWR@strresult}%

```

Haven't seen any optional arguments so far

```
8531   \boolfalse{LWR@opttablecol}%
```

Scan through the column specifications:

```

8532   \whileboolexpr{%
8533     not test{%
8534       \ifnumcomp{\value{LWR@tablecolsingindex}}{>}{%
8535         {\value{LWR@tablecolsingwidth}}%}
8536       }%
8537     }%
8538   {%

```

Place the next single-character column type into \LWR@strresult:

```

8539   \expandarg%
8540   \StrChar{\LWR@origcolsing}{\arabic{LWR@tablecolsingindex}}[\LWR@strresult]%
8541   \LWR@traceinfo{position \arabic{LWR@tablecolsingindex}: \LWR@strresult}%
8542   \fullexpandarg%

```

Not yet found a valid column type:

```
8543   \boolfalse{LWR@validtablecol}%
```

Skip over any optional arguments, such as `\siunitx S` column:

```
8544   \IfStrEq{\LWR@strresult}{}{\booltrue{LWR@opttablecol}}{}
```

Throw away anything found inside the optional argument:

```

8545   \ifbool{LWR@opttablecol}{%
8546     {}% inside an optional argument
8547     {}% not an optional tabular argument

```

Not inside an optional argument, so consider the column type:

```

8548   \IfStrEq{\LWR@strresult}{l}{\LWR@parsonormalcolumn{l}}{%
8549   \IfStrEq{\LWR@strresult}{c}{\LWR@parsonormalcolumn{c}}{%
8550   \IfStrEq{\LWR@strresult}{r}{\LWR@parsonormalcolumn{r}}{%
8551   \IfStrEq{\LWR@strresult}{L}{\LWR@parsonormalcolumn{l}}{%
8552   \IfStrEq{\LWR@strresult}{C}{\LWR@parsonormalcolumn{c}}{%
8553   \IfStrEq{\LWR@strresult}{R}{\LWR@parsonormalcolumn{r}}{%
8554   \IfStrEq{\LWR@strresult}{J}{\LWR@parsonormalcolumn{l}}{%
8555   \IfStrEq{\LWR@strresult}{S}{\LWR@parsonormalcolumn{c}}{%
8556   \IfStrEq{\LWR@strresult}{s}{\LWR@parsonormalcolumn{c}}{%

```

---

```

8557  \IfStrEq{\LWR@strresult}{\detokenize{@}}{\LWR@parseatcolumn}{ }%
8558  \IfStrEq{\LWR@strresult}{!}{\LWR@parsebangcolumn}{ }%
8559  \IfStrEq{\LWR@strresult}{>}{\LWR@parsebeforecolumn}{ }%
8560  \IfStrEq{\LWR@strresult}{<}{\LWR@parseaftercolumn}{ }%
8561  \IfStrEq{\LWR@strresult}{|}{\LWR@parsebarcolumn}{ }%
8562  \IfStrEq{\LWR@strresult}{:}{\LWR@parsecoloncolumn}{ }%
8563  \IfStrEq{\LWR@strresult}{;}{\LWR@parsingcoloncolumn}{ }%

8564  \IfStrEq{\LWR@strresult}{p}{\LWR@parsepcolumn{p}}{ }%
8565  \IfStrEq{\LWR@strresult}{m}{\LWR@parsepcolumn{m}}{ }%
8566  \IfStrEq{\LWR@strresult}{b}{\LWR@parsepcolumn{b}}{ }%

8567  \IfStrEq{\LWR@strresult}{w}{\LWR@parsewcolumn}{ }%
8568  \IfStrEq{\LWR@strresult}{W}{\LWR@parsewcolumn}{ }%

```

A star column:

```
8569  \IfStrEq{\LWR@strresult}{*}{\LWR@parsestarcolumn}{ }%
```

From the **dcolumn** package:

```
8570  \IfStrEq{\LWR@strresult}{D}{\LWR@parseDcolumn{c}}{ }%
```

From the **tabularx** package. X column has no parameter, but will be given paragraph tags.

```
8571  \IfStrEq{\LWR@strresult}{X}{\LWR@parsingnormalcolumn{X}}{ }%
```

---

Many people define centered versions “P”, “M”, and “B”:

---

```
\newcolumntype{P}[1]{>{\centering\arraybackslash}p{#1}}
```

---

```

8572  \IfStrEq{\LWR@strresult}{P}{\LWR@parsepcolumn{P}}{ }%
8573  \IfStrEq{\LWR@strresult}{M}{\LWR@parsepcolumn{M}}{ }%
8574  \IfStrEq{\LWR@strresult}{B}{\LWR@parsepcolumn{B}}{ }%

```

If this column was an invalid column type, convert it to an **l** column:

```

8575  \ifbool{\LWR@validtablecol}{ }{%
8576    \LWR@traceinfo{invalid column type: \LWR@strresult}{ }%
8577    \LWR@parsingnormalcolumn{l}{ }%
8578  }{ }%
8579  \not an optional column argument

```

If read the closing bracket, no longer inside the optional argument:

```
8580  \IfStrEq{\LWR@strresult}{[]}{\boolfalse{LWR@opttablecol}}{ }%
```

Move to the next character:

```
8581     \defaddtocounter{LWR@tablecolspeccindex}{1}%
8582     }% whiledo
8583 }
```

### 73.16 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.

```
8584 \@ifundefined{rownum}{\newcount\rownum}{}
```

`\@rowcolors` Emulated in case `xcolor` is not used.

```
8585 \newcommand*\@rowcolors{}
```

`\@rowc@lors` Emulated in case `xcolor` is not used.

```
8586 \newcommand*\@rowc@lors{}
```

`\LWR@xcolorrowHTMLcolor` Emulated `xcolor` row color.

```
8587 \newcommand*\LWR@xcolorrowHTMLcolor{}
```

`\LWR@columnHTMLcolor` `HTMLstyle` code for the column color.

```
8588 \def\LWR@columnHTMLcolor{}
```

`\LWR@rowHTMLcolor` `HTMLstyle` code for the row color.

```
8589 \def\LWR@rowHTMLcolor{}
```

`\LWR@cellHTMLcolor` `HTMLstyle` code for the cell color.

```
8590 \def\LWR@cellHTMLcolor{}
```

`\LWR@ruleHTMLcolor` `HTMLstyle` code for the rule color.

```
8591 \newcommand*\LWR@ruleHTMLcolor{}
```

\rowcolor [*model*] {[*color*] [*left overhang*] [*right overhang*] Print version. The HTML version is in `lwarf-colortbl`. Used before starting a tabular data cell, thus `\LWR@getmynexttoken`.

```
8592 \newcommand{\rowcolor}{\LWR@getmynexttoken}%
```

\arrayrulecolor [*model*] {[*color*]}

\arrayrulecolornexttoken [*model*] {[*color*]}

Print versions for use outside and inside a tabular:

```
8593 \newcommand{\arrayrulecolor}[2][named]{}
8594 \newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}
```

\doublerulesepcolor [*model*] {[*color*]}

\doublerulesepcolornexttoken [*model*] {[*color*]}

Print versions for use inside and outside a tabular:

```
8595 \newcommand{\doublerulesepcolor}[2][named]{}
8596 \newcommand{\doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
```

### 73.17 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.

```
8597 \newcommand{\LWR@maybenewtablerow}{%
8598   \ifbool{\LWR@startedrow}{%
8599     \LWR@startedrow%
8600   }{%
8601     \LWR@notstartedrow%
}}
```

Remember that now have started the row:

```
8602 \booltrue{\LWR@startedrow}%
```

Create the row tag, with a class if necessary.

```
8603 \booltrue{\LWR@intabularmetadata}%
8604 \ifboolexpr{%
8605   test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} \or%
8606   test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}}%
8607 }{%
8608   \LWR@htmltag{tr class="hline"}%
8609   \LWR@orignewline%
8610 }{%
8611 }%
8612 \LWR@notdoinghline%
```

```

8613          \ifbool{\LWR@doingtbrule}{%
8614              {%
8615                  \ifdefvoid{\LWR@ruleHTMLcolor}{%
8616                      \LWR@htmltag{tr class="tbrule"}%
8617                  }{%
8618                      \LWR@htmltag{%
8619                          tr class="tbrule" % space
8620                          style="border-top: 1px solid % space
8621                              \LWR@origpound\LWR@ruleHTMLcolor "%
8622                      }%
8623                  }%
8624                  \LWR@orignewline%
8625              }%
8626              {\LWR@htmltag{tr}\LWR@orignewline}%
8627          }% end of not doing hline
8628      }% end of not started the row
8629 }

```

### 73.18 Printing vertical bar tags

\LWR@printbartag {*<index>*}

Adds to a tabular data cell an HTML class name for a left/right vertical bar.

```

8630 \newcommand*{\LWR@printbartag}[1]{%
8631     \LWR@traceinfo{\LWR@printbartag !#1!}%
8632     \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}{%
8633         {}% muting or empty
8634         \% not muting
8635             \edef\LWR@tempone{\LWR@getexpparray{\LWR@colbarspec}{#1}}%
8636             \ifdefempty{\LWR@tempone}{}{\LWR@tempone}%
8637     }% not muting
8638     \LWR@traceinfo{\LWR@printbartag done}%
8639 }

```

### 73.19 Printing @ or ! tags

\LWR@printatbang {*at—or—bang>*} {*<index>*}

```
8640 \newcommand*{\LWR@printatbang}[2]{%
```

Fetch the column at or bang spec:

```

8641     \xdef\LWR@atbangspec{\LWR@getexpparray{\LWR@col#1spec}{#2}}%
8642     \LWR@traceinfo{@bang: #2 !\LWR@atbangspec!}%

```

Only generate if is not empty;

```

8643     \ifdefempty{\LWR@atbangspec}{%
8644     }%

```

```

8645  {%
8646    not empty
8647    \LWR@htmltag{%
8648      td class="td#1%
8649      \LWR@subaddcmidruletrim{}{}%
8650      \LWR@printbartag{\#2}%
8651      "%
8652      \LWR@tdstartstyles%
8653      \LWR@addcmidrulewidth%
8654      \LWR@addcdashline%
8655      \LWR@addtabularrulecolors%
8656      \LWR@tdendstyles%
8657    }%

```

Create an empty cell if muting for the \bottomrule:

```

8657  \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}{%
8658  {}%
8659  {\LWR@atbangspec}%
8660 %
8661  \LWR@htmltag{/td}\LWR@orignewline%
8662  \global\booltrue{\LWR@tabularcelladded}%
8663  }% not empty
8664 }%

```

\LWR@addleftmostbartag

```

8665 \newcommand*{\LWR@addleftmostbartag}{%
8666  \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{1}{%
8667    \LWR@printbartag{leftedge}%
8668  }%
8669 }

```

\LWR@tabularleftedge

```

8670 \newcommand*{\LWR@tabularleftedge}{%
8671  \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{1}{%
8672    {%
8673      \LWR@printatbang{at}{leftedge}%
8674      \LWR@printatbang{bang}{leftedge}%
8675    }% left edge
8676    {}% not left edge
8677 }

```

## 73.20 Data opening tag

\LWR@thiscolspec Temporary storage.

```
8678 \newcommand*{\LWR@thiscolspec}{}%
```

\LWR@tabledatasinglecolumntag Print a table data opening tag with style for alignment and color.

```

8679 \newcommand*{\LWR@tabledatasinglecolumntag}{%
8680 {%
8681     \LWR@traceinfo{\LWR@tabledatasinglecolumntag}%
8682     \LWR@maybenewtablerow%

```

Don't start a new paragraph tag if have already started one:

```

8683     \ifbool{\LWR@intabularmetadata}{%
8684     {%

```

If have found the end of tabular command, do not create the next data cell:

```

8685         \ifbool{\LWR@exittingtabular}{}{%
8686             {%

```

Print the @ and ! contents before first column:

```

8687             \LWR@tabularleftedge%

```

Fetch the current column's alignment character into \LWR@strresult:

```

8688             \xdef\LWR@strresult{%
8689                 \LWR@getexpparray{\LWR@tablecolspe}{\arabic{\LWR@tableLaTeXcolindex}}%
8690             }%

```

print the start of a new table data cell:

```

8691             \LWR@traceinfo{\LWR@tabledatasinglecolumntag: about to print td tag}%
8692                 \LWR@htmlltag{%
8693                     td class="td%

```

append this column's spec:

```

8694                 \LWR@strresult%

```

If this column has a cmidrule, add “rule” to the end of the HTML class tag. Also add vertical bar tags.

```

8695                 \LWR@addcmidruletrim%
8696                 \LWR@addleftmostbartag%
8697                 \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
8698                 "%

```

Add styles for rules, alignment:

```

8699                 \LWR@tdstartstyles%
8700                 \LWR@addcmidrulewidth%
8701                 \LWR@addcdashline%
8702                 \xdef\LWR@thiscolspe{%
8703                     \LWR@getexpparray{\LWR@tablecolspe}{%
8704                         {\arabic{\LWR@tableLaTeXcolindex}}%}
8705                     }%
8706                     \LWR@addformatwpalignment{\LWR@thiscolspe}%

```

Add styles for cell and rule colors:

```

8707           \LWR@addtabulararrowcolor%
8708           \LWR@addtabularrulecolors%

8709           \LWR@tdendstyles%
8710       }% HTML td
8711   \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done printing td tag}%

```

If this is a p, m, b, or X column, allow paragraphs:

```

8712           \ifboolexpr{%
8713               test{ \ifdefstring{\LWR@strresult}{p} } or
8714               test{ \ifdefstring{\LWR@strresult}{m} } or
8715               test{ \ifdefstring{\LWR@strresult}{b} } or
8716               test{ \ifdefstring{\LWR@strresult}{P} } or
8717               test{ \ifdefstring{\LWR@strresult}{M} } or
8718               test{ \ifdefstring{\LWR@strresult}{B} } or
8719               test{ \ifdefstring{\LWR@strresult}{X} }%
8720           }%
8721           {% allow pars
8722   \LWR@traceinfo{\LWR@tabledatasinglecolumntag: about to \LWR@startpars}%
8723       \booltrue{\LWR@tableparcell}%
8724   \LWR@startpars%
8725   \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done with \LWR@startpars}%
8726   }% allow pars
8727   {}% no pars

```

Print the > contents unless muted for the \bottomrule:

```

8728           \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}%
8729           {}%
8730           {}%
8731           \LWR@getexpparray{\LWR@colbeforespec}{\arabic{\LWR@tableLaTeXcolindex}}%
8732           }%
8733           \boolfalse{\LWR@intabularmetadata}%
8734           }% not exiting tabular
8735   }{}% in tabular metadata
8736   \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done}%
8737 }%

```

### 73.21 Midrules

- LWR@midrules LWR@midrules is a data array (section 41) 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 41) of columns containing l if a midrule should be left trimmed for each column.
- LWR@trimrrules LWR@trimrrules is a data array (section 41) of columns containing r if a midrule should be right trimmed for each column.
- LWR@cdashlines LWR@cdashlines is a data array (section 41) 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.

```
8738 \newlength{\LWR@heavyrulewidth}
8739 \setlength{\LWR@heavyrulewidth}{.08em}
```

Len \LWR@lightrulewidth The default width of the rule.

```
8740 \newlength{\LWR@lightrulewidth}
8741 \setlength{\LWR@lightrulewidth}{.05em}
```

Len \LWR@cmidrulewidth The default width of the rule.

```
8742 \newlength{\LWR@cmidrulewidth}
8743 \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.

```
8744 \newlength{\LWR@thiscmidrulewidth}
8745 \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.

```
8746 \newcommand*{\LWR@clearmidrules}
8747 {%
8748     \defcounter{LWR@midrulecounter}{1}%
8749     \whileboolexpr{%
8750         not test{%
8751             \ifnumcomp{\value{LWR@midrulecounter}}{>}%
8752                 {\value{LWR@tabletotalLaTeXcols}}%
8753         }%
8754     }%
8755     {%
8756         \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{0pt}%
8757         \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
8758         \LWR@setexparray{LWR@trimlrules}{\arabic{LWR@midrulecounter}}{}%
8759         \LWR@setexparray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{}%
8760         \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}%
8761         \defaddtocounter{LWR@midrulecounter}{1}%
8762     }%
8763 }
```

\LWR@subcmidrule {*width*} {*trim*} {*leftcolumn*} {*rightcolumn*}

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.

```

8764 \newcommand*{\LWR@subcmidrule}[4]{%
8765     \defcounter{LWR@midrulecounter}{#3}%
8766     \whileboolexpr{%
8767         not test {%
8768             \ifnumcomp{\value{LWR@midrulecounter}}{>}{#4}%
8769         }%
8770     }%
8771     {%
8772         \LWR@setexpparray{\LWR@midrules}{\arabic{LWR@midrulecounter}}{#1}%
8773         \defaddtocounter{LWR@midrulecounter}{1}%
8774     }%
8775     \IfSubStr{#2}{l}{\LWR@setexpparray{\LWR@trimlrules}{#3}{l}}{}%
8776     \IfSubStr{#2}{r}{\LWR@setexpparray{\LWR@trimrrules}{#4}{r}}{}%
8777     \booltrue{LWR@doingcmidrule}%
8778 }
```

`\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.

```

8779 \NewDocumentCommand{\LWR@docmidrule}{%
8780     O{\LWR@cmidrulewidth} D(){} >{\SplitArgument{1}{-}m}%
8781     {\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.

```

8782 \newcommand*{\LWR@subcdashline}[2]{%
8783     \defcounter{LWR@midrulecounter}{#1}%
8784     \whileboolexpr{%
8785         not test {%
8786             \ifnumcomp{\value{LWR@midrulecounter}}{>}{#2}%
8787         }%
8788     }%
8789     {%
8790         \LWR@setexpparray{\LWR@cdashlines}{\arabic{LWR@midrulecounter}}{Y}%
8791         \defaddtocounter{LWR@midrulecounter}{1}%
8792     }%
8793     \booltrue{LWR@doingcmidrule}%
8794 }
```

`\LWR@docdashline {⟨leftcolumn-rightcolumn⟩}`

Marks `LWR@cdashlines` data array elements to be Y from left to right columns.

---

```

8795 \NewDocumentCommand{\LWR@docdashline}{%
8796     >{\SplitArgument{1}{-}}m}%
8797     {%
8798         \LWR@subcdashline#1%
8799     }

```

\LWR@tdstartstyles Begins possibly adding a table data cell style.

```
8800 \newcommand*{\LWR@tdstartstyles}{\boolfalse{\LWR@tdhavecellstyle}}
```

\LWR@tdaddstyle Starts adding a table data cell style.

```

8801 \newcommand*{\LWR@tdaddstyle}{%
8802     \ifbool{\LWR@tdhavecellstyle}{%
8803         ; }%
8804         { style="}%
8805     \booltrue{\LWR@tdhavecellstyle}%
8806 }

```

\LWR@tdendstyles Finishes possibly adding a table data cell style. Prints the closing quote.

```

8807 \newcommand*{\LWR@tdendstyles}{%
8808     \ifbool{\LWR@tdhavecellstyle}{%
8809         ;%
8810         "%%
8811         \boolfalse{\LWR@tdhavecellstyle}%
8812     }{}%
8813 }

```

\LWR@subaddcmidruletrim {*lefttrim*} {*righttrim*} Adds a \cmidrule with optional trim.

```

8814 \newcommand*{\LWR@subaddcmidruletrim}[2]{%
8815     \setlength{\LWR@templengthone}{%
8816         \LWR@getexpararray{\LWR@midrules}{\arabic{\LWR@tableLaTeXcolindex}}%
8817     }%
8818     \ifdimcomp{\LWR@templengthone}{>}{0pt}%
8819         %

```

Print the class with left and right trim letters appended:

```
8820     \LWR@origtilde tdrule#1#2%
```

Remember the width of the rule:

```

8821         \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}%
8822     }%
8823     {%
8824         \setlength{\LWR@thiscmidrulewidth}{0pt}%
8825     }%
8826 }

```

\LWR@addcmidruletrim Adds left or right trim to a \cmidrule.

```
8827 \newcommand*\LWR@addcmidruletrim[%  
8828     \LWR@subaddcmidruletrim%  
8829     {\LWR@getexparray{\LWR@trimlrules}{\arabic{\LWR@tableLaTeXcolindex}}}%  
8830     {\LWR@getexparray{\LWR@trimrrules}{\arabic{\LWR@tableLaTeXcolindex}}}%  
8831 }
```

\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.

```
8832 \newcommand{\LWR@addrulewidth}[2]{%
```

Only add a custom width if thiswidth is different than the defaultwidth, or if a color is being used:

```
8833 \ifboolexpr{  
8834     test{\ifdimcomp{#1}{=}{0pt}} or  
8835     (  
8836         ( test{\ifdimcomp{#1}{=}{#2}} and not bool{FormatWP} )  
8837         and ( test {\ifdefvoid{\LWR@ruleHTMLcolor}} )  
8838     )  
8839 }%  
8840 {}% default width and color  
8841 {}% custom width and/or color
```

Ensure that the width is wide enough to display in the browser:

```
8842 \LWR@forceminwidth{#1}%
```

Begin adding another style:

```
8843 \LWR@tdaddstyle%
```

The style itself:

```
8844 border-top:\LWR@printlength{\LWR@atleastonept} solid % space
```

If default gray, the darkness of the color depends on the thickness of the rule:

```
8845 \ifdefvoid{\LWR@ruleHTMLcolor}{%  
8846     \ifdimcomp{#1}{<}{\LWR@lightrulewidth}{%  
8847         {\LWR@origpound{}A0A0A0}{%  
8848             % lightrule or heavier  
8849             \ifdimcomp{#1}{<}{\LWR@heavyrulewidth}{%  
8850                 {\LWR@origpound{}808080}{%  
8851                     {black}{%  
8852                     }% lightrule or heavier  
8853             }%  
8854             \LWR@origpound{\LWR@ruleHTMLcolor}{%
```

```

8855      }%
8856      }% custom width and/or color
8857 }

```

\LWR@addcmidrulewidth Adds a style for the rule width.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

8858 \newcommand{\LWR@addcmidrulewidth}{%
8859     \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
8860 }

```

\LWR@addcdashline Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

8861 \newcommand{\LWR@addcdashline}{%
8862     \edef\LWR@tempone{%
8863         \LWR@getexparray{\LWR@cdashlines}{\arabic{\LWR@tableLaTeXcolindex}}%
8864     }%
8865     \ifdefstring{\LWR@tempone}{Y}{%
8866         \LWR@tdaddstyle%
8867         border-top: 1pt dashed %
8868         \ifdefvoid{\LWR@ruleHTMLcolor}{%
8869             {black}%
8870             {\LWR@origpound\LWR@ruleHTMLcolor}%
8871         }{}%
8872     }%

```

\LWR@WPcell {\text-align} {\vertical-align}

```

8873 \newcommand*{\LWR@WPcell}[2]{%
8874     \LWR@tdaddstyle%
8875     \LWR@print@mbox{text-align:#1}; \LWR@print@mbox{vertical-align:#2}%
8876 }

```

\LWR@addformatwpalignment If FormatWP, adds a style for the alignment.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

8877 \newcommand*{\LWR@addformatwpalignment}[1]{%
8878     \ifbool{FormatWP}{%
8879         \IfSubStr{#1}{l}{\LWR@WPcell{left}{middle}}{}%
8880         \IfSubStr{#1}{c}{\LWR@WPcell{center}{middle}}{}%
8881         \IfSubStr{#1}{r}{\LWR@WPcell{right}{middle}}{}%
8882         \IfSubStr{#1}{p}{\LWR@WPcell{left}{bottom}}{}%
8883         \IfSubStr{#1}{m}{\LWR@WPcell{left}{middle}}{}%
8884         \IfSubStr{#1}{b}{\LWR@WPcell{left}{top}}{}%
8885         \IfSubStr{#1}{P}{\LWR@WPcell{center}{bottom}}{}%
8886         \IfSubStr{#1}{M}{\LWR@WPcell{center}{middle}}{}%
8887         \IfSubStr{#1}{B}{\LWR@WPcell{center}{top}}{}%
8888     }{}%
8889 }

```

### 73.22 Cell colors

\LWR@addtabulararrowcolor Adds a cell's row color style, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

8890 \newcommand*\LWR@addtabulararrowcolor{%
8891   \ifbool{\LWR@tabularmutemods}{}
8892     \ifdefvoid{\LWR@rowHTMLcolor}{%
8893       \ifdefvoid{\LWR@xcolorrowHTMLcolor}{}
8894         {%
8895           \LWR@tdaddstyle%
8896           background:\LWR@origpound\LWR@xcolorrowHTMLcolor%
8897         }%
8898       }%
8899       {%
8900         \LWR@tdaddstyle%
8901         background:\LWR@origpound\LWR@rowHTMLcolor%
8902       }%
8903     }%
8904 }
```

\LWR@addtabularrulecolor Adds a cell's horizontal rule color style, if needed.

```
8905 \newcommand*\LWR@addtabularrulecolor{%
```

If either form of horizontal rule is requested:

```

8906   \ifboolexpr{%
8907     test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
8908     test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}} or%
8909     bool{\LWR@doingtbrule}%
8910   }{}
```

If there is a no custom color:

```

8911     \ifdefvoid{\LWR@ruleHTMLcolor}{%
8912       {%
8913         \ifnumcomp{\value{\LWR@hlines}}{>}{1}{%
8914           \LWR@tdaddstyle%
8915           border-top: 4px double%
8916         }%
8917       }%
8918       \ifnumcomp{\value{\LWR@hdashedlines}}{>}{1}{%
8919         \LWR@tdaddstyle%
8920         border-top: 2px dashed%
8921       }%
8922     }%
8923     \ifnumcomp{\value{\LWR@hdashedlines}}{=}{1}{%
8924       \LWR@tdaddstyle%
8925       border-top: 1px dashed%
8926     }%
8927   }{}}
```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```
8928      }%
```

If there is a custom color:

```
8929      {%
8930          \ifnumcomp{\value{LWR@hlines}}{>}{1}%
8931          {%
8932              \LWR@tdaddstyle%
8933              border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
8934          }% else
8935          \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
8936          {%
8937              \LWR@tdaddstyle%
8938              border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
8939          }% else
8940          \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
8941          {%
8942              \LWR@tdaddstyle%
8943              border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%
8944          }% else
8945          \LWR@tdaddstyle%
8946          border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
8947      }{}}%
8948      }%
8949  }{}}%
8950 }
```

\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.

```
8951 \newcommand*{\LWR@addtabularrulecolors}{%
```

Custom horizontal rule color:

```
8952      \LWR@addtabularhrulecolor%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
8953      \ifbool{LWR@tabularmutemods}{}{%
```

If at the leftmost cell, possibly add a leftmost vertical rule:

```
8954      \ifnumequal{\value{LWR@tableLaTeXcolindex}}{1}{%
```

Fetch the left edge's vertical bar specification:

```
8955      \edef\LWR@tempone{\LWR@getexparray{\LWR@colbarspec}{leftedge}}%
```

Add a custom style if a vertical bar was requested:

```

8956          \ifdefstring{\LWR@tempone}{tvertbarl}{%
8957              \LWR@tdaddstyle%
8958              border-left: 1px solid % space
8959                  \LWR@verruleHTMLcolor%
8960          }{%
8961          \ifdefstring{\LWR@tempone}{tvertbarldouble}{%
8962              \LWR@tdaddstyle%
8963              border-left: 4px double % space
8964                  \LWR@verruleHTMLcolor%
8965          }{%
8966          \ifdefstring{\LWR@tempone}{tvertbarldash}{%
8967              \LWR@tdaddstyle%
8968              border-left: 1px dashed % space
8969                  \LWR@verruleHTMLcolor%
8970          }{%
8971          \ifdefstring{\LWR@tempone}{tvertbarldoubledash}{%
8972              \LWR@tdaddstyle%
8973              border-left: 2px dashed % space
8974                  \LWR@verruleHTMLcolor%
8975          }{%
8976      }{%

```

Possibly add a right vertical rule for this cell:

```

8977          \edef\LWR@tempone{%
8978              \LWR@getexpparray{\LWR@colbarspec}{\arabic{\LWR@tableTeXcolindex}}%
8979          }%
8980          \ifdefstring{\LWR@tempone}{tvertbarr}{%

```

Add a custom style if a vertical bar was requested:

```

8981          \LWR@tdaddstyle%
8982          border-right: 1px solid \LWR@verruleHTMLcolor%
8983      }{%
8984      \ifdefstring{\LWR@tempone}{tvertbarrdouble}{%
8985          \LWR@tdaddstyle%
8986          border-right: 4px double \LWR@verruleHTMLcolor%
8987      }{%
8988      \ifdefstring{\LWR@tempone}{tvertbarrdash}{%
8989          \LWR@tdaddstyle%
8990          border-right: 1px dashed \LWR@verruleHTMLcolor%
8991      }{%
8992      \ifdefstring{\LWR@tempone}{tvertbarrdoubledash}{%
8993          \LWR@tdaddstyle%
8994          border-right: 2px dashed \LWR@verruleHTMLcolor%
8995      }{%
8996  }%
8997 }

```

\LWR@subaddtabularcellcolor {<HTML color>}

```

8998 \newcommand*{\LWR@subaddtabularcellcolor}[1]{%
8999     \LWR@htmltag{div class="cellcolor" style="%"
9000         background:\LWR@origpound{}{}#1 %

```

```

9001      " }%
9002      \defaddtocounter{\LWR@cellcolordepth}{1}%
9003 }

```

\LWR@addtabularcellcolor Adds a cell color style, if needed.

```

9004 \newcommand*{\LWR@addtabularcellcolor}{%
9005     \ifdefvoid{\LWR@cellHTMLcolor}%
9006     {%
9007         \ifdefvoid{\LWR@rowHTMLcolor}%
9008         {%
9009             \ifdefvoid{\LWR@xcolorrowHTMLcolor}%
9010             {%
9011                 \ifdefvoid{\LWR@columnHTMLcolor}%
9012                 {}%
9013                 {\LWR@subaddtabularcellcolor{\LWR@columnHTMLcolor}}%
9014             }%
9015             {\LWR@subaddtabularcellcolor{\LWR@xcolorrowHTMLcolor}}%
9016         }%
9017         {\LWR@subaddtabularcellcolor{\LWR@rowHTMLcolor}}%
9018     }%
9019     {\LWR@subaddtabularcellcolor{\LWR@cellHTMLcolor}}%
9020 }

```

## 73.23 Multicolumns

### 73.23.1 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.

```

9021 \newcommand*{\LWR@printmccoltype}[1]{%
9022     \LWR@traceinfo{lwr@printmccoltype -#1-}%

```

Get one token of the column spec:

```
9023     \StrChar{#1}{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%
```

Add to the HTML tag depending on which column type is found:

```

9024     \IfStrEq{\LWR@strresult}{l}{l}{ }%
9025     \IfStrEq{\LWR@strresult}{c}{c}{ }%
9026     \IfStrEq{\LWR@strresult}{r}{r}{ }%
9027     \IfStrEq{\LWR@strresult}{p}{p}{ }%
9028     \IfStrEq{\LWR@strresult}{m}{m}{ }%
9029     \IfStrEq{\LWR@strresult}{b}{b}{ }%
9030     \IfStrEq{\LWR@strresult}{P}{P}{ }%
9031     \IfStrEq{\LWR@strresult}{M}{M}{ }%
9032     \IfStrEq{\LWR@strresult}{B}{B}{ }%

```

```

9033 \IfStrEq{\LWR@strresult}{w}{%
9034 \IfStrEq{\LWR@strresult}{W}{%
9035 \IfStrEq{\LWR@strresult}{S}{%
9036 \IfStrEq{\LWR@strresult}{s}{%
9037 \IfStrEq{\LWR@strresult}{X}{%
9038 \IfStrEq{\LWR@strresult}{|}{%
9039 {%
9040     \ifbool{LWR@mcolvertbaronleft}{%
9041         {\defaddtocounter{LWR@mcolvertbarsl}{1}}% left edge
9042         {\defaddtocounter{LWR@mcolvertbarsr}{1}}% not left edge
9043     }%
9044     {%
9045         \IfStrEq{\LWR@strresult}{:}{%
9046             {%
9047                 \ifbool{LWR@mcolvertbaronleft}{%
9048                     {\defaddtocounter{LWR@mcolvertbarsldash}{1}}% left edge
9049                     {\defaddtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
9050                 }%
9051             {%
9052                 \IfStrEq{\LWR@strresult}{;}{%
9053                     {%
9054                         \ifbool{LWR@mcolvertbaronleft}{%
9055                             {\defaddtocounter{LWR@mcolvertbarsldash}{1}}% left edge
9056                             {\defaddtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
9057                         }%
9058                         {\boolexpr{\ifboolexpr{\LWR@mcolvertbaronleft}{}}}%
9059                     }%
9060                 }%
9061             \LWR@traceinfo{lwr@printmccoltype done}%
9062 }

```

\LWR@multicolpartext {*num parameters*} Print the data with paragraph tags, advance to bypass the given number of parameters.

```

9063 \newcommand*{\LWR@multicolpartext}[1]{%
9064     \LWR@startpars%
9065     \LWR@multicoltext%
9066     \defaddtocounter{LWR@tablemulticolspos}{#1}%
9067     \LWR@stoppars%
9068 }

```

\LWR@multicolother {*colspec*} For @, !, >, <, print the next token without paragraph tags:

```

9069 \newcommand*{\LWR@multicolother}[1]{%
9070     \defaddtocounter{LWR@tablemulticolspos}{1}%
9071     \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9072     \LWR@strresult%

```

A valid column data type was found:

---

```
9073     \booltrue{LWR@validtablecol}%
9074 }
```

\LWR@multicolskip Nothing to print for this column type.

```
9075 \newcommand*{\LWR@multicolskip}{%
```

A valid column data type was found:

```
9076     \booltrue{LWR@validtablecol}%
9077 }
```

\LWR@printmccoldata {*<colspec>*} Print the data for any valid column type found.

```
9078 \newcommand*{\LWR@printmccoldata}[1]{%
9079     \LWR@traceinfo{lwr@printmccoldata -#1}%
}
```

Not yet found a valid column type:

```
9080     \boolfalse{LWR@validtablecol}%

```

Get one token of the column spec, into a local copy in case nested.

```
9081     \StrChar{-#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9082     \edef\LWR@printmccoldatatoken{\LWR@strresult}%

```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```
9083     \IfStrEq{\LWR@printmccoldatatoken}{l}{\LWR@multicoltext}{}%
9084     \IfStrEq{\LWR@printmccoldatatoken}{c}{\LWR@multicoltext}{}%
9085     \IfStrEq{\LWR@printmccoldatatoken}{r}{\LWR@multicoltext}{}%
9086     \IfStrEq{\LWR@printmccoldatatoken}{D}{%
9087         \defaddtocounter{LWR@tablemulticolspos}{3}%
9088         \LWR@multicoltext%
9089     }{}%
9090     \IfStrEq{\LWR@printmccoldatatoken}{p}{\LWR@multicolpartext{2}}{}%
9091     \IfStrEq{\LWR@printmccoldatatoken}{m}{\LWR@multicolpartext{2}}{}%
9092     \IfStrEq{\LWR@printmccoldatatoken}{b}{\LWR@multicolpartext{2}}{}%
9093     \IfStrEq{\LWR@printmccoldatatoken}{P}{\LWR@multicolpartext{2}}{}%
9094     \IfStrEq{\LWR@printmccoldatatoken}{M}{\LWR@multicolpartext{2}}{}%
9095     \IfStrEq{\LWR@printmccoldatatoken}{B}{\LWR@multicolpartext{2}}{}%
9096     \IfStrEq{\LWR@printmccoldatatoken}{w}{\LWR@multicolpartext{3}}{}%
9097     \IfStrEq{\LWR@printmccoldatatoken}{W}{\LWR@multicolpartext{3}}{}%
9098     \IfStrEq{\LWR@printmccoldatatoken}{S}{\LWR@multicoltext}{}%
9099     \IfStrEq{\LWR@printmccoldatatoken}{s}{\LWR@multicoltext}{}%
```

```

9100  \IfStrEq{\LWR@printmccoldatatoken}{X}{\LWR@multicolpartext{1}}{}%
9101  \IfStrEq{\LWR@printmccoldatatoken}{|}{\LWR@multicolskip}{}%
9102  \IfStrEq{\LWR@printmccoldatatoken}{:}{\LWR@multicolskip}{}%
9103  \IfStrEq{\LWR@printmccoldatatoken}{;}{\LWR@multicolskip}{}%
9104      \LWR@multicolskip%
9105      \defaddtocounter{LWR@tablemulticolspos}{1} skip parameter
9106  }{}%
9107  \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{@}}{\LWR@multicolother{#1}}{}%
9108  \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{!}}{\LWR@multicolother{#1}}{}%
9109  \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{>}}{\LWR@multicolother{#1}}{}%
9110  \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{<}}{\LWR@multicolother{#1}}{}%

```

If an invalid column type:

```
9111  \ifbool{LWR@validtablecol}{}{\LWR@multicoltext}{}%
```

Tracing:

```

9112  \LWR@traceinfo{lwr@printmccoldata done}%
9113 }
```

\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.

```

9114 \newcommand*{\LWR@parsemulticolumnalignment}[2]{%
9115     \defcounter{LWR@tablemulticolspos}{1}%
9116     \StrLen{#1}[\LWR@strresult]%
9117     \defcounter{LWR@tablemulticolswidth}{\LWR@strresult}%

```

Scan across the tokens in the column spec:

```

9118  \whileboolexpr{%
9119      not test {%
9120          \ifnumcomp{\value{LWR@tablemulticolspos}}{>}{%
9121              \value{LWR@tablemulticolswidth}}{%
9122          }%
9123      }%
9124  }%

```

Execute the assigned print function for each token in the column spec:

```
9125 #2{#1}%
```

Move to the next token in the column spec:

```

9126     \defaddtocounter{LWR@tablemulticolspos}{1}%
9127 }%
9128 }
```

### 73.23.2 Multicolumn factored code

```
\LWR@addmulticolvertrulecolor
```

```
9129 \newcommand*{\LWR@addmulticolvertrulecolor}{%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9130 \ifbool{LWR@tabularmutemods}{}{%
```

Left side:

```
9131 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{%
9132   \LWR@tdaddstyle%
9133   border-left: 1px solid \LWR@vertruleHTMLcolor%
9134 }{%
9135 \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{%
9136   \LWR@tdaddstyle%
9137   border-left: 4px double \LWR@vertruleHTMLcolor%
9138 }{%
9139 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{%
9140   \LWR@tdaddstyle%
9141   border-left: 1px dashed \LWR@vertruleHTMLcolor%
9142 }{%
9143 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{%
9144   \LWR@tdaddstyle%
9145   border-left: 2px dashed \LWR@vertruleHTMLcolor%
9146 }}
```

Right side:

```
9147 \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{%
9148   \LWR@tdaddstyle%
9149   border-right: 1px solid \LWR@vertruleHTMLcolor%
9150 }{%
9151 \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{%
9152   \LWR@tdaddstyle%
9153   border-right: 4px double \LWR@vertruleHTMLcolor%
9154 }{%
9155 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{%
9156   \LWR@tdaddstyle%
9157   border-right: 1px dashed \LWR@vertruleHTMLcolor%
9158 }{%
9159 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{%
9160   \LWR@tdaddstyle%
9161   border-right: 2px dashed \LWR@vertruleHTMLcolor%
9162 }}
```

```
9163 }%
9164 }
```

```
9165 \newcommand{\LWR@multicoltext}{}
```

To find multicolumn right trim:

```

9166 \newcounter{LWR@lastmulticolumn}

\LWR@domulticolumn [[<1: vpos>] [<2: #rows>] {<3: numLaTeXcols>} {<4: numHTMLcols>} {<5: colspec>} {<6: text>}

9167 \NewDocumentCommand{\LWR@domulticolumn}{o o m m +m}{%
9168     \LWR@traceinfo{LWR@domulticolumn -#1- -#2- -#4- -#5-}%

```

Remember the text to be inserted, and remember that a valid column type was found:

```

9169     \renewcommand{\LWR@multicoltext}{%
9170         #6%
9171         \booltrue{LWR@validtablecol}%
9172     }%

```

Compute the rightmost column to be included. This is used to create the right trim.

```

9173     \defcounter{LWR@lastmulticolumn}{\value{LWR@tableLaTeXcolindex}}%
9174     \defaddtocounter{LWR@lastmulticolumn}{#3}%
9175     \defaddtocounter{LWR@lastmulticolumn}{-1}%

```

Row processing:

```
9176     \LWR@maybenewtablerow%
```

Begin the opening table data tag:

```

9177     \LWR@htmlltag{%
9178         td colspan="#4" %

9179         \IfValueT{#2}{ % rows?
9180             rowspan="#2" %
9181         }%

9182         class="td%

```

Print the column type and vertical bars:

```

9183     \defcounter{LWR@mcolvertbarsl}{0}%
9184     \defcounter{LWR@mcolvertbarsr}{0}%
9185     \defcounter{LWR@mcolvertbarsldash}{0}%
9186     \defcounter{LWR@mcolvertbarsrdash}{0}%
9187     \booltrue{LWR@mcolvertbaronleft}%
9188     \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:

```

9189     \LWR@subaddcmidruletrim%
9190     {%
9191         \LWR@getexpparray{LWR@trimlrules}%

```

```

9192          {\arabic{LWR@tableLaTeXcolindex}}%
9193      }%
9194      {%
9195          \LWR@getexpparray{\LWR@trimrrules}%
9196          {\arabic{LWR@lastmulticolumn}}%
9197      }%

```

Also add vertical bar class.

```

9198      \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{ tvertbarl}{ }%
9199      \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{ tvertbarldouble}{ }%
9200      \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{ tvertbarr}{ }%
9201      \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{ tvertbarrdouble}{ }%
9202      \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{ tvertbarldash}{ }%
9203      \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{%
9204          tvertbarldoubledash}{ }%
9205      \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{ tvertbarrdash}{ }%
9206      \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{%
9207          tvertbarrdoubledash}{ }%

```

Close the class tag's opening quote:

```

9208      "%
9209      \LWR@tdstartstyles%

```

Style for vertical position:

```

9210      \IfValueT{#1}{% vpos?
9211          \ifstrequal{#1}{b}{%
9212              {%
9213                  \LWR@tdaddstyle%
9214                  \LWR@print@mbox{vertical-align:bottom}%
9215              }{ }%
9216          \ifstrequal{#1}{t}{%
9217              {%
9218                  \LWR@tdaddstyle%
9219                  \LWR@print@mbox{vertical-align:top}%
9220              }{ }%
9221          }% vpos?

```

Style for row colors:

```
9222      \LWR@addtabulararrowcolor%
```

Other styles:

```

9223      \LWR@addcmidrulewidth%
9224      \LWR@addcdashline%
9225      \LWR@addtabularhrulecolor%
9226      \LWR@addmulticolvertrulecolor%
9227      \LWR@addformatwpalignment{#5}%
9228      \LWR@tdendstyles%
9229  }% end of the opening table data tag

```

```

9230      \boolfalse{LWR@intabularmetadata}%
9231      \LWR@parsemulticolumnalignment{\#5}{\LWR@printmccoldata}%
9232 }

```

### 73.23.3 Multicolumn

```

\LWR@htmlmulticolumn {\langle numcols \rangle} {\langle alignment \rangle} {\langle text \rangle}

9233 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}%
9234 {%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```

9235      \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{\#1}%

```

Create the multicolumn tag:

```

9236      \LWR@domulticolumn{\#1}{\arabic{LWR@tabhtmlcoltotal}}{\#2}{\#3}%

```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```

9237      \defaddtocounter{LWR@tableLaTeXcolindex}{\#1}%
9238      \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%

```

Skip any trailing @ or ! columns for this cell:

```

9239      \booltrue{LWR@skipatbang}%
9240 }

```

### 73.23.4 Longtable captions

longtable captions use \multicolumn.

Per the caption package. User-redefinable float type.

```

9241 \providecommand*\LTcaptype{table}

```

```

\LWR@longtabledatacaptiontag * [\langle toc entry \rangle] {\langle caption \rangle}

9242 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}%
9243 {%

```

Remember the latest name for \nameref:

```

9244      \IfValueTF{\#2}{% optional given?
9245          \ifblank{\#2}{% optional empty?
9246              {\LWR@setlatestname{\#3}}% empty
9247              {\LWR@setlatestname{\#2}}% given and non-empty
9248          }% optional given
9249          {\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:

```
9250 \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}%
```

Create the multicolumn tag:

```
9251 \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
9252 {\arabic{LWR@tabhtmlcoltotal}}%
9253 {P}%
9254 {\% \LWR@domulticolumn
9255 \IfBooleanTF{#1}{star?}
```

Star version, show a caption but do not make a LOT entry:

```
9256 {\% yes star
9257     \LWR@figcaption%
9258     \LWR@isolate{#3}%
9259     \endLWR@figcaption%
9260 }%
9261 {\% No star:
```

Not the star version:

Don't step the counter if \caption[]{}A caption.}

```
9262 \ifbool{LWR@starredlongtable}{%
9263 {%
9264     \ifblank{#2}{ TOC entry
9265         {}%
9266         {%
9267             \refstepcounter{\LTcaptype}%
9268             \protected@edef{\currentlabel}{%
9269                 \nameuse{p@\LTcaptype}\nameuse{the\LTcaptype}%
9270             }%
9271         }%
9272     }%
9273 }
```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```
9273 \LWR@figcaption%
9274 \LWR@isolate{\nameuse{fnum@\LTcaptype}}%
9275 \CaptionSeparator%
9276 \LWR@isolate{#3}%
9277 \endLWR@figcaption%
```

See if an optional caption was given:

```
9278 \ifblank{#2}{ TOC entry empty}
```

if the optional caption was given, but empty, do not form a TOC entry

```
9279      {}%
```

If the optional caption was given, but might only be []:

```
9280      { \% TOC entry not empty
9281          \IfNoValueTF{#2}{% No TOC entry?}
```

The optional caption is []:

```
9282      { \% No TOC entry
9283          \addcontentsline%
9284          {\@nameuse{ext@\LTcaptype}}%
9285          {\LTcaptype}%
9286          {%
9287              \protect\newline%
9288              {\LWR@isolate{\@nameuse{p@\LTcaptype}}\@nameuse{the\LTcaptype}}%
9289                  {\ignorespaces \LWR@isolate{\#3}\protect\relax}%
9290              }%
9291          }% end of No TOC entry
```

The optional caption has text enclosed:

```
9292      { \% yes TOC entry
9293          \addcontentsline%
9294          {\@nameuse{ext@\LTcaptype}}%
9295          {\LTcaptype}%
9296          {%
9297              \protect\newline%
9298              {\LWR@isolate{\@nameuse{p@\LTcaptype}}\@nameuse{the\LTcaptype}}%
9299                  {\ignorespaces \LWR@isolate{\#2}\protect\relax}%
9300              }%
9301          }% end of yes TOC entry
9302      }% end of TOC entry not empty
9303  }% end of no star
```

Skip any trailing @ or ! columns for this cell:

```
9304      \booltrue{\LWR@skipatbang}%
9305  }% end of \LWR@domulticolumn
9306  \defaddtocounter{\LWR@tableLaTeXcolindex}{\value{\LWR@tabletotalLaTeXcols}}%
9307  \defaddtocounter{\LWR@tableLaTeXcolindex}{-1}
9308
9309 }
```

### 73.23.5 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.

```
9310 \newcounter{LWR@tabhtmlcolindex}
9311 \newcounter{LWR@tabhtmlcolend}
9312 \newcounter{LWR@tabhtmlcoltotal}
```

\LWR@subtabularhtmlcolumns {*index*}

Factored from \LWr@tabularhtmlcolumns, which follows.

```
9313 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%
```

Temporarily define a macro equal to the @ specification for this column:

```
9314 \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colatspec}{#1}}%
```

If the @ specification is not empty, add to the count:

```
9315 \ifdefempty{\LWR@atbangspec}%
9316   {}%
9317   {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%
```

Likewise for the ! columns:

```
9318 \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colbangspec}{#1}}%
9319 \ifdefempty{\LWR@atbangspec}%
9320   {}%
9321   {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%
9322 }
```

\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 **LWR@tabhtmlcoltotal**.

```
9323 \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:

```
9324 \defcounter{LWR@tabhtmlcolindex}{#1}%
9325 \defcounter{LWR@tabhtmlcoltotal}{#2}%
9326 \defcounter{LWR@tabhtmlcolend}{#1}%
9327 \defaddtocounter{LWR@tabhtmlcolend}{#2}%
```

If at the left edge, add the at/bang columns for the left edge:

```
9328 \ifnumcomp{\value{LWR@tabhtmlcolindex}}{=}{1}{%
9329   \LWR@subtabularhtmlcolumns{leftedge}%
9330 }{}
```

Walk across the L<sup>A</sup>T<sub>E</sub>X columns looking for @ and ! columns:

```

9331      \whileboolexpr{%
9332          test {%
9333              \ifnumcomp{\value{LWR@tabhtmlcolindex}}{<}{\value{LWR@tabhtmlcolend}}{%
9334                  }%
9335              }%
9336              {%
9337                  \LWR@subtabularhtmlcolumns{\arabic{LWR@tabhtmlcolindex}}{%
9338                      \defaddtocounter{LWR@tabhtmlcolindex}{1}%
9339                  }% whiledo
9340             }%
9341 \end{warpHTML}

```

### 73.24 Multirow if not loaded

A default defintion in case `multirow` is not loaded. This is used during table parsing.

```

9342 \begin{warpHTML}
9343 \newcommand{\multirow}[2][c]{}
9344 \end{warpHTML}

```

### 73.25 Multicolumnrow

A print-mode version is defined here, and is also used during HTML output while inside a `\teximage`.

See section 391 for the HTML versions.

**for HTML & PRINT:** 9345 `\begin{warpall}`

```
\multicolumnrow {\langle 1:cols \rangle} {\langle 2:halign \rangle} [\langle 3:vpos \rangle] {\langle 4:numrows \rangle} [\langle 5:bigstruts \rangle] {\langle 6:width \rangle} [\langle 7:fixup \rangle] {\langle 8:text \rangle}
```

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.

9346 `\AtBeginDocument{`

`\@ifundefined{@xmultirow}` determines if `multirow` was never loaded.

Null action if not loaded:

```

9347 \@ifundefined{@xmultirow}{%
9348 {%

```

```
9349 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9350     +m +m +0{c} +m +0{0} +m +0{0pt} +m}%
9351     {}%
9352 }% no version of multirow was loaded
9353 {\% \@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:

```
9354 \@ifpackageloaded{multirow}{% v2.0 or newer
9355 \@ifpackagelater{multirow}{2016/09/01}{2016/09/27} for v2.0
9356 {% v2.0+:
9357 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9358   +m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9359   {\multicolumn{#1}{#2}{\@xmultirow[#3]{#4}{#5}{#6}{#7}{#8}}}}%
9360 }%
9361 {% loaded but older, probably not executed:
9362 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9363   +m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9364   {\multicolumn{#1}{#2}{\@xmultirow[#4]{#5}{#6}{#7}{#8}}}}%
9365 }%
9366 }% package loaded{multirow}
```

If not `\@ifpackageloaded{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.

```
9367 {\% v1.6 or older did not \ProvidePackage
9368 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9369     {+m +m +0{c} +m +0{0} +m +0{opt} +m}%
9370     {\multicolumn{#1}{#2}{\@xmultirow{#4}[#5][#6][#7][#8]}}%
9371 }%
9372 %
9373 }% \@ifundefined{@xmultirow}
9374 %
9375 \providecommand*{\multicolumnrow}{\LWR@print@multicolumnrow}
9376 %
9377 }% AtBeginDocument

9378 \end{warpall}
```

## 73.26 Utility macros inside a table

**for HTML output:** 9379 \begin{warpHTML}

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

```
9380 \newcommand*{\LWR@donothing}{}%
```

In case array is not loaded:

```
9381 \let\firsthline\relax
9382 \let\lasthline\relax
9383 \newcommand*\{\\firsthline}{}%
9384 \newcommand*\{\\lasthline}{}%
```

In case bigdelim is not loaded:

```
9385 \newcommand*\{\\ldelim}{}%
9386 \newcommand*\{\\rdelim}{}%
9387 \end{warpHTML}
```

### 73.27 Special-case tabular markers

**for HTML & PRINT:** 9388 \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.

```
9389 \newcommand*\{\\TabularMacro}{}%
9390 \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 % because & is used in a definition
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars
```

**for HTML output:** 9391 \begin{warpHTML}

```
9392 \newcommand*\{\\ResumeTabular}{%
9393     \boolfalse{LWR@exittingtabular}}%
```

---

```

9394     \boolfalse{LWR@tabularmutemods}%
9395     \LWR@getmynexttoken%
9396 }

9397 \end{warpHTML}

for PRINT output: 9398 \begin{warpprint}

9399 \newcommand*\ResumeTabular{}{}

9400 \end{warpprint}

```

### 73.28 Checking for a new table cell

**for HTML output:** 9401 \begin{warpHTML}

\LWR@tabledatacolumntag Open a new HTML table cell unless the next token is for a macro which does not create data, such as \hline, \toprule, etc:

```

9402 \newcommand*\LWR@tabledatacolumntag{%
9403 {%
9404     \LWR@traceinfo{\LWR@tabledatacolumntag}{%
9405         \show\LWR@mynexttoken to see what tokens to look for

```

If not any of the below, start a new table cell:

```
9405     \global\let\LWR@mynextaction\LWR@tabledatasinglecolumntag%
```

If exiting the tabular:

```

9406     \ifdefequal{\LWR@mynexttoken}{\end}{%
9407         {\booltrue{\LWR@exittingtabular}}{%

```

longtable can have a caption in a cell

```

9408     \ifdefequal{\LWR@mynexttoken}{\caption}{%
9409         {\global\let\LWR@mynextaction\LWR@donothing}{%

```

Look for other things which would not start a table cell:

```

9410     \ifdefequal{\LWR@mynexttoken}{\multicolumn}{%
9411         {\global\let\LWR@mynextaction\LWR@donothing}{%
9412     \ifdefequal{\LWR@mynexttoken}{\multirow}{%
9413         {\global\let\LWR@mynextaction\LWR@donothing}{%
9414     \ifdefequal{\LWR@mynexttoken}{\multicolumnrow}{%
9415         {\global\let\LWR@mynextaction\LWR@donothing}{%
9416     \ifdefequal{\LWR@mynexttoken}{\noalign}{%
9417         {\global\let\LWR@mynextaction\LWR@donothing}{%

```

If an `\mrowcell`, this is a cell to be skipped over:

```
9418 \ifdefequal{\LWR@mynexttoken}{\mrowcell}%
9419   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
```

If an `\mcolrowcell`, this is a cell to be skipped over:

```
9420 \ifdefequal{\LWR@mynexttoken}{\mcolrowcell}%
9421   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9422 \ifdefequal{\LWR@mynexttoken}{\TabularMacro}%
9423   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9424 \ifdefequal{\LWR@mynexttoken}{\hline}%
9425   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9426 \ifdefequal{\LWR@mynexttoken}{\firsthline}%
9427   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9428 \ifdefequal{\LWR@mynexttoken}{\lasthline}%
9429   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9430 \ifdefequal{\LWR@mynexttoken}{\toprule}%
9431   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9432 \ifdefequal{\LWR@mynexttoken}{\midrule}%
9433   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9434 \ifdefequal{\LWR@mynexttoken}{\cmidrule}%
9435   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9436 \ifdefequal{\LWR@mynexttoken}{\morecmidrules}%
9437   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9438 \ifdefequal{\LWR@mynexttoken}{\specialrule}%
9439   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9440 \ifdefequal{\LWR@mynexttoken}{\cline}%
9441   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9442 \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
9443   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9444 \ifdefequal{\LWR@mynexttoken}{\hhline}%
9445   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9446 \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
9447   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9448 \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
9449   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
```

```

9450  \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
9451      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9452  \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
9453      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9454  \ifdefequal{\LWR@mynexttoken}{\warpHTMLonly}%
9455      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9456  \ifdefequal{\LWR@mynexttoken}{\ldelim}%
9457      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9458  \ifdefequal{\LWR@mynexttoken}{\rdelim}%
9459      {\global\let\LWR@mynextaction\LWR@donothing}{ }%

```

For arydshln:

```

9460  \ifdefequal{\LWR@mynexttoken}{\hdashline}%
9461      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9462  \ifdefequal{\LWR@mynexttoken}{\cdashline}%
9463      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9464  \ifdefequal{\LWR@mynexttoken}{\firstdashline}%
9465      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9466  \ifdefequal{\LWR@mynexttoken}{\lastdashline}%
9467      {\global\let\LWR@mynextaction\LWR@donothing}{ }%

```

Ignore an empty line between rows:

```

9468  \ifdefequal{\LWR@mynexttoken}{\par}%
9469      {\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:

```

9470  \LWR@traceinfo{\LWR@tabledatacolumntag: about to do mynext}%
9471  \LWR@mynextaction%
9472  \LWR@traceinfo{\LWR@tabledatacolumntag: done}%
9473 }%
9474 \end{warpHTML}

```

### 73.29 \mrowcell

**for HTML & PRINT:** 9475 \begin{warpall}

- ⚠ **\mrowcell** The user must insert \mrowcell into any \multirow cells which must be skipped. This command has no action during print output.

```
9476 \newcommand*\{mrowcell}{}%
```

```
9477 \end{warpall}
```

### 73.30 \mcolrowcell

**for HTML & PRINT:** 9478 \begin{warpall}

- ⚠ **\mcolrowcell** The user must insert \mcolrowcell into any \multicolumn cells which must be skipped. This command has no action during print output.

```
9479 \newcommand*\{mcolrowcell}{}%
```

```
9480 \end{warpall}
```

### 73.31 HTML tabular environment

**for HTML output:** 9481 \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.

```
9482 \providetcommand*\{toprule}[1][]{\hline}
9483 \providetcommand*\{midrule}[1][]{\hline}
9484 \providetcommand*\{cmidrule}{\cline}
9485 \providetcommand*\{bottomrule}[1][]{\hline}
9486 \providetcommand*\{addlinespace}[1][]{}
9487 \providetcommand*\{morecmidrules}(){}
9488 \providetcommand*\{specialrule}[3]{\hline}
```

\noalign {⟨text⟩} Redefined for use inside tabular.

```
9489 \LetLtxMacro{\LWR@orignoalign}{\noalign}
9490
9491 \newcommand{\LWR@tabularnoalign}[1]{%
9492     \advance\rownum\m@ne%
9493     \LetLtxMacro{\LWR@save@xcolorrowHTMLcolor}{\LWR@xcolorrowHTMLcolor}%
9494     \renewcommand*\{LWR@xcolorrowHTMLcolor}{}%
9495     \multicolumn{\value{LWR@tabletotalLaTeXcols}}{\l}{\#1} \\
9496     \LetLtxMacro{\LWR@xcolorrowHTMLcolor}{\LWR@save@xcolorrowHTMLcolor}%
9497     \% @rowc@lors%
9498     \LWR@getmynexttoken%
9499 }
```

\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.

```

9500 \AtBeginDocument{
9501
9502 \@ifpackageloaded{lwarp-tables}
9503 {
9504     \newcommand*\{\LWR@HTMLhline}[1][]{%
9505         \ifbool{FormatWP}{%
9506             {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
9507                 {\defaddtocounter{LWR@hlines}{1}}{%
9508                     \LWR@getmynexttoken}{%
9509                 }{%
9510             }{%
9511                 \newcommand*\{\LWR@HTMLhline}{%
9512                     \ifbool{FormatWP}{%
9513                         {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
9514                             {\defaddtocounter{LWR@hlines}{1}}{%
9515                                 \LWR@getmynexttoken}{%
9516                             }{%
9517                         }{%
9518 }% AtBeginDocument

```

\LWR@HTMLcline {*columns*}

```

9519 \NewDocumentCommand{\LWR@HTMLcline}{m}{%
9520     {\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.

```

9521 \newcommand{\LWR@tabular@warpprintonly}[1]{%
9522     \ifbool{warpingprint}{\#1}{%
9523         \LWR@getmynexttoken{%
9524     }{%

```

\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 column parsing code, which uses `xstring`.

```

9525 \AtBeginDocument{
9526 \@ifundefined{NoAutoSpacing}{%
9527     \% no babel-french
9528     \newcommand*\{\LWR@nullifyNoAutoSpacing}{}{%
9529 }% no babel-french
9530 \% yes babel-french
9531     \newcommand*\{\LWR@nullifyNoAutoSpacing}{%
9532         \NoAutoSpacing{%
9533             \renewcommand*\{\NoAutoSpacing}{}{%
9534                 \renewcommand*\{\LWR@FBcancel}{}{%
9535             }{%

```

```
9536 }% yes babel-french
9537 }% AtBeginDocument
```

```
Env tabular <direction> [<vertposition>] {<colspecs>}
```

The <direction> is from plect for Japanese documents, and is ignored.

```
9538 \StartDefiningTabulars
9539
9540 \NewDocumentCommand{\LWR@HTML@@tabular}{d<> o m}
9541 {%
9542     \LWR@traceinfo{\LWR@HTML@@tabular started}%
}
```

### ⚠ <table> inside <span>

In L<sup>A</sup>T<sub>E</sub>X, 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.

```
9543     \LWR@spanwarnformat{tabular}%
9544     \addtocounter{\LWR@tabulardepth}{1}%
```

Not yet started a table row:

```
9545     \boolearnfalse{\LWR@startedrow}%
```

Not yet doing any rules:

```
9546     \defcounter{\LWR@hlines}{0}%
9547     \defcounter{\LWR@hdashedlines}{0}%
9548     \boolearnfalse{\LWR@doingtbrule}%
9549     \boolearnfalse{\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.

```
9550     \LWR@nullifyNoAutoSpacing%
```

Have not yet found the end of tabular command. Unmute the @ and ! columns.

```
9551     \boolearnfalse{\LWR@exittingtabular}%
9552     \boolearnfalse{\LWR@tabularmutemods}%
```

Error if failed to use \mrowcell or \mcolrowcell when needed.

```
9553     \boolearnfalse{\LWR@usedmultirow}%
9554     \boolearnfalse{\LWR@foundmrowcell}%
```

---

```
9555 \renewcommand*\{LWR@multicoltext}{}
```

Create the table tag:

```
9556 \booltrue{LWR@intabularmetadata}%
9557 \LWR@traceinfo{LWR@tabular: About to LWR@forecenewpage.}%
9558 \LWR@forcenewpage
9559 \LWR@htmlblocktag{table}%
```

Parse the table columns:

```
9560 \LWR@parsetablecols{#3}%
```

Table col spec is: \LWR@tablecols which is a string of llccrr, etc.

Do not place the table inside a paragraph:

```
9561 \LWR@stoppars%
```

Track column #:

```
9562 \defcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
9563 \global\boolfalse{LWR@tabularcelladded}%
```

Start looking for midrules:

```
9564 \LWR@clearmidrules%
```

\\" becomes a macro to end the table row:

```
9565 \LetLtxMacro{\\"}{\LWR@tabularendofline}%
```

\warpprintonly inside a tabular must grab the next token.

```
9566 \LetLtxMacro{\warpprintonly}{\LWR@tabular@warpprintonly}%
```

The following adjust for colortbl.

```
9567 \LetLtxMacro{\arrayrulecolor}{\arrayrulecolor\nexttoken}%
9568 \LetLtxMacro{\doublerulesepcolor}{\doublerulesepcolor\nexttoken}%
9569 \def\LWR@columnHTMLcolor{}%
9570 \def\LWR@rowHTMLcolor{}%
9571 \def\LWR@cellHTMLcolor{}%
9572 \@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.

```
9573 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9574   {\edef\LWR@vertruleHTMLcolor{black}}%
9575   {\edef\LWR@vertruleHTMLcolor{\LWR@origpound\LWR@ruleHTMLcolor}}%}
```

Tracking the depth of cell color <div>s:

```
9576 \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.

```
9577 \LWR@traceinfo{LWR@@HTML@tabular: redefining macros}%
9578 \LetLtxMacro\noalign{\LWR@tabularnoalign}%
9579 \LetLtxMacro\hline{\LWR@HTMLhline}%
9580 \LetLtxMacro\cline{\LWR@HTMLcline}%

9581 \DeclareDocumentCommand{\hdashline}[o]{%
9582   \ifbool{FormatWP}{%
9583     {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
9584       {\defaddtocounter{LWR@hdashedlines}{1}}{%
9585         \LWR@getmynexttoken}}%
9586   }%
9587 \DeclareDocumentCommand{\cdashline}[m]{%
9588   \LWR@docdashline{##1}\LWR@getmynexttoken}%
9589 }%

9590 \DeclareDocumentCommand{\firstdashline}[o]{%
9591   \ifbool{FormatWP}{%
9592     {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
9593       {\defaddtocounter{LWR@hdashedlines}{1}}{%
9594         \LWR@getmynexttoken}}%
9595   }%
9596 \DeclareDocumentCommand{\lastdashline}[o]{%
9597   \ifbool{FormatWP}{%
9598     {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
9599       {\defaddtocounter{LWR@hdashedlines}{1}}{%
9600         \LWR@getmynexttoken}}%
9601   }%
```

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.

```
9602 \renewcommand{\multicolumn}{\LWR@htmlmulticolumn}%
9603 \renewcommand*\mrowcell[1]{%
9604   \LWR@maybenewtablerow%
9605   \LWR@tabularleftedge%
9606   \booltrue{\LWR@skippingmrowcell}%
9607   \booltrue{\LWR@foundmrowcell}%
9608 }%
9609 \renewcommand*\mcolrowcell[1]{%
9610   \LWR@maybenewtablerow%
9611   \booltrue{\LWR@skippingmcolrowcell}%
9612   \booltrue{\LWR@foundmrowcell}%
9613 }
```

---

```

9613      }%
9614      \LetLtxMacro\caption\longtabledatacaptiontag%
```

Reset for new processing:

```

9615      \boolfalse{LWR@tableparcell}%
9616      \boolfalse{LWR@skippingmrowcell}%
9617      \boolfalse{LWR@skippingmcolrowcell}%
9618      \boolfalse{LWR@skipatbang}%
9619      \boolfalse{LWR@emptyatbang}%
```

Set & for its special meaning inside the tabular:

```

9620      \StartDefiningTabulars%
9621      \protected\gdef&{\LWR@tabularampersand}%
```

Locally force any minipages to be fullwidth, until the end of the tabular:

```

9622      \booltrue{LWR@forceminipagefullwidth}%
```

Nest one level deeper of tabular paragraph handling:

```

9623      \addtocounter{LWR@tabularpardepth}{1}%
```

Look ahead for a possible table data cell:

```

9624      \LWR@traceinfo{LWR@@HTML@tabular: about to LWR@getmynexttoken}%
9625      \LWR@getmynexttoken%
9626 }%
```

Ending the environment:

```

9627 \newcommand*{\LWR@HTML@endtabular}{}
9628 {%
9629     \LWR@traceinfo{LWR@HTML@endtabular}%
}
```

Unnest one level of tabular paragraph handling:

```

9630      \addtocounter{LWR@tabularpardepth}{-1}%
9631      \ifboolexpr{%
9632          test {%
9633              \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{%
9634                  \value{LWR@tabletotalLaTeXcols}%
9635              } or %
9636              (%
9637                  \bool{LWR@intabularmetadata} and%
9638                  not \bool{LWR@tabularcelladded} and%
9639                  test {%
9640                      \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{}%
9641                      \value{LWR@tabletotalLaTeXcols}%
9642                  }%
9643              )%
9644          }%
9645      }%
```

```

9646      \LWR@tabularfinishrow%
9647      }%
9648      {%
9649          \LWR@closetabledatacell%
9650      }%
9651      \LWR@htmlblocktag{/tr}%

```

xcolor row color support:

```

9652      \@rowc@lors%
9653      \LWR@htmlblocktag{/table}%
9654      \boolfalse{\LWR@intabularmetadata}%

```

Unnest one level of tabular:

```
9655      \addtocounter{\LWR@tabulardepth}{-1}%

```

Restore & to its usual meaning:

```

9656      \ifnumequal{\value{\LWR@tabulardepth}}{0}{%
9657          \protected\gdef&{\LWR@origampmacro}%
9658          \StopDefiningTabulars%
9659      }{ }%

```

Error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

```

9660      \ifbool{\LWR@usedmultirow}{%
9661          \ifbool{\LWR@foundmrowcell}{%
9662              {}%
9663              {}%
9664                  \PackageError{lwarp}{%
9665                      {}%
9666                      When using \protect\multirow, \protect\multicolumnrow, \MessageBreak
9667                          or the bigdelim package, \MessageBreak
9668                      place \protect\mrowcell\space or \protect\mcolrowcell\MessageBreak
9669                          in empty cells which are to be skipped.\MessageBreak
9670                          See the Lwarp package documentation:\MessageBreak
9671                          "Special cases and limitations" -> "Tabular"
9672                  }%
9673                  {}%
9674                      See the Lwarp package documentation:\MessageBreak
9675                      "Special cases and limitations" -> "Tabular".
9676                  }%
9677              }%
9678          }{ }%
9679      }{ }%
9680      \LWR@traceinfo{\LWR@HTML@endtabular finished}%
9681  }%
9682 \csletcs{\LWR@HTML@endtabular*}{\LWR@HTML@endtabular}%
9683 %
9684 \StopDefiningTabulars

```

---

siunitx may redefine tabular, so set the following later:

```

9685 \AtBeginDocument{
9686   \LetLtxMacro{\LWR@origendtabular}{\endtabular}
9687   \csletcs{\LWR@origendtabular*}{\endtabular*}
9688   \LWR@formatted{@tabular}
9689   \LWR@formatted{endtabular}
9690   \LWR@formatted{endtabular*}
9691 }

9692 \end{warpHTML}
```

## 74 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>}{{<limage number>}}}
```

Table 14 shows the data structures related to cross-referencing.

**for HTML output:** 9693 \begin{warpHTML}

### 74.1 Setup

\@currentlabelname To remember the most recently defined section name, description, or caption, for \nameref.

```
9694 \def\@currentlabelname{\linkhomename}%
```

\LWR@stripperiod {\langle text \rangle} [(.)]

Removes a trailing period.

```
9695 \def\LWR@stripperiod#1.\ltx@empty#2@nil{#1}%
```

\LWR@setlatestname {\langle object name \rangle}

Removes \label, strips any final period, and remembers the result.

```
9696 \newcommand*{\LWR@setlatestname}[1]{%
```

Table 14: Cross-referencing data structures

<b>Original LATEX:</b>	(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: \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>.	
<b>Added by l warp:</b>	(HTML only)
<b>\label:</b> Adds HTML tags (section 74.3), and another .aux entry (section 74.2). 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}}: \LWR@nameref: The section name for this label. \LWR@htmlfileref: The filenumber or name for this label. \LWR@teximagedepthref: The lateximagedepth for this label. \LWR@teximagenumberref: The lateximagenumber for this label.	
<b>\nameref:</b> Emulated from hyperref for l warp. See section 74.4.	
<b>\ref and \nameref:</b> Adds HTML tags. See section 74.4.	
<b>Added by amsmath:</b>	(print and HTML)
<b>\label:</b> Execution is delayed until the math environment is completed.	
<b>\ltx@label:</b> LATEX \label, (HTML: patched by l warp,) later patched by cleveref.	
<b>Added by cleveref:</b>	(print and HTML)
<b>\refstepcounter:</b> Added: sets \cref@currentlabel.	
<b>\cref@currentlabel:</b> (<type>=<ctr> unless an alias is used): [<type>][\arabic{<ctr>}][<parent ctrs>]{\p@<ctr>\the<ctr>} Also see section 59.4 for use with footnotes.	
<b>\label:</b> Writes to the .aux file: \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.	
<b>Additionally patched by l warp:</b>	(HTML only)
<b>\cref, etc.:</b> Modified for l warp. See section 193.	
<b>\Label inside math:</b> See section 81.7.1.	
<b>Footnotes:</b> See \noteentry in section 59.4.	

Remove \label and other commands from the name, the strip any final period. See `gettitledstring`.

```

9697     \GetTitleStringExpand{#1}%
9698     \edef\@currentlabelname{\detokenize\expandafter{\GetTitleStringResult}}%
9699     \edef\@currentlabelname{%
9700         \expandafter\LWR@stripperiod\@currentlabelname%
9701         \ltx@empty.\ltx@empty@nil%
9702     }%
9703 }
```

## 74.2 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>}%
{<limagedepth>}{{<limagenumber>}}}
```

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.

```

9704 \def\LWR@setref#1#2#3{%
9705   \ifx#1\relax%
9706     ??%
9707   \else%
9708     \expandafter#2#1%
9709   \fi}
```

`\LWR@nameref {<label>}` Returns the section name for this label:

```

9710 \newcommand*{\LWR@nameref}[1]{%
9711   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@firstoffour{#1}%
9712 }
```

`\LWR@htmlfileref {<label>}` Returns the file number or name for this label:

```

9713 \newcommand*{\LWR@htmlfileref}[1]{%
9714   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@secondoffour{#1}%
9715 }
```

`\LWR@lateximagedepthref {<label>}` Returns the `lateximagedepth` for this label:

```

9716 \newcommand*{\LWR@lateximagedepthref}[1]{%
9717     \expandafter\LWR@setref\csname r@#1@lwarf\endcsname\LWR@thirdoffour{#1}%
9718 }

```

\LWR@lateximagenumberref {*label*} Returns the `lateximagenumber` for this label:

```

9719 \newcommand*{\LWR@lateximagenumberref}[1]{%
9720     \expandafter\LWR@setref\csname r@#1@lwarf\endcsname\LWR@fourthoffour{#1}%
9721 }

```

\LWR@write@lwarplabel {*label*} Sanitize the name and then creates the label:

```

9722 \newcommand*{\LWR@write@lwarplabel}[1]{%
9723     \LWR@traceinfo{\LWR@write@lwarplabel !#1!}%
9724     \LWR@setlatestname{\@currentlabelname}%
9725         \@bsphack%
9726         \protected@write\@auxout{}{%
9727             {%
9728                 \string\newlabel{#1@lwarf}{%
9729                     {\@currentlabelname}%
9730                     {%
9731                         \ifbool{FileSectionNames}%
9732                             {\LWR@thisfilename}%
9733                             {\arabic{\LWR@htmlfilenumber}}%
9734                         }%
9735                         {\arabic{\LWR@lateximagedepth}}%
9736                         {\arabic{\LWR@lateximagenumber}}%
9737                     }%
9738                 }%
9739             \@esphack%
9740 }

```

### 74.3 Labels

\LWR@label@subcreatetag Creates the tag from \LWR@sanitized.

```

9741 \newcommand*{\LWR@label@subcreatetag}{%
9742     \LWR@htmlltag{a \LWR@print@mbox{id="\LWR@sanitized"}}%
9743     \LWR@htmlltag{/a}%
9744 }

```

\LWR@label@inmathcomment

```

9745 \newcommand*{\LWR@Label@inmathcomment}{%
9746     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
9747     }%

```

The combined LATEX & HTML label is printed in a \mbox field:

```

9748     \mbox{%

```

Shift the label over to the right side of the environment to avoid over-printing the math:

```
9749 \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.)

```
9750 \LWR@htmclosecomment%
9751 \LWR@label@subcreatetag%
9752 \LWR@htmopencomment%
9753 }% mbox
9754 }% mathjax
9755 {%
9756 \LWR@label@subcreatetag%
9757 }%
9758 }
```

\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.

```
9759 \newcommand*{\LWR@Label@createtag}[1]{%
9760 \LWR@traceinfo{\LWR@label@createtag !#!}}
```

Create an HTML id tag unless are inside a lateximage, since it would appear in the image:

```
9761 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
9762 {}%
9763 {% not lateximage}
```

If not doing a lateximage, create an HTML ID tag.

```
9764 \LWR@sanitize{#1}%
9765 \ifbool{LWR@insidemathcomment}{}%
9766 {% inside HTML math comment
9767 \LWR@label@inmathcomment%
9768 }% inside HTML math comment
9769 {% not inside HTML math comment
9770 \ifbool{LWR@doingstartpars}{}%
9771 {% pars allowed
9772 \ifbool{LWR@doingapar}{}%
9773 {% par started
9774 \LWR@label@subcreatetag%
9775 }% par started
9776 {% par not started
9777 \LWR@stoppars%
9778 \LWR@label@subcreatetag%
9779 \LWR@startpars%
9780 }% par not started
```

```

9781          }% pars allowed
9782          {%
9783              \LWR@label@subcreatetag%
9784          }% pars not allowed
9785          }% not inside HTML math comment
9786          }% not lateximage
9787      }

\LWR@new@label  {\langle label\rangle}

\label during HTML output when not in SVG math mode, removing extra spaces around
the label, as done by a regular LATEX \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`.

```

9788 \NewDocumentCommand{\LWR@new@label}{m}{%
9789     \LWR@traceinfo{\LWR@new@label: starting}%
9790     \LWR@traceinfo{\LWR@new@label: !#1!}%
9791 % \@bsphack%

```

Create a traditional L<sup>A</sup>T<sub>E</sub>X label, as modified by `cleveref`:

```
9792 \LWR@orig@label{#1}%
```

Create a special label which holds the section number, `LWR@htmlfilename`, `LWR@lateximagedepth`, and `LWR@lateximagenumber`:

```

9793 \LWR@traceinfo{%
9794     \LWR@new@label: filesectionnames is %
9795     \ifbool{FileSectionNames}{true}{false}%
9796 }%
9797 \LWR@traceinfo{%
9798     \LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!%
9799 }%
9800 \LWR@traceinfo{%
9801     \LWR@new@label: LWR@htmlfilename is \arabic{LWR@htmlfilename}%
9802 }%
9803 \LWR@write@lwarplabel{#1}%
9804 \LWR@label@createtag{#1}%
9805 % \@esphack%
9806 \LWR@traceinfo{\LWR@new@label: done}%
9807 }

```

## 74.4 References

```
\LWR@addlinktitle
```

```

9808 \newcommand*{\LWR@addlinktitle}{%
9809     \ifdefvoid{\LWR@ThisAltText}{}{ % space
9810         title="\LWR@ThisAltText" % space
9811         \gdef\LWR@ThisAltText{}%
9812     }%
9813 }

```

\LWR@startref {*label*} (Common code for \ref and \nameref.)

Open an HTML tag reference to a filename, # character, and a label.

```

9814 \newcommand*{\LWR@startref}[1]
9815 {%
9816     \LWR@sanitize{#1}%
9817     \LWR@traceinfo{\LWR@startref A: !#1!}%

```

Create the filename part of the link:

```

9818     \LWR@htmltag{a href="%"
9819     \LWR@traceinfo{\LWR@startref B}%
9820     \LWR@print@mbox{\LWR@htmlrefsectionfilename{#1}}%
9821     \LWR@traceinfo{\LWR@startref C}%
9822     \LWR@origpound%

```

Create the destination id:

See if LWR@lateximagedepth is unknown:

```

9823     \LWR@traceinfo{\LWR@startref D: !#1!}%
9824     \ifcsundef{r@#1@lwarp}%

```

“??” if LWR@lateximagedepth is unknown, so create a link with an unknown destination:

```

9825     {%
9826         \LWR@traceinfo{\LWR@startref D0: ??}%
9827         ??%
9828     }%

```

If LWR@lateximagedepth is known. Use a lateximage if the depth is greater than zero, or a regular link otherwise:

```

9829     {%
9830         \ifthenelse{\cnttest{\LWR@lateximagedepthref{#1}}{>}{0}}{%
9831             {%
9832                 lateximage-\BaseJobname-\LWR@lateximagenumberref{#1}%
9833             }%
9834             {%
9835                 \LWR@traceinfo{\LWR@startref D3}%

```

\detokenize is used to allow underscores in the labels:

```

9836           \LWR@print@mbox{\LWR@sanitized}%
9837           }%
9838       }%
9839   \LWR@traceinfo{LWR@startref E}%

```

Closing quote:

```
9840     "%
```

Maybe add a title:

```

9841   \LWR@addlinktitle%
9842   }%
9843   \LWR@traceinfo{LWR@startref F}%
9844 }

```

\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)”.

```

9845 \NewDocumentCommand{\LWR@subnewref}{m m}{%
9846   \LWR@traceinfo{LWR@subnewref #1 #2}%
9847   \LWR@startref{#1}%
9848   \LWR@print@ref{#2}%
9849   \LWR@htmlltag{/a}%
9850 }

```

`\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:

```
9851 \LWR@absorbstar{ref}%
```

The `HTML` version:

```

9852 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%
9853   \LWR@traceinfo{LWR@HTML@ref !#2!}%
9854   \IfBooleanTF{#1}%
9855     {\LWR@print@ref{#2}}%
9856     {\LWR@subnewref{#2}{#2}}%
9857 }
9858
9859 \LWR@formatted{ref}

```

For `MATHJAX`:

```
9860 \CustomizeMathJax{\let\LWRref\ref}
9861 \CustomizeMathJax{\renewcommand{\ref}{\ifstar\LWRref\LWRref}}
```

\pageref{PageFor} Text for page references.

```
9862 \newcommand*{\pageref{PageFor}}{see }
```

\pageref{\*}{<label>} Create an internal document reference, or just the unlinked number if starred, per `hyperref`.

```
9863 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
9864   \IfBooleanTF{#1}{%
9865     {(\pageref{PageFor}\LWR@print@ref{#2})}%
9866     {(\cpageref{#2})}%
9867 }}
```

\nameref{<label>}

```
9868 \newrobustcmd*{\nameref}[1]{%
9869   \LWR@traceinfo{nameref}%
9870   \LWR@startref{#1}%
9871   \LWR@traceinfo{nameref B}%
9872   \LWR@nameref{#1}%
9873   \LWR@traceinfo{nameref C}%
9874   \LWR@htmltag{/a}%
9875   \LWR@traceinfo{nameref: done}%
9876 }
```

\Nameref{<label>} In print, adds the page number. In HTML, does not.

```
9877 \LetLtxMacro{\nameref}{\nameref}
```

## 74.5 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.

```
9878 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:
9879 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.
```

Emulates `hyperref`:

\@currentHref Added to support backref.

```
9880 \AtBeginDocument{%
9881     \def\@currentHref{\BaseJobname-autopage-\theLWR@currentautosec}%
9882 }
```

\LWR@linkcatcodes Sets catcodes before processing macros which have hyperlinks as arguments.

```
9883 \newcommand*{\LWR@linkcatcodes}{%
9884     \catcode`\#=12%
9885     \catcode`\%=12%
9886     \catcode`\&=12%
9887     \catcode`\~=12%
9888     \catcode`\_=12%
```

For babel-french:

```
9889     \LWR@FBcancel%
9890 }
```

\LWR@linkmediacatcodes Sets catcodes before processing macros which have hyperlinks as arguments. Modified for multimedia links.

```
9891 \newcommand*{\LWR@linkmediacatcodes}{%
9892     \catcode`\#=12%
9893     \catcode`\%=12%
9894 %     \catcode`\&=12% left alone for splitting flash variables
9895     \catcode`\~=12%
9896     \catcode`\_=12%
```

For babel-french:

```
9897     \LWR@FBcancel%
9898 }
```

\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.

```
9899 \NewDocumentCommand{\LWR@subhyperref}{m}{%
9900     \LWR@traceinfo{\LWR@subhyperref !#1!}%
9901     \LWR@sanitize{#1}%
9902     \LWR@htmltag{%
9903         a href="\LWR@sanitized" % space
9904         \LWR@addlinktitle % space
9905         target="\_\_blank" % space
9906     }%
9907 }
```

\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.

```

9908 \newcommand{\LWR@subhyperreftext}[1]{%
9909     #1%
9910     \LWR@htmltag{/a}%
9911     \LWR@ensuredoingapar%
9912 }

\LWR@subhyperrefclass  {\langle URL\rangle} {\langle text\rangle} {\langle htmlclass\rangle}

9913 \NewDocumentCommand{\LWR@subhyperrefclass}{m +m m}{%
9914     \LWR@htmltag{%
9915         a % space
9916         href="\begingroup@\sanitize#1\endgroup" % space
9917         class="#3" % space
9918         \LWR@addlinktitle % space
9919     }\LWR@orignewline%
9920     #2%
9921     \LWR@htmltag{/a}%
9922     \LWR@ensuredoingapar%
9923 }

```

\LWR@href [⟨options⟩] {⟨URL⟩}

Create a link with accompanying text:

```

9924 \DeclareDocumentCommand{\LWR@hrefb}{O{} m}{%
9925     \LWR@ensuredoingapar%
9926     \LWR@subhyperref{#2}%
9927     \endgroup% restore catcodes
9928     \LWR@subhyperreftext%
9929 }
9930
9931 \newrobustcmd*\LWR@href{%
9932     \begingroup%
9933     \LWR@linkcatcodes%
9934     \LWR@hrefb%
9935 }

```

\LWR@nolinkurl {⟨URL⟩}

Print the name of the link without creating the link:

```

9936 \newcommand*{\LWR@nolinkurlb}[1]{%
9937     \LWR@ensuredoingapar%
9938     \def\LWR@templink{#1}%
9939     \onelevel@sanitize\LWR@templink%
9940     \LWR@templink%
9941     \endgroup%
9942 }
9943
9944 \newrobustcmd*\LWR@nolinkurl{%

```

```

9945   \begingroup%
9946   \LWR@linkcatcodes%
9947   \LWR@nolinkurlb%
9948 }

\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`.

```

9949 \DeclareDocumentCommand{\LWR@urlb}{m}{%
9950   \LWR@ensuredoingapar%
9951   \def\LWR@templink{\#1}%
9952   @onelvel@sanitize\LWR@templink%
9953   \LWR@href{\LWR@templink}{\LWR@templink}%
9954   \endgroup%
9955 }
9956
9957 \newrobustcmd*\LWR@url{%
9958   \begingroup%
9959   \LWR@linkcatcodes%
9960   \LWR@urlb%
9961 }

```

```
\LWR@subinlineimage {<alt> tag} {<class>} {<filename>} {<extension>} {<CSS style>}
```

Factored from `lateximage`.

```

9962 \newcommand*{\LWR@subinlineimage}[5]{%
9963   \ifblank{#1}{%
9964     {%
9965       \LWR@htmltag{img \LWR@indentHTML
9966         src="#3.#4" \LWR@indentHTML
9967         alt="#3" \LWR@indentHTML
9968         style="#5" \LWR@indentHTML
9969         class="#2" \LWR@orignewline
9970       }%
9971     }%
9972     {%
9973       \LWR@htmltag{img \LWR@indentHTML
9974         src="#3.#4" \LWR@indentHTML
9975         alt="#1" \LWR@indentHTML
9976         style="#5" \LWR@indentHTML
9977         class="#2" \LWR@orignewline
9978       }%
9979     }%
9980   }%
9981 \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.

---

## 75 Floats

Floats are supported, although partially through emulation.

Table 15 shows the data structure associated with each <type> of float.

### 75.1 Float environment

**for HTML output**: 9982 \begin{warpHTML}

\LWR@floatbegin {\<type>} [<placement>]      Begins a \newfloat environment.

9983 \NewDocumentCommand{\LWR@floatbegin}{m o}{%

Warn if starting a float inside a <span>:

9984 \LWR@spanwarninvalid{float}%

```
9985 \ifbool{FormatWP}{\newline}{}
9986 \LWR@stoppars%
```

There is a new float, so increment the unique float counter:

```
9987 \addtocounter{LWR@thisautoid}{1}%
9988 \booltrue{LWR@freezethisautoid}%
9989 \begingroup%
```

Settings while inside the environment:

```
9990 \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.

```
9991 \LWR@htmlltag{%
9992   figure id="\LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}" % space
9993   class="#1 \nameuse{LWR@floatstyle@#1}"%
9994 }%
9995 \ifbool{FormatWP}{%
9996   \LWR@newline%
9997   \LWR@BlockClassWP{}{}{wp#1}%
9998 }{}
```

Update the caption type:

```
9999 \renewcommand*{\@capttype}{#1}%
```

Mark the float for a word processor conversion:

```
10000 \LWR@startpars%
10001 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10002 === begin #1 ===
10004 }{}
```

After each **\LWR@floatbegin**, look for **\centering**, etc next, using **\LWR@floatalignment**.

```
10006 }
```

For **koma-script**. The following does not work for tables.

```
10007 \AtBeginDocument{
10008
10009 @ifpackageloaded{tocbasic}{
10010
10011 \appto\figure@atbegin{%
10012   \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%
```

```

10013 }
10014
10015 }{}% tocbasic
10016
10017 }% AtBeginDocument

```

\@xfloat Support packages which create floats directly.  
\@xdblfloat Look for \centering, etc using \LWR@floatalignment.

```

10018 \AtBeginDocument{
10019     \def\@xfloat #1[#2]{%
10020         \LWR@floatbegin{#1}[#2]
10021         \LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment%
10022     }
10023     \def\@xdblfloat #1[#2]{%
10024         \LWR@floatbegin{#1}[#2]
10025         \LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment%
10026     }
10027 }

```

\LWR@floatend Ends a \newfloat environment.

```
10028 \newcommand*\LWR@floatend}{%
```

If saw a \centering, finish the center environment:

```
10029 \LWR@endfloatalignment%
```

Mark the float end for a word processor conversion:

```

10030 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10031     === end ===
10032 }
10033 }{}%
10034 \LWR@stoppars%

```

Close an HTML figure tag:

```

10036 \ifbool{FormatWP}{\endLWR@BlockClassWP}{}
10037 \LWR@htmlelementend{figure}%
10038 \endgroup%
10039 \boolfalse{\LWR@freezethisautoid}%
10040 \LWR@startpars%
10041 \ifbool{FormatWP}{\newline}{}
10042 }

```

\end@float Support packages which create floats directly.  
\end@dblfloat

```

10043 \AtBeginDocument{
10044     \let\end@float\LWR@floatend
10045     \let\end@dblfloat\LWR@floatend
10046 }

```

## 75.2 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.

```
10047 \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.

```
10048 \newcounter{LWR@thisautoidWP}
```

Bool `LWR@freezethisautoid` Prevents multiple increments of `\LWR@thisautoid` inside a float.

```
10049 \newbool{LWR@freezethisautoid}
10050 \boolfalse{LWR@freezethisautoid}
```

`\LWR@forcenewautoidanchor` Adds a new <autoid> anchor.

```
10051 \newcommand*{\LWR@forcenewautoidanchor}{%
10052     \addtocounter{LWR@thisautoid}{1}%
10053     \ifbool{LWR@doingapar}{%
10054         {%
10055             \LWR@htmlltag{a id="\LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}"} }%
10056             \LWR@htmlltag{/a }%
10057         }%
10058     {%
10059         \LWR@stoppars%
10060         \LWR@htmlltag{a id="\LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}"} }%
10061             \LWR@htmlltag{/a }%
10062         \LWR@startpars%
10063     }%
10064 }
```

`\LWR@newautoidanchor` Sometimes adds a new <autoid> anchor.

```
10065 \newcommand*{\LWR@newautoidanchor}{%
10066     \ifnumcomp{\value{LWR@lateximagedepth}}{0}{}{%
10067         {}%
10068         \ifbool{LWR@freezethisautoid}{\LWR@forcenewautoidanchor}{%
10069     }}
```

`\@capttype` Remembers which float type is in use.

```
10070 \newcommand*{\@capttype}{}%
```

`\LWR@floatalignmentname` Set to center, flushleft, or flushright if saw \centering, \raggedright, or \raggedleft.

```
10071 \newcommand*{\LWR@floatalignmentname}{}%
```

\LWR@floatalignment If sees a \centering, \raggedleft, or \raggedright, creates a center, flushright, or flushleft environment.

```
10072 \newcommand*{\LWR@floatalignment}{%
10073     \ifdefstreq{\LWR@mynexttoken}{\centering}{%
10074         \center%
10075         \renewcommand*{\LWR@floatalignmentname}{center}%
10076     }{%
10077     \ifdefstreq{\LWR@mynexttoken}{\raggedright}{%
10078         \flushleft%
10079         \renewcommand*{\LWR@floatalignmentname}{flushleft}%
10080     }{%
10081     \ifdefstreq{\LWR@mynexttoken}{\raggedleft}{%
10082         \flushright%
10083         \renewcommand*{\LWR@floatalignmentname}{flushright}%
10084     }{%
10085 }}
```

\LWR@endfloatalignment Closes an environment from \LWR@floatalignment.

```
10086 \newcommand*{\LWR@endfloatalignment}{%
10087     \ifdefvoid{\LWR@floatalignmentname}{%
10088         {}%
10089         {\@nameuse{end\LWR@floatalignmentname}}%
10090     \renewcommand*{\LWR@floatalignmentname}{}%
10091 }
```

### 75.3 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.

```
10092 \AtBeginDocument{\providecommand*{\CaptionSeparator}{:~}}
```

\@caption {\langle posn\rangle} [\langle name\rangle] {\langle long name\rangle}

\@makecaption {\langle name and num\rangle} {\langle text\rangle}

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.

```
10093 \AtBeginDocument{%
10094     \@ifpackageloaded{caption}{}{%
10095         \let\LWR@orig@caption\@caption%
10096         \long\def\@caption{\#1[\#2]{%
```

Warn if using a caption inside a <span>:

```
10097 \LWR@spanwarnformat[caption]%
```

```

10098      \LWR@setlatestname{#2}%
10099      \LWR@orig@caption{#1}[{#2}]% also takes third argument
10100    }%
10101
10102    \renewcommand{\@makecaption}[2]{%
10103      \LWR@traceinfo{@makecaption}%
10104      \caption@begin{\@capttype}%
10105      \LWR@isolate{#1}%
10106      \edef\LWR@tempone{#1}%
10107      \ifdefvoid{\LWR@tempone}{}{\CaptionSeparator}%
10108      \LWR@isolate{#2}%
10109      \caption@end%
10110      \LWR@traceinfo{@makecaption: done}%
10111    }%
10112  }
10113 }

```

## 75.4 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 page number at that point is stored in LWR@latestautopage, (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.

```

10114 \newcounter{LWR@nextautoid}
10115 \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. The autopage and the float's autoid are remembered for \l@figure to use when creating the HTML links.

```

10116 \newcommand*{\LWRsetnextfloat}[2]{%
10117   \setcounter{LWR@nextautopage}{#1}%
10118   \setcounter{LWR@nextautoid}{#2}%
10119 }

```

Ctr LWR@latestautopage The HTML output's PDF page number at the start of a new HTML file or section.

\LWRsetnextfloat is written with this and the autoid by the modified \addcontentsline just before each float's entry.

```
10120 \newcounter{LWR@latestautopage}
10121 \setcounter{LWR@latestautopage}{1}
```

Env LWR@figcaption An HTML <figcaption> is not allowed in places where LATEX 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.

```
10122 \newenvironment*{LWR@figcaption}
10123   {%
10124     \ifbool{FormatWP}{%
10125       \BlockClass[font-style:italic]{figurecaption}%
10126       \LWR@print@vspace*\{\baselineskip}%
10127     }{%
10128       \BlockClass{figurecaption}%
10129     }%
10130   }%
10131   {\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.

```
10132 \newcommand*{\LWR@HTML@caption@begin}[1]
10133 {%
10134   \LWR@traceinfo{\LWR@HTML@caption@begin}%
```

Keep par and minipage changes local:

```
10135   \begingroup%
```

No need for a minipage or \parbox inside the caption:

```
10136   \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}{\{}{\}}
10137   \RenewDocumentCommand{\parbox}{O{t} O{} O{t} m +m}{##5}%
```

Enclose the original caption code inside an HTML tag:

```
10138   \LWR@figcaption%
10139   \LWR@traceinfo{\LWR@HTML@caption@begin: about to LWR@origcaption@begin}%
10140   \LWR@print@caption@begin{\#1}%
10141   \LWR@traceinfo{\LWR@HTML@caption@begin: done}%
10142 }
```

\LWR@HTML@caption@end Low-level patches to create HTML tags for captions.

```
10143 \newcommand*{\LWR@HTML@caption@end}%
10144 {%
10145   \LWR@traceinfo{\LWR@HTML@caption@end}%
10146   \LWR@print@caption@end%
```

Closing tag:

```

10147      \endLWR@figcaption%
10148      \endgroup%
10149      % \leavevmode% avoid bad space factor (0) error
10150      \LWR@traceinfo{LWR@HTML@caption@end: done}%
10151 }
```

\caption@begin Low-level patches to create HTML tags for captions. These are assigned \AtBeginDocument  
 \caption@end 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.

```

10152 \AtBeginDocument{
10153   \providecommand{\caption@begin}[1]{}
10154   \LWR@formatted{caption@begin}
10155
10156   \providecommand{\caption@end}{}
10157   \LWR@formatted{caption@end}
10158 }
```

\captionlistentry Tracks the float number for this caption used outside a float. Patched to create an  
 HTML anchor.

```

10159 \AtBeginDocument{%
10160 \@ifpackage{caption}%
10161   \let\LWR@origcaptionlistentry\captionlistentry
10162
10163   \renewcommand*{\captionlistentry}{%
10164     \LWR@ensuredoingapar%
10165     \LWR@origcaptionlistentry%
10166   }

10167   \def\LWR@LTcaptionlistentry{%
10168     \LWR@ensuredoingapar%
10169     \LWR@forcenewautoanchor%
10170     \bgroup%
10171     \@ifstar{\egroup\LWR@LT@captionlistentry}% gobble *
10172     {\egroup\LWR@LT@captionlistentry}%
10173   }%
10174
10175   \def\LWR@LT@captionlistentry#1{%
10176     \caption@listentry@firstoftwo[\LTcaptype]{#1}%
10177   }%
10178 }% caption loaded
10179 {% caption not loaded
10180   \newcommand{\captionlistentry}[2][]{%
10181     \newcommand{\LWR@LT@captionlistentry}[2][]{%
10182   }%
10183 }% 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.

f

```

10184 \let\LWR@origaddcontentsline\addcontentsline
10185
10186 \renewcommand*{\addcontentsline}[3]{%
10187     \ifstrequal{#1}{toc}{}% not TOC

10188     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10189         {}%
10190         {\LWR@newautoidanchor}%

10191     \ifcsvvoid{\ext@#2}{\csdef{\ext@#2}{#1}}{}%
10192         \addtocontents{\@nameuse{\ext@#2}}{%
10193             \protect\LWRsetnextfloat%
10194             {\arabic{LWR@latestautopage}}%
10195             {\arabic{LWR@thisautoid}}}%
10196         }%
10197     }% not TOC
10198     \LWR@origaddcontentsline{#1}{#2}{#3}%
10199 }
```

Pkg capt-of Either package provides \captionof, which is later patched at the beginning of the document.  
Pkg caption

\captionof Patched to handle paragraph tags.

```

10200 \RequirePackage{capt-of}
10201
10202 \AtBeginDocument{
10203     \let\LWR@origcaptionof\captionof
10204
10205     \renewcommand*{\captionof}{%
10206         \LWR@stopars%
10207         \LWR@origcaptionof%
10208     }
10209 }% AtBeginDocument

10210 \end{warpHTML}
```

## 76 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 “sidetoc” 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:** 10211 \begin{warpHTML}

## 76.1 Reading and printing the TOC

\LWR@myshorttoc {\langle toc/lof/lot/sidetoc\rangle}

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.

```
10212 \newcommand*{\LWR@myshorttoc}[1]{%
10213   \LWR@traceinfo{\LWR@myshorttoc: #1}%
10214   \LWR@ensuredoingapar%
```

Only if the file exists:

```
10215   \IfFileExists{\jobname.\#1}{%
10216     \LWR@traceinfo{\LWR@myshorttoc: loading}%

```

 Many of the commands in the file will have @ characters in them, so @ must be made a regular letter.

```
10217   \begingroup%
10218     \makeatletter%
```

Disable CJK xpinyin while generating the sidetoc.

```
10219   \LWR@disablepinyin%
```

Read in the TOC file:

```
10220   \@input{\jobname.\#1}%
10221   \endgroup%
10222 }%
10223 {}%
10224 \LWR@traceinfo{\LWR@myshorttoc: done}%
10225 }
```

\LWR@subtableofcontents {\langle toc/lof/lot\rangle} {\langle sectionstarname\rangle}

Places a TOC/LOF/LOT at the current position.

---

10226 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%

Closes previous levels:

```
10227     \@ifundefined{chapter}%
10228         {\LWR@closeprevious{section}}%
10229         {\LWR@closeprevious{chapter}}%
```

Prints any pending footnotes so that they appear above the potentially large TOC:

```
10230     \LWR@printpendingfootnotes%
```

Place the list into its own chapter (if defined) or section:

```
10231     \@ifundefined{chapter}{\section*{\#2}}{\chapter*{\#2}}%
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
10232     \LWR@htmlelementclass{nav}{#1}%
```

Create the actual list:

```
10233     \LWR@myshorttoc{#1}%
```

Close the nav:

```
10234     \LWR@htmlelementclassend{nav}{#1}%
10235 }
```

\@starttoc {*ext*}

Patch \@starttoc to encapsulate the TOC inside HTML tags:

```
10236 \let\LWR@orig@starttoc@\starttoc
10237
10238 \renewcommand{\@starttoc}[1]{%
10239     \LWR@htmlelementclass{nav}{#1}%
10240     \LWR@orig@starttoc{#1}%
10241     \LWR@htmlelementclassend{nav}{#1}%
10242 }
```

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.)

```
10243 \newbool{\LWR@copiedsidetoc}
10244 \boolfalse{\LWR@copiedsidetoc}
```

\tableofcontents Patch \tableofcontents, etc. to print footnotes first. newfloat uses \listoffigures for all future float types.

```

10245 \AtBeginDocument{
10246
10247 \let\LWR@origtableofcontents\tableofcontents
10248
10249 \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:

```

10250     \ifboolexpr{bool{FormatWP} and bool{WPMarkTOC}}{
10251
10252     === table of contents ===
10253
10254     }
10255     {

```

Copy the .toc file to .sidetoc for printing the sideroc. The original .toc file is renewed when \tableofcontents is finished.

```

10256     \ifbool{\LWR@copiedsidetoc}{}{%
10257         \LWR@copyfile{\jobname.toc}{\jobname.sidetoc}%
10258         \booltrue{\LWR@copiedsidetoc}%
10259     }%
10260     \LWR@printpendingfootnotes
10261     \LWR@origtableofcontents
10262 }
10263 }% \tableofcontents
10264
10265 }% AtBeginDocument

```

### \listoffigures

```

10266 \let\LWR@origlistoffigures\listoffigures
10267
10268 \renewcommand*\listoffigures{
10269     \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
10270
10271     === list of figures ===
10272
10273     }
10274     {
10275         \LWR@printpendingfootnotes
10276         \LWR@origlistoffigures
10277     }
10278 }

```

### \listoftables

```

10279 \let\LWR@origlistoftables\listoftables
10280
10281 \renewcommand*\listoftables{
10282     \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
10283

```

---

```

10284     === list of tables ===
10285
10286     }
10287     {
10288         \LWR@printpendingfootnotes
10289         \LWR@origlistoftables
10290     }
10291 }
```

## 76.2 High-level TOC commands

`\listof {<type>} {<title>}`

Emulate the `\listof` command from the `float` package (section 260). 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.

```

10292 \NewDocumentCommand{\listof}{m +m}{%
10293     @ifundefined{l@#1}{%
10294         \csdef{l@#1}##1##2{\hypertocfloat{1}{#1}{\nameuse{ext@#1}}{##1}{##2}}%
10295     }{}%
10296     \LWR@subtableofcontents{\nameuse{ext@#1}}{#2}%
10297     \expandafter\newwrite\csname tf@\csname ext@#1\endcsname\endcsname%
10298     \immediate\openout\csname tf@\csname ext@#1\endcsname\endcsname%
10299         \jobname.\nameuse{ext@#1}\relax%
10300 }
```

## 76.3 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.

css may be used to format the sidetoc:

*CSS related to sidetoc:*

---

**div.sidetoccontainer:** The entire sidetoc.  
**div.sidetotitle:** The title.  
**div.sidetoccontents:** The table of contents.

---

```
10301 \end{warpHTML}
```

**for HTML & PRINT:** 10302 `\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.

---

```

10303 \newcounter{SideTOCDepth}
10304 \setcounter{SideTOCDepth}{1}
10305
10306 \AtEndDocument{%
10307   \ifnumcomp{\value{SideTOCDepth}}{<}{\value{FileDepth}}{%
10308     \PackageWarningNoLine{lwarp}%
10309     {%
10310       SideTOCDepth is less than FileDepth, \MessageBreak%
10311       so some website pages may be inaccessible%%
10312     }%
10313   }%
10314 }
```

\sidetocname Holds the default name for the sidetoc.

```

10315 \newcommand{\sidetocname}{Contents}
10316 \end{warpall}
```

**for HTML output:** 10317 \begin{warpHTML}

\LWR@sidetoc Creates the actual side-TOC.

```

10318 \newcommand*{\LWR@sidetoc}{%
10319   \LWR@forcenewpage%
10320   \LWR@stoppars%
10321 }
```

The entire sidetoc is placed into a nav of class sidetoc.

```

10322   \LWR@htmlelementclass{div}{sidetoccontainer}%
10323   \LWR@htmlelementclass{nav}{sidetoc}%
10324
10325   \setcounter{tocdepth}{\value{SideTOCDepth}}%
10326 }
```

The title is placed into a <div> of class sidetoctitle, and may contain paragraphs.

```

10327   \begin{BlockClass}{sidetoctitle}%
10328     \ifcsvvoid{thetitle}{}{%
10329       \sidetocname%
10330     }%
10331   \end{BlockClass}
```

The table of contents is placed into a <div> of class sidetoccontents.

```

10331   \begin{BlockClass}{sidetoccontents}%
10332     \LinkHome%
10333
10334     \LWR@myshorttoc{sidetoc}%
10335   \end{BlockClass}%
10336   \LWR@htmlelementclassend{nav}{sidetoc}%
10337   \LWR@htmlelementclassend{div}{sidetoccontainer}%
10338 }
```

## 76.4 Low-level toc line formatting

\numberline {⟨number⟩}

(Called from each line in the .aux, .lof files.)

Record this section number for further use:

```
10339 \newcommand*{\LWR@numberline}[1]{%
10340     \LWR@sectionnumber{#1}\quad%
10341 }
10342
10343 \LetLtxMacro\numberline\LWR@numberline
```

\LWR@maybetocdata Replaced by **tocdata**. Adds author name.

```
10344 \newcommand*{\LWR@maybetocdata}{}%
```

\hypertoc {⟨1: depth⟩} {⟨2: type⟩} {⟨3: name⟩} {⟨4: page⟩}

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

```
10345 \NewDocumentCommand{\hypertoc}{m m +m m}{%
10346     \LWR@traceinfo{hypertoc !#1!#2!#3!#4!}%
10347 }
```

Respond to **tocdepth**:

```
10347     \ifnumcomp{#1}{>}{\value{tocdepth}}{%
10348         {}%
10349     {}%
10350         \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.

```
10351     \LWR@subhyperrefclass{%
10352         \LWR@htmlrefsectionfilename{\BaseJobname-autopage-#4}%
10353             \LWR@origpound\LWR@print@mbox{autosec-#4}%
10354         }{#3}{toc#2}%
10355 }
```

---

```

10355          \LWR@maybetocdata%
10356          \LWR@stoppars%
10357          }%
10358      \LWR@traceinfo{hypertoc done}%
10359 }
```

**ctr** **lofdepth** TOC depth for figures.

```

10360 \@ifclassloaded{memoir}{}{
10361     \newcounter{lofdepth}
10362     \setcounter{lofdepth}{1}
10363 }
```

**ctr** **lotdepth** TOC depth for tables.

```

10364 \@ifclassloaded{memoir}{}{
10365     \newcounter{lotdepth}
10366     \setcounter{lotdepth}{1}
10367 }
```

\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

```
10368 \newcommand{\hypertocfloat}[5]{%
```

If some float-creation package has not yet defined the float type's **lofdepth** counter, etc, define it here:

```

10369      \@ifundefined{c@#3depth}{%
10370          \newcounter{#3depth}%
10371          \setcounter{#3depth}{1}%
10372      }{}
```

Respond to **lofdepth**, etc.:

```

10373      \LWR@traceinfo{hypertocfloat depth is #1 #3depth is \arabic{#3depth}}%
10374      \ifthenelse{\cnttest{#1}{<=}{\arabic{#3depth}}}{%
10375          \%%
10376          \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.

```

10377      \LWR@subhyperrefclass{%
10378          \LWR@htmlrefsectionfilename{%
10379              \BaseJobname-autopage-\arabic{\LWR@nextautopage}%
10380          }%
10381          \LWR@origpound\LWR@print@mbox{autoid-\arabic{\LWR@nextautoid}}}}%
10382          {#4}{toc#2}%
10383
10384          \LWR@maybetocdata%
10385      }%
10386  { }%
10387 }
```

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.

```
10388 \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.

```
10389 \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.

```

10390 \@ifundefined{chapter}
10391 {}
10392 {
10393 \DeclareDocumentCommand{\l@chapter}{m m}
10394     {\hypertoc{0}{chapter}{#1}{#2}}
10395 }
```

\l@section {\langle name\rangle} {\langle page\rangle}

```
10396 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}
```

\l@subsection {\langle name\rangle} {\langle page\rangle}

```
10397 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}
```

---

```
\l@subsubsection {\langle name\rangle} {\langle page\rangle}

10398 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}
```

```
\l@paragraph {\langle name\rangle} {\langle page\rangle}

10399 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}
```

```
\l@subparagraph {\langle name\rangle} {\langle page\rangle}

10400 \renewcommand{\l@subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}
```

```
\l@figure {\langle name\rangle} {\langle page\rangle}

10401 \renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}
```

```
\l@table {\langle name\rangle} {\langle page\rangle}

10402 \renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{lot}{#1}{#2}}
```

```
10403 \end{warpHTML}
```

## 77 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:** 10404 \begin{warpHTML}

```
10405 \newcounter{LWR@autoindex}
10406 \setcounter{LWR@autoindex}{0}
10407
10408 \newcounter{LWR@autoglossary}
10409 \setcounter{LWR@autoglossary}{0}
```

\IndexPageSeparator User-adjustable delimiters for page and range separators in the \*.ind files.

\IndexRangeSeparator

```
10410 \newcommand*{\IndexPageSeparator}{, }
10411 \newcommand*{\IndexRangeSeparator}{--}
```

Env theindex

```

10412 \@ifundefined{chapter}
10413     {\newcommand*{\LWR@indexsection}[1]{\section*{#1}}}
10414     {\newcommand*{\LWR@indexsection}[1]{\chapter*{#1}}}
10415
10416
10417 \AtBeginDocument{
10418
10419 \renewenvironment*{theindex}{%
10420     \LWR@indexsection{\indexname}%
10421     \let\item\LWR@indexitem%
10422     \let\subitem\LWR@indexsubitem%
10423     \let\subsubitem\LWR@indexsubsubitem%
10424 }{%
10425
10426 }% AtBeginDocument

```

\LWR@indexitem [*index key*] The optional argument is added to support `repeatindex`.

```

10427 \newcommand{\LWR@indexitem}[1][\emptyset]{%
10428
10429     \InlineClass{indexitem}{\LWR@htmlcomment{}#1}%
10430 }

```

\LWR@indexsubitem

```

10431 \newcommand{\LWR@indexsubitem}{%
10432
10433     \InlineClass{indexsubitem}{\LWR@htmlcomment{}#1}%
10434 }

```

\LWR@indexsubsubitem

```

10435 \newcommand{\LWR@indexsubsubitem}{%
10436
10437     \InlineClass{indexsubsubitem}{\LWR@htmlcomment{}#1}%
10438 }

```

\LWR@xindex@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@xindex@modifyentrysub.

```

10439 \NewDocumentCommand{\LWR@xindex@modifyentry}{>{\SplitArgument{1}{|}}m}
10440     {\LWR@xindex@modifyentrysub#1}

```

Handle left and right parenthesis range argument, or add a `hyperindexformat` clause.

```

10441 \newcommand*{\LWR@xindex@modifyentrysub}[2]{%
10442     \edef\LWR@tempone{\#1}%
10443     \edef\LWR@temptwo{\#2}%

```

```

10444 \IfValueTF{#2}{%
10445   \ifx#2%
10446     \appto\LWR@tempone{|()}%
10447   \else%
10448     \ifx#2%
10449       \appto\LWR@tempone{|})}%
10450   \else%
10451     \appto\LWR@tempone{%
10452       |hyperindexformat\LWRleftbrace%
10453       \LWRbackslash#2%
10454       \LWRrightbrace%
10455     }%
10456   \fi%
10457 }%
10458 }%
10459 {}}%
10460 }

```

\@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.

```

10461 \newbool{\LWR@xindex@tricked}
10462 \boolfalse{\LWR@xindex@tricked}
10463
10464 \def\LWR@wrindex#1{%
10465   \ifbool{\LWR@xindex}{%
10466     \ifbool{\LWR@xindex@tricked}{%
10467       \protected@write\@indexfile{%
10468         {%
10469           \LWRpercent\space hyperpage\LWRrightbrace%
10470           \LWRpercent\space trick xindex to assume hyperref%
10471         }%
10472       \global\booltrue{\LWR@xindex@tricked}%
10473     }%
10474     \LWR@xindex@modifyentry{#1}%
10475   }{%
10476     \def\LWR@tempone{#1}%
10477   }%
10478   \addtocounter{\LWR@autoindex}{1}%
10479   \label{\LWRindex-\arabic{\LWR@autoindex}}%
10480   \protected@write\@indexfile{%
10481     {\string\indexentry{\LWR@tempone}{\arabic{\LWR@autoindex}}}}%
10482   \endgroup%
10483   \@esphack%
10484 }
10485
10486 \AtBeginDocument{%
10487 \let\@wrindex\LWR@wrindex
10488 }

```

\@wrglossary {*<term>*} Redefined to write the `\LWR@latestautopage` counter instead of page.

```

10489 \def\@wrglossary#1{%
10490     \addtocounter{LWR@autoglossary}{1}%
10491     \LWR@new@label{LWRglossary-\theLWR@autoglossary}%
10492     \protected@write\@glossaryfile{}{%
10493     {\string\glossaryentry{#1}{\theLWR@autoglossary}}}%
10494     \endgroup%
10495     \esphack%
10496 }

```

\LWR@indexnameref@anonref {*LWR@autoindex*}

Displays a reference link where there no \ref available.

```

10497 \newcommand*{\LWR@indexnameref@anonref}[1]{%
10498     \LWR@startref{LWRindex-#1}%
10499     (*)%
10500     \LWR@htmltag{/a}%
10501 }

```

\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.

```

10502 \newcommand*{\LWR@indexnameref@ref}[1]{%
10503     \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
10504     \ifdefvoid{\LWR@thisref}{}{%
10505         \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10506         \ifdefvoid{\LWR@thisref}{%
10507             {\LWR@indexnameref@anonref{#1}}%
10508             {\ref{LWRindex-#1}}%
10509         }%
10510 }

```

\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.

```

10511 \newcommand*{\LWR@indexnameref@refnameref}[1]{%
10512     \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
10513     \ifdefvoid{\LWR@thisref}{}{%
10514         \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10515         \ifdefvoid{\LWR@thisref}{}{%
10516             \ifdefstring{\LWR@thisref}{(*)}{%
10517                 {}%
10518                 {\ref{LWRindex-#1}}% space
10519             }%
10520         }%
10521         \nameref{LWRindex-#1}%
10522 }

```

---

```
\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 (\*).

```
10523 \newcommand*{\LWR@indexnameref@cref}[1]{%
10524     \edef\LWR@thisref{\csuse{r@LWRindex-\#1}}%
10525     \ifdefvoid{\LWR@thisref}{%
10526         \nameref{LWRindex-\#1}%
10527     }{%
10528         \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10529         \ifdefvoid{\LWR@thisref}{%
10530             \nameref{LWRindex-\#1}%
10531         }{%
10532             \ifdefstring{\LWR@thisref}{(*)}{%
10533                 \LWR@indexnameref@anonref{\#1}%
10534             }{%
10535                 \cref{LWRindex-\#1}%
10536             }%
10537         }%
10538     }%
10539 }
```

```
\LWR@indexnameref@crefnameref {<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.

```
10540 \newcommand*{\LWR@indexnameref@crefnameref}[1]{%
10541     \edef\LWR@thisref{\csuse{r@LWRindex-\#1}}%
10542     \ifdefvoid{\LWR@thisref}{%
10543         {}%
10544         {}%
10545         \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10546         \ifdefvoid{\LWR@thisref}{%
10547             {}%
10548             {}%
10549             \ifdefstring{\LWR@thisref}{(*)}{%
10550                 {}%
10551                 {\cref{LWRindex-\#1}} % space
10552             }%
10553         }%
10554         \nameref{LWRindex-\#1}%
10555 }
```

```
\LWR@indexnameref {<LWR@autoindex>}
```

Creates a hyperlink based on the given entry's autoindex.

```
10556 \newcommand*{\LWR@indexnameref}[1]{%
10557     {% group
```

Temporarily redefine `\caption`'s `\caption@xref` because it was printing ?? in the indexes, and also causing error on expansion:

```

10558     \ifdef{\caption@xref}{%
10559         \renewcommand*{\caption@xref}[2]{(*)}%
10560     }{}%
10561     \ifdefstring{\LWR@IndexRef}{ref}{%
10562         \LWR@indexnameref@ref{#1}%
10563     }{%
10564     \ifdefstring{\LWR@IndexRef}{nameref}{%
10565         \nameref{LWRindex-#1}%
10566     }{%
10567     \ifdefstring{\LWR@IndexRef}{refnameref}{%
10568         \LWR@indexnameref@refnameref{#1}%
10569     }{%
10570     \ifdefstring{\LWR@IndexRef}{cref}{%
10571         \LWR@indexnameref@cref{#1}%
10572     }{%
10573     \ifdefstring{\LWR@IndexRef}{crefnameref}{%
10574         \LWR@indexnameref@crefnameref{#1}%
10575     }{%
10576     \ifdefstring{\LWR@IndexRef}{autoref}{%
10577         \LWR@indexnameref@cref{#1}%
10578     }{%
10579     text string
10580         \LWR@startref{LWRindex-#1}%
10581         \LWR@IndexRef%
10582         \LWR@htmltag{/a}%
10583     }}}}}}%
10583 }% group
10584 }

```

`\LWR@doindexentrysubsub` {*range start: LWR@autoindex, or macros.*} {*range end or blank*}

Creates a hyperlink, or handles `\see`, `\textbf`, etc.

```

10585 \newrobustcmd{\LWR@doindexentrysubsub}[2]{%
10586     \IfInteger{#1}{%
10587         {\LWR@indexnameref{#1}}%
10588         {#1}%
10589     \IfValueT{#2}{%
10590         \IndexRangeSeparator%
10591         \IfInteger{#2}{%
10592             {\LWR@indexnameref{#2}}%
10593             {#2}%
10594         }%
10595     }

```

`\LWR@doindexentrysub` {*range delimiter*} {*LWR@autoindex or macros, possible a range*}

```

10596 \NewDocumentCommand{\LWR@doindexentrysub}{m >{\SplitArgument{1}{#1}}m}
10597     {\LWR@doindexentrysubsub#2}

```

---

\LWR@doindexentry {⟨LWR@autoindex or macros, possible a range⟩}

```
10598 \newcommand*{\LWR@doindexentry}[1]{%
10599     \relax% required
10600     \expandafter\lWR@doindexentrysub\expandafter{\IndexRangeSeparator}{#1}%
10601 }
```

\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{... }

```
10602 \newcommand{\LWR@hyperindexrefnullified}{%
10603     \renewrobustcmd{\emph}[1]{\LWR@HTML@emph{\LWR@doindexentry{##1}}}%
10604     \renewrobustcmd{\textbf}[1]{\LWR@HTML@textbf{\LWR@doindexentry{##1}}}%
10605     \renewrobustcmd{\texteb}[1]{\LWR@HTML@texteb{\LWR@doindexentry{##1}}}%
10606     \renewrobustcmd{\textlg}[1]{\LWR@HTML@textlg{\LWR@doindexentry{##1}}}%
10607     \renewrobustcmd{\textrm}[1]{\LWR@HTML@textrm{\LWR@doindexentry{##1}}}%
10608     \renewrobustcmd{\textsf}[1]{\LWR@HTML@textsf{\LWR@doindexentry{##1}}}%
10609     \renewrobustcmd{\texttt}[1]{\LWR@HTML@texttt{\LWR@doindexentry{##1}}}%
10610     \renewrobustcmd{\textup}[1]{\LWR@HTML@textup{\LWR@doindexentry{##1}}}%
10611     \renewrobustcmd{\textsc}[1]{\LWR@HTML@textsc{\LWR@doindexentry{##1}}}%
10612     \renewrobustcmd{\textulc}[1]{\LWR@HTML@textulc{\LWR@doindexentry{##1}}}%
10613     \renewrobustcmd{\textsi}[1]{\LWR@HTML@textsi{\LWR@doindexentry{##1}}}%
10614     \renewrobustcmd{\textit}[1]{\LWR@HTML@textit{\LWR@doindexentry{##1}}}%
10615     \renewrobustcmd{\textsl}[1]{\LWR@HTML@textsl{\LWR@doindexentry{##1}}}%
10616 }
```

\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.

```
10617 \newcommand*{\hyperindexref}[1]{%
10618     \relax% required
10619     \expandafter\lWR@hyperindexref@comma\expandafter{\IndexPageSeparator}{#1}%
10620 }
```

\LWR@hyperindexref@comma {⟨separator⟩} {⟨list of args⟩}

The list is split at commas, and passed to \LWR@hyperindexref@@comma.

```
10621 \NewDocumentCommand{\lWR@hyperindexref@comma}{%
10622     m >{\SplitList{#1}} m%
10623     %}
```

Used to place the separator between each entry, but not before the first.

```
10624 \def\LWR@hyperindexref@thiscomma{}%
10625 \def\LWR@hyperindexref@nextcomma{\#1}%
```

Each comma-delimited entry is now passed individually to `\LWR@hyperindexref@@comma`.

```
10626 \ProcessList{\#2}\LWR@hyperindexref@@comma%
10627 }
```

`\LWR@hyperindexref@@comma {<arg, perhaps with a range>}`

A comma separator is placed if not the first item, then the range is parsed.

```
10628 \newcommand*{\LWR@hyperindexref@@comma}[1]{%
10629   \LWR@hyperindexref@thiscomma%
10630   \renewcommand{\LWR@hyperindexref@thiscomma}{\LWR@hyperindexref@nextcomma}%
10631   \expandafter\LWR@hyperindexref@range\expandafter{\IndexRangeSeparator}\#1}%
10632 }
```

`\LWR@hyperindexref@range {<range delimiter>} {<arg>}`

```
10633 \NewDocumentCommand{\LWR@hyperindexref@range}{%
10634   m >{\SplitArgument{1}{#1}} m}%
10635   {\LWR@hyperindexrefsub#2}
```

`\LWR@hyperindexrefsub {<range start: LWR@autoindex>} {<range end, or -NoValue->}`

Handles the start and end of a range, if applicable.

```
10636 \newcommand*{\LWR@hyperindexrefsub}[2]{%
10637   \LWR@hyperindexrefsubtwo{\#1}%
10638   \IfValueT{\#2}{%
10639     \IndexRangeSeparator%
10640     \LWR@hyperindexrefsubtwo{\#2}%
10641   }%
10642 }
```

`\LWR@hyperindexrefsubtwo {<LWR@autoindex>}`

```
10643 \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.

```
10644 \edef\tempone{\#1}%
10645 \IfBeginWith{\tempone}{ }{%
10646   \StrGobbleLeft{\tempone}{1}[\tempone]%
10647 }
```

---

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.

```
10648 \IfInteger{\LWR@tempone}%
10649   {\LWR@indexnameref{\LWR@tempone}}%
10650   {%
10651     \begingroup%
10652     \LWR@hyperindexrefnullified%
10653     #1%
10654     \endgroup%
10655   }%
10656 }
```

\hyperpage Emulate hyperref.

```
10657 \LetLtxMacro\hyperpage\hyperindexref
```

\nohyperpage Emulate hyperref.

```
10658 \def\nohyperpage#1{}
```

\hyperindexformat Emulate hyperref.

```
10659 \def\hyperindexformat#1#2{%
10660   #1{\hyperpage{#2}}%
10661 }
```

```
10662 \end{warpHTML}
```

**for PRINT output:** A null command for print mode, in case `hyperref` was not used:

```
10663 \begin{warpprint}
10664 \newcommand{\hyperindexref}[1]{#1}
10665 \end{warpprint}
```

**for HTML & PRINT:** For the `glossaries` package, try to prevent an error where `\glo@name` was not found:

```
10666 \begin{warpall}
10667 \providecommand{\glo@name}{}
10668 \end{warpall}
```

## 78 Bibliography presentation

**for HTML output:** 10669 `\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⟩}

10670 \renewcommand{\@biblabel}{\quad{[#1]}}
```

**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>

```
10671 \AtBeginDocument{
10672
10673 \AtBeginEnvironment{thebibliography}{
10674
10675 \providecommand*\LWR@newem[1]{\textit{#1}}
10676
10677 \renewrobustcmd{\em}{%
10678   \begingroup
10679     \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
10680     \afterassignment\LWR@em@after
10681     \toks@\bgroup
10682   }
10683
10684 \def\LWR@em@finish#1{%
10685   \xdef\LWR@em@after{\noexpand#1{\the\toks@}}%
10686   \endgroup
10687   \LWR@em@after\egroup
10688 }
10689
10690 }% \AtBeginEnvironment{thebibliography}
10691
10692 }% \AtBeginDocument

10693 \end{warpHTML}
```

## 79 Restoring original formatting

**for HTML output:** 10694 `\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.

```
10695 \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`.

```
10696 \newcommand*{\LWR@restoreorigformatting}{%
10697   \LWR@traceinfo{\LWR@restoreorigformatting}%

```

Numerous macros change their print/HTML meaning depending on `\LWR@formatting`:

```
10698 \renewcommand*{\LWR@formatting}{print}%
10699   \linespread{1}%
10700 \let\par\LWR@origpar%
10701 \LWR@select@print@hskip%
10702 \LetLtxMacro\hfil\LWR@orighfil%
10703 \let\hss\LWR@orighss%
10704 \let\llap\LWR@origllap%
10705 \let\rlap\LWR@origrlap%
10706 \let\hfilneg\LWR@orighfilneg%
10707 \let\,\LWR@origcomma% disable HTML short unbreakable space
10708 \let\thinspace\LWR@origthinspace% disable HTML short unbreakable space
10709 \let\negthinspace\LWR@orignegthinspace% disable HTML negative short unbreakable space
10710 \let\textellipsis\LWR@origtextellipsis%
10711 \let\vdots\LWR@origvdots%
10712 \let\textless\LWR@origtextless%
10713 \let\textgreater\LWR@origtextgreater%
10714 \let\&\LWR@origampersand%
10715 \LetLtxMacro\em\LWR@origem%
10716 \LetLtxMacro\normalfont\LWR@orignormalfont%
10717 \let\sp\LWR@origsp%
10718 \let\sb\LWR@origsb%
10719 \LetLtxMacro\underline\LWR@origunderline%
10720 \let\tilde\LWR@origtilde%
10721 \let\enskip\LWR@origenskip%
10722 \let\quad\LWR@origquad%
10723 \let\qquad\LWR@origqquad%
```

`\endtabular` must be restored to its original, instead of relying on `lwarp`'s `\LWR@formatted` mechanism:

```
10724 \LetLtxMacro\endtabular\LWR@origendtabular%
10725 \csletcs{\endtabular*}{\LWR@origendtabular*}%
```

---

```

10726  \LetLtxMacro\noalign{\LWR@orignoalign}
10727  \LetLtxMacro\hline{\LWR@orighline}

10728  \let\newline{\LWR@orignewline}
10729  \LetLtxMacro\includegraphics{\LWR@origincludegraphics}

10730  \LetLtxMacro{@ensuredmath}{\LWR@origensuredmath}

10731  \let\math{\LWR@orig@math}
10732  \let\endmath{\LWR@orig@endmath}
10733  \let\displaymath{\LWR@orig@displaymath}
10734  \let\enddisplaymath{\LWR@orig@enddisplaymath}
10735 %
10736  \LWR@restoreorigaccents%
10737  \LWR@restoreoriglists%
10738 %
10739  \LWR@FBcancel%

```

To enable MATHJAX-specific nullification, used for `tcolorbox`:

```

10740  \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
10741      {\LWR@restoreMathJaxformatting}%
10742      {}%
10743 }

10744 \end{warpHTML}

```

## 80 Nullifying filename formatting

The following are used to nullify certain macros and environments while converting section names to file names.

**for HTML output:** 10745 `\begin{warpHTML}`

Also commonly used are `\@empty`, `\@gobble`, and `\@firstofone`.

```
10746 \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.

```

10747 \catcode`\$=\active% redefining $ below
10748 \catcode`\_=12% redefining \_ below
10749 \newcommand*{\LWR@nullfonts}{%

```

Various built-in symbols.

```
10750      \renewcommand*{\$}{-}%
10751      \renewcommand*{\%}{-}%
10752      \renewcommand*{\_}{-}%
10753      \renewcommand*{\{}{-}%
10754      \renewcommand*{\}}{-}%
10755      \renewcommand*{\&}{-}%
10756      \renewcommand*{\#}{-}%
10757      \renewcommand*{\,}{-}%
10758      \renewcommand*{\~}{-}%
10759 %
10760 % accents:
10761      \renewcommand*{'[1]{##1}%
10762      \renewcommand*{'[1]{##1}%
10763      \renewcommand*{^}[1]{##1}%
10764      \renewcommand*{~}[1]{##1}%
10765      \renewcommand*{=}[1]{##1}%
10766      \renewcommand*{\u}[1]{##1}%
10767      \renewcommand*{.}[1]{##1}%
10768      \renewcommand*{"}[1]{##1}%
10769      \renewcommand*{H}[1]{##1}%
10770      \renewcommand*{v}[1]{##1}%
10771      \renewcommand*{d}[1]{##1}%
10772      \renewcommand*{c}[1]{##1}%
10773      \renewcommand*{b}[1]{##1}%
10774      \renewcommand*{t}[1]{##1}%
10775 %
10776      \let\newline\LWR@dash%
10777      \let\textasciicircum\LWR@dash%
10778      \let\textasciitilde\LWR@dash%
10779      \let\textasteriskcentered\LWR@dash%
10780      \let\textbackslash\LWR@dash%
10781      \let\textbar\LWR@dash%
10782      \let\textbardbl\LWR@dash%
10783      \let\textbigcircle\LWR@dash%
10784      \let\textbraceleft\LWR@dash%
10785      \let\textbraceright\LWR@dash%
10786      \let\textbullet\LWR@dash%
10787      \let\textcopyright\LWR@dash%
10788      \let\textdagger\LWR@dash%
10789      \let\textdaggerdbl\LWR@dash%
10790      \let\textdollar\LWR@dash%
10791      \let\textellipsis\LWR@dash%
10792      \let\textemdash\LWR@dash%
10793      \let\textendash\LWR@dash%
10794      \let\textexclamdown\LWR@dash%
10795      \let\textgreater\LWR@dash%
10796      \let\textless\LWR@dash%
10797      \let\textordfeminine\LWR@dash%
10798      \let\textordmasculine\LWR@dash%
10799      \let\textparagraph\LWR@dash%
10800      \let\textperiodcentered\LWR@dash%
10801      \let\textpertenthousand\LWR@dash%
10802      \let\textperthousand\LWR@dash%
```

```
10803 \let\textquestiondown\LWR@dash%
10804 \let\textquotedblleft\LWR@dash%
10805 \let\textquotedblright\LWR@dash%
10806 \let\textquotelleft\LWR@dash%
10807 \let\textquoteright\LWR@dash%
10808 \let\textregistered\LWR@dash%
10809 \let\textsection\LWR@dash%
10810 \let\textsterling\LWR@dash%
10811 \let\texttrademark\LWR@dash%
10812 \let\textunderscore\LWR@dash%
10813 \let\textvisiblespace\LWR@dash%
10814 \let\copyright\LWR@dash%
10815 \let\dag\LWR@dash%
10816 \let\ddag\LWR@dash%
10817 \let\dotso\LWR@dash%
10818 \let\P\LWR@dash%
10819 \let\pounds\LWR@dash%
10820 \let\S\LWR@dash%
10821 %
10822 \renewcommand*\aa{a}%
10823 \renewcommand*\AA{A}%
10824 \renewcommand*\AE{Æ}%
10825 \renewcommand*\ae{æ}%
10826 \renewcommand*\dh{d}%
10827 \renewcommand*\DH{D}%
10828 \renewcommand*\DJ{D}%
10829 \renewcommand*\dj{d}%
10830 \renewcommand*\IJ{IJK}%
10831 \renewcommand*\ij{ijk}%
10832 \renewcommand*\L{L}%
10833 \renewcommand*\l{l}%
10834 \renewcommand*\NG{NG}%
10835 \renewcommand*\ng{ng}%
10836 \renewcommand*\O{O}%
10837 \renewcommand*\o{o}%
10838 \renewcommand*\oe{œ}%
10839 \renewcommand*\OE{Œ}%
10840 \renewcommand*\ss{ss}%
10841 \renewcommand*\SS{SS}%
10842 \renewcommand*\th{th}%
10843 \renewcommand*\TH{TH}%
10844 %
10845 \let\guillemotleft@\empty%
10846 \let\guilsinglleft@\empty%
10847 \let\quotedblbase@\empty%
10848 \let\textquotedbl@\empty%
10849 \let\guillemotright@\empty%
10850 \let\guilsinglright@\empty%
10851 \let\quotesinglbase@\empty%
10852 \renewcommand*\HTMLunicode}[1]{}%
10853 \renewcommand*\HTMLentity}[1]{}%
10854 \renewcommand{\textsuperscript}[1]{##1}%
10855 \renewcommand{\textsubscript}[1]{##1}%
```

---

```

10856 \renewcommand{\underline}[1]{##1}%
10857 \RenewDocumentCommand{\hspace}{s m}{}
10858 \RenewDocumentCommand{\LWR@htmlspanclass}{o m +m}{##3}%
10859 \DeclareExpandableDocumentCommand{\InlineClass}{D{()}{}} o m +m}{##4}%

```

Nullify math macros.

```

10860 \def\##1{}%
10861 \def\[##1]{}%
10862 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}

```

Nullify logos:

```

10863 \renewcommand*\TeX{TeX}%
10864 \renewcommand*\LaTeX{LaTeX}%
10865 \renewcommand*\LaTeXe{LaTeXe}%
10866 \renewcommand*\LuaTeX{LuaTeX}%
10867 \renewcommand*\LuaLaTeX{LuaLaTeX}%
10868 \renewcommand*\XeTeX{XeTeX}%
10869 \renewcommand*\XeLaTeX{XeLaTeX}%
10870 \renewcommand*\ConTeXt{ConTeXt}%
10871 \renewcommand*\BibTeX{BibTeX}%
10872 \renewcommand*\MakeIndex{MakeIndex}%
10873 \renewcommand*\AmS{AmS}%
10874 \renewcommand*\MiKTeX{MiKTeX}%
10875 \renewcommand*\LyX{LyX}%

```

Use the simpler form with `\texorpdfstring`:

```

10876 \def\texorpdfstring{\expandafter\@secondoftwo}%
10877 }
10878 \catcode`\$=3%
10879 \catcode`\_=8%

```

`\FilenameNullify {<redefinitions>}`

Adds more nullifying definitions for filename generation.

```

10880 \newcommand*\FilenameNullify[1]{%
10881   \appto{\LWR@nullfonts}{#1}%
10882 }%
10883 \end{warpHTML}

```

## 81 Math

### 81.1 Limitations

See [Math](#), section 8.7.

## 81.2 HTML alt tag names

Redefinable names for the HTML alt tags, for translation according to the reader's native language.

for HTML & PRINT: 10884 \begin{warpall}

\AltTextOpen The opening part of HTML alt tag for an image. The default is a left parenthesis.

Default: (

10885 \newcommand\*\{\AltTextOpen\}{()

\AltTextClose The closing part of HTML alt tag for an image. The default is a right parenthesis.

Default: (

10886 \newcommand\*\{\AltTextClose\}{}}

\ImageAltText The HTML alt tag for an image.

Default: image

10887 \newcommand\*\{\ImageAltText\}{image}

\MathImageAltText The HTML alt tag for an svg math image.

Default: "math image"

10888 \newcommand\*\{\MathImageAltText\}{math image}

\LWR@ThisAltText The HTML alt tag for the next image. Cleared after use, and also after each \teximage, \LWR@subsingleollar, and each use of MATHJAX.

10889 \newcommand\*\{\LWR@ThisAltText\}{}

\ThisAltText {\langle text \rangle}

Assigns the HTML alt tag for the next image generated by lwarp, such as a \teximage, picture, or SVG math.

10890 \newcommand\*\{\ThisAltText\}[1]{%  
10891 \renewcommand\*\{\LWR@ThisAltText\}{#1}%  
10892 }

\PackageDiagramAltText Appended to the \teximage HTML alt tag for the images generated by many packages.

Default: "diagram"

10893 \newcommand\*\{\PackageDiagramAltText\}{diagram}

10894 \end{warpall}

### 81.3 Inline and display math

**for HTML output:** 10895 \begin{warpHTML}

Ctr LWR@externalfilecnt Counter for the external files which are generated and then referenced from the HTML:

10896 \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.

10897 \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.

10898 \newbool{LWR@insidemathcomment}  
10899 \boolfalse{LWR@insidemathcomment}

Bool LWR@xfakebold True if *xfakebold* \setBold is in use.

10900 \newbool{LWR@xfakebold}  
10901 \boolfalse{LWR@xfakebold}

\LWR@orig@setBold Redefined by lwarp-xfakebold.

10902 \newcommand\*{\LWR@orig@setBold}{}{}

\LWR@orig@unsetBold Redefined by lwarp-xfakebold.

10903 \newcommand\*{\LWR@orig@unsetBold}{}{}

\LWR@applyxfakebold Redefined by lwarp-xfakebold.

10904 \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*.

```
10905 \newcommand*{\LWR@setcurrentfont}{%
 10906   \LWR@traceinfo{Using font family \LWR@f@family}%
 10907   \nameuse{\LWR@print@\LWR@f@family family}%
 10908   \LWR@traceinfo{Using font series \LWR@f@series}%
 10909   \nameuse{\LWR@print@\LWR@f@series series}%
 10910   \LWR@traceinfo{Using font shape \LWR@f@shape}%
 10911   \nameuse{\LWR@print@\LWR@f@shape shape}%
 10912   \LWR@traceinfo{Using font caps shape \LWR@f@shapecaps}%
 10913   \nameuse{\LWR@print@\LWR@f@shapecaps shape}%
 10914 }
```

\\$ 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.

```
10915 \let\LWR@origtextdollar\$
10916
10917 \renewcommand*{\$}{%
10918     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
10919         {\LWR@origtextdollar}%
10920         {\HTMLunicode{00024}}%
10921     }%
```

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.

File `lwarp_baseline_marker.eps` 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.

```
10922 \AtBeginDocument{%
10923
10924 \ifpdf
10925     \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}
10926 \else
10927     \ifXeTeX
10928         \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}
10929     \else
10930         \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.eps}
10931     \fi
10932 \fi
10933
10934 \IfFileExists{\LWR@baselinename}{%
10935 {
10936     \@ifpackageloaded{graphicx}{%
10937         \newcommand*{\LWR@addbaselinemarker}{%
10938             \LWR@originincludegraphics{\LWR@baselinename}%
10939         }%
10940     }%
10941     \@ifpackageloaded{graphics}{%
10942         \newcommand*{\LWR@addbaselinemarker}{%
10943             \LWR@originincludegraphics{\LWR@baselinename}%
10944     }%
```

```

10944      }
10945  }{
10946      \newcommand*{\LWR@addbaselinemarker}{%
10947          \global\booltrue{\LWR@warnbaselinemarker}%
10948      }
10949      \AtEndDocument{%
10950          \ifbool{\LWR@warnbaselinemarker}{%
10951              \PackageWarningNoLine{l warp}{%
10952                  Load graphicx or graphics for improved\MessageBreak
10953                  SVG math sizing and baselines%
10954              }%
10955          }{}%
10956      }%
10957  }%
10958 }%
10959 }% l warp_baseline_marker.png or .eps is not present
10960 \newcommand*{\LWR@addbaselinemarker}{%
10961     \global\booltrue{\LWR@warnbaselinemarker}%
10962 }%
10963 \AtEndDocument{%
10964     \ifbool{\LWR@warnbaselinemarker}{%
10965         \PackageWarningNoLine{l warp}{%
10966             File \LWR@baselinename\space is not installed\MessageBreak
10967             alongside the l warp-*.sty files, so\MessageBreak
10968             SVG math sizing and baselines may not be accurate}%
10969     }{}%
10970 }%
10971 }%
10972 }% AtBeginDocument
10973 }% AtBeginDocument

```

Bool `\LWR@warnbaselinemarker` True if the math baseline marker was ever called for, but `graphics` or `graphicx` were not loaded.

```

10974 \newbool{\LWR@warnbaselinemarker}
10975 \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.

```
10976 \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:** `\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.

**\ifmmode:** Included “just in case”.

Factored from `\LWR@subsingledollarsvg`.

```
10977 \newcommand*{\LWR@singledollarmeasure}[1]{%
10978     \begingroup%
```

Temporarily disable formatting while measuring the image parameters:

```
10979     \LWR@restoreorigformatting%
10980     \RenewDocumentEnvironment{latextimage}{s o s o o}{}{}% inside group
10981     \LWR@print@normalsize%
```

Temporarily set font for the HTML PDF output:

```
10982     \LWR@setcurrentfont%
```

`latextimagedepth` 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.

```
10983     \global\advance\c@LWR@latextimagedepth 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.

```
10984     \boolfalse{\LWR@unknownmathsize}%
10985     \ifmmode%
10986         \global\sbox{\LWR@singledollarbox}{#1}%
10987     \else%
10988         \ifbool{\LWR@dynamicmath}{}{%
10989             \ifbool{\mathjax}{}{%
10990                 \global\sbox{\LWR@singledollarbox}{%
10991                     {\LWR@origensuredmath{#1}}%
10992                 }%
10993                 \global\sbox{\LWR@singledollarbox}{#1}%
10994             }%
10995         }%
10996         \global\sbox{\LWR@singledollarbox}{#1}%
10997     }%
10998 \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 *pdfcrop* would crop the image without depth. The marker below the baseline is seen by *pdfcrop* and preserves the depth.

```
10999 \global\sbox{\LWR@singledollarbox}{%
11000   \usebox{\LWR@singledollarbox}%
11001   \raisebox{-\dp\LWR@singledollarbox}{%
11002     \LWR@addbaselinemarker%
11003   }%
11004 }
```

More low-level code to undo the counter change.

```
11005 \global\advance\c@LWR@lateximagedepth -1\relax% Due to AmS \text macro.
```

Measure the depth:

```
11006 \setlength{\LWR@singledollardepth}{%
11007   \LateximageFontSize\dp\LWR@singledollarbox%
11008 }
```

Make the length a global change:

```
11009 \global\LWR@singledollardepth=\LWR@singledollardepth%
```

Likewise for width:

```
11010 \setlength{\LWR@singledollarwidth}{%
11011   \LateximageFontSize\wd\LWR@singledollarbox%
11012 }%
11013 \global\LWR@singledollarwidth=\LWR@singledollarwidth%
```

Likewise for total height:

```
11014 \setlength{\LWR@singledollarheight}{%
11015   \LateximageFontSize\ht\LWR@singledollarbox%
11016 }%
11017 \addtolength{\LWR@singledollarheight}{%
11018   \LateximageFontSize\dp\LWR@singledollarbox%
11019 }%
11020 \global\LWR@singledollarheight=\LWR@singledollarheight%

11021 \endgroup%
11022 }
```

```
\LWR@subsingledollarsvg * {\langle 2: alt text\rangle} {\langle 3: add'l hashing\rangle} {\langle 4: math expression\rangle}
```

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*.

```
11023 \newcommand*{\LWR@singledollarsvg}[4]{%
```

Measure the depth, width, and height of the math image:

```
11024     \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:

```
11025     \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
11026         \def\LWR@singledollarstyle{%
11027             width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11028         }%
11029     }{%
11030         \def\LWR@singledollarstyle{%
11031             height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11032         }%
11033     }%
```

If a very narrow width, use the height.

```
11034     \ifdimless{\LWR@singledollarwidth}{.2em}{%
11035     }{%
11036         \def\LWR@singledollarstyle{%
11037             height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11038         }%
11039     }%
11040     {}%
```

If very wide and short, use the width:

```
11041     \ifdimless{\LWR@singledollarheight}{.2em}{%
11042     }{%
11043         \def\LWR@singledollarstyle{%
11044             width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11045         }%
11046     }%
11047     {}%
```

If there is significant text depth, add the depth to the style.

```
11048     \ifdimgreater{\LWR@singledollardepth}{0.05ex}{%
11049         \def\LWR@singledollardepthstyle{%
11050             \ ; % extra space
11051             \LWR@print@mbox{%
11052                 vertical-align:-\LWR@convertto{em}{\the\LWR@singledollardepth} em%
11053             } % extra space
11054         }%
11055     }{%
11056         \def\LWR@singledollardepthstyle{}%
11057     }%
```

If using certain Tikz actions inside math, the resulting image may exceed the TEX boundaries, so the HTML size styles may be incorrect, and must be neutralized.

```
11058     \ifbool{LWR@unknownmathsize}{%
11059         \def\LWR@singledollarstyle{}%
11060         \def\LWR@singledollardepthstyle{}%
11061     }{}%
```

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.

```
11062     \ifbool{LWR@dynamicmath}{%
11063         \LWR@traceinfo{subsingledollar: dynamic}%
11064         \begin{latentimage}% no hashing
11065             [\MathImageAltText]%
11066             []% no add'l hashing
11067             [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
11068     }% not dynamic math
11069         \LWR@traceinfo{subsingledollar: static}%
11070         \IfValueTF{\#1}{% #1 True
11071             \LWR@findcurrenttextcolor% sets \LWR@tempcolor
```

Support for `xfakebold`:

```
11072         \ifbool{LWR@xfakebold}{%
11073             {\def\LWR@tempone{Y}}%
11074             {\def\LWR@tempone{N}}%
11075             \begin{latentimage}**% use hashing
11076                 [#2]%
11077                 *% do not add open/closing braces
11078                 [% addl' hashing
11079                     #3%
11080                     FM\LWR@f@family%
11081                     SR\LWR@f@series%
11082                     SH\LWR@f@shape%
11083                     SHC\LWR@f@shapecaps%
11084                     CL\LWR@tempcolor%
11085                     FB\LWR@tempone% xfakebold
11086                 ]%
11087                 [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
11088             }% #1 False
11089             \begin{latentimage}% no hashing
11090                 [#2]%
11091                 []% no add'l hashing
11092                 [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
11093             }%
11094         }% 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.)

```
11095 \LWR@addbaselinemarker%
```

Support for `xfakebold`:

```
11096 \LWR@applyxfakebold%
```

Typeset the contents:

```
11097 \usebox{\LWR@singledollarbox}%
```

The closing baseline marker:

```
11098 \LWR@addbaselinemarker%
```

```
11099 \end{lateximage}%
11100 %
11101 }
```

```
\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.

```

11102 \newlength{\LWR@singledollarwidth}
11103 \newlength{\LWR@singledollarheight}
11104 \newlength{\LWR@singledollardepth}
11105
11106 \newsavebox{\LWR@singledollarbox}
11107
11108 \NewDocumentCommand{\LWR@subsingledollar}{s m m m}{%
11109     \LWR@traceinfo{\LWR@subsingledollar}%
11110     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
11111         {%
11112             \LWR@traceinfo{\LWR@subsingledollar: already in a lateximage}%
11113             #4% contents
11114         }%
11115         {%
11116             \begingroup%

```

#### Support for `xfakebold`:

```
11117     \LWR@applyxfakebold%
```

MathJax cannot parse the often complicated T<sub>E</sub>X 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:

```

11118     \ifboolexpr{%
11119         (
11120             bool{mathjax} or
11121             ( bool{FormatWP} and bool{WPMarkMath} )
11122         ) and
11123         ( not test {
11124             \ifstreqrel {\#2}{} from \ensuredmath
11125                 {\AltTextOpen\MathImageAltText\AltTextClose}
11126             }
11127         ) and
11128         ( not bool{LWR@dynamicmath} )
11129     }%

```

For MATHJAX, print the math between `\(` and `\)`:

```

11130     {%
11131         \LWR@traceinfo{\LWR@subsingledollar: Mathjax}%
11132         {%
11133             \textbackslash(%
11134             {%

```

\ifmmode to avoid error about \ttfamily inside math mode in the case of nested math, ex. equation with tcolorbox with math.

```
11135           \ifmmode\else\LWR@print@ttfamily\fi%
11136           \LWR@HTMLsanitize{#4}%
11137           }%
11138           \textbackslash)%
11139           }%
11140       }% 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, and a css style to control the baseline adjustment.

```
11141     {%
11142         not mathjax
11143         \LWR@traceinfo{%
11144             LWR@subsingle$ NOT mathjax, or is ensuremath, or is dynamic%
11145             }%
11146             \LWR@subsingle$svg{#1}{#2}{#3}{#4}%
11147         }%
11148     }% not in a lateximage
```

Clear the single-use alt text:

```
11149     \gdef\LWR@ThisAltText{}%
11150     \LWR@traceinfo{LWR@subsingle$ done}%
11151 }

11152 \LetLtxMacro{\LWR@origsingle$}
11153 \LetLtxMacro{\LWR@secondsingle$}{% balance for editor syntax highlighting

11154 \LetLtxMacro{\LWR@origopenparen}{%
11155 \LetLtxMacro{\LWR@origcloseparen}{%
11156 \LetLtxMacro{\LWR@origopenbracket}{%
11157 \LetLtxMacro{\LWR@origclosebracket}{%
```

\$ Redefine the dollar sign to place math inside a `lateximage`, or use MATHJAX:  
\$\$

```
11158 \begingroup
11159 \catcode`\$=\active%
11160 \protected\gdef${\@ifnextchar$\LWR@doubledollar\@singledollar}%
```

Used by `chemformula` to escape single-dollar math:

```
11161 \protected\gdef\@newsingledollar{\@ifnextchar$\LWR@doubledollar\@singledollar}%
\@doubledollar Redefine the double dollar sign to place math inside a lateximage, or use MATHJAX:
```

```
11162 \protected\gdef\@doubledollar${%
```

If MATHJAX or formatting for a word processor, print the L<sup>A</sup>T<sub>E</sub>X expression:

```
11163 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
```

For MATHJAX, print the math between \[ and \]:

```
11164 {
11165
11166     \textbackslash% 
11167     {\LWR@print@ttfamily\LWR@HTMLsanitize{\#1}}%
11168     \textbackslash%
11169
11170 }% 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:

```
11171 {%
11172     not mathjax
11173     \begin{BlockClass}{displaymath}%
11174     \LWR@newautoidanchor%
11175     \booltrue{\LWR@indisplaymathimage}%
11176     \begin{lateximage}%
11177         [%
11178             \textbackslash{} % extra space
11179             \LWR@HTMLsanitize{\#1} % extra space
11180             \textbackslash{}%
11181         ]%
11182         *% do not add open/closing braces
```

Support for `xfakebold`:

```
11182     \LWR@applyxfakebold%
11183
11184     \LWR@origdollar\LWR@origdollar#\LWR@origdollar\LWR@origdollar%
11185     \end{lateximage}%
11186     \end{BlockClass}%
11187 }% not mathjax
```

Clear the single-use alt text:

```
11187 \gdef\LWR@ThisAltText{}%
11188 }%
```

`\LWR@singledollar {<alt text>} {<math expression>}`

```
11189 \protected\gdef\LWR@singledollar#1${%
11190 \ifbool{mathjax}{%
11191     \LWR@subsingledollar*%
11192     {% alt tag
11193         \textbackslash( %
11194         \LWR@HTMLsanitize{\#1} % extra space
11195         \textbackslash)%}
11196     }%
11197     {singledollar}% add'l hashing
11198     {\#1}% contents
11199 }% not mathjax
11200     \LWR@subsingledollar*%
11201     {% alt tag
11202         \textbackslash( %
```

```

11203      \LWR@HTMLsanitize{\#1} % extra space
11204      \textbackslash%
11205  }%
11206  {singledollar}{ add'l hashing
11207  {\LWR@origensuredmath{\#1}}% contents
11208 }% not mathjax

```

Clear the single-use alt text:

```

11209 \gdef\LWR@ThisAltText{}%
11210 }

```

\( Redefine to the above dollar macros.

\[

```

11211 \AtBeginDocument{
11212   \protected\gdef\(#1\){\$#1\$}
11213   \protected\gdef\[#1\]{\$\$#1\$\$}
11214 }
11215
11216 \endgroup% active $

```

```

11217 \AtBeginDocument{
11218 \LetLtxMacro{\LWR@openbracketnormal}{[
11219 \LetLtxMacro{\LWR@closebracketnormal}{]}
11220 }

```

\@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.

```

11221 \LetLtxMacro{\LWR@origensuredmath}{\@ensuredmath}
11222
11223 \renewcommand{\@ensuredmath}[1]{%
11224   \ifbool{mathjax}{%
11225     \LWR@subsingle$*{\AltTextOpen\MathImageAltText\AltTextClose}%
11226     {%
11227       \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}%
11228     }%
11229     {%
11230       \relax%
11231       \LWR@origensuredmath{\#1}%
11232     }%
11233   }% SVG math

```

If already inside a `lateximage` in math mode, continue as-is.

```

11234   \ifmmode%
11235     \LWR@origensuredmath{\#1}%
11236   \else%

```

Create an inline math `lateximage` with a simple `alt` tag and additional hashing according to the contents.

```

11237      \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
11238          {\LWR@origensuredmath{#1}}%
11239          {%
11240              \LWR@subsingle dollar*%
11241                  {\AltTextOpen\MathImageAltText\AltTextClose}%
11242                  {\protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}}%
11243                      {\LWR@origensuredmath{#1}}%
11244          }%
11245      \fi%
11246  }%

```

Clear the single-use alt text:

```

11247      \gdef\LWR@ThisAltText{}%
11248 }%

```

Remember then remove the old `math` and `displaymath` environments:

```

11249 \let\LWR@orig@math\math
11250 \let\LWR@orig@endmath\endmath
11251 \let\LWR@orig@displaymath\displaymath
11252 \let\LWR@orig@enddisplaymath\enddisplaymath
11253
11254 \let\math\relax
11255 \let\endmath\relax
11256 \let\displaymath\relax
11257 \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`.

```
11258 \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`.

```
11259 \NewEnviron{LWR@displaymathnormal}{\expandafter[\BODY]\ignoretrue}
```

Set the default `displaymath` to the normal version:

```

11260 \LetLtxMacro\displaymath\LWR@displaymathnormal%
11261 \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.

```

11262 \newenvironment{LWR@displaymathother}%
11263 {%

```

```

11264 \begin{BlockClass}{displaymath}%
11265 \LWR@newautoidanchor%
11266 \booltrue{\LWR@indisplaymathimage}%
11267 \begin{lateximage}%
11268 [\MathImageAltText]%
11269 \LWR@origdollar\LWR@origdollar%
11270 }%
11271 {%
11272 \LWR@origdollar\LWR@origdollar%
11273 \end{lateximage}%
11274 \end{BlockClass}%
11275 }

```

Env `\LWR@equationother` A version of `displaymath` which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```

11276 \newenvironment{\LWR@equationother}%
11277 {%
11278 \begin{BlockClass}{displaymathnumbered}%
11279 \LWR@newautoidanchor%
11280 \booltrue{\LWR@indisplaymathimage}%
11281 \begin{lateximage}[\MathImageAltText]%
11282 \LWR@origequation%
11283 }%
11284 {%
11285 \LWR@origendequation%
11286 \end{lateximage}%
11287 \end{BlockClass}%
11288 }

```

## 81.4 MATHJAX support

Ctr `\LWR@nextequation` Used to add one to compute the next equation number.

```
11289 \newcounter{\LWR@nextequation}
```

Determining how to set MATHJAX section and equation numbers. Adjusts for various kinds of `\theequation` to determine `\theMathJaxsection` and `\theMathJaxequation`.

```

11290 \newcommand{\LWR@article@theequation}{\@arabic\c@equation}%
11291
11292 \newcommand{\LWR@book@theequation}%
11293 {\ifnum \c@chapter>\z@ \thechapter.\fi \@arabic\c@equation}%
11294
11295
11296 \newcommand{\LWR@chapter@theequation}{\thechapter.\arabic{equation}}%
11297 \newcommand{\LWR@section@theequation}{\thesection.\arabic{equation}}%
11298 \newcommand{\LWR@subsection@theequation}{\thesubsection.\arabic{equation}}%
11299
11300 \AtBeginDocument{%
11301 % default per article class:%
11302 \newcommand*{\theMathJaxsubequations}{0}}

```

```

11303  \newcommand*{\theMathJaxsection}{}
11304  \newcommand*{\theMathJaxequation}{\arabic{equation}}
11305
11306  \ifdefstreq{\theequation}{\LWR@article@theequation}
11307  {}{
11308  \ifdefstreq{\theequation}{\LWR@book@theequation}{
11309    \renewcommand*{\theMathJaxsection}{\ifnum \c@chapter>\z@ \thechapter.\fi}
11310  }{
11311  \ifdefstreq{\theequation}{\LWR@subsection@theequation}{
11312    \renewcommand*{\theMathJaxsection}{\thesubsection{}}
11313  }{
11314  \ifdefstreq{\theequation}{\LWR@section@theequation}{
11315    \renewcommand*{\theMathJaxsection}{\thesection{}}
11316  }{
11317  \ifdefstreq{\theequation}{\LWR@chapter@theequation}{
11318    \renewcommand*{\theMathJaxsection}{\thechapter{}}
11319  }% unknown format
11320  \PackageWarningNoLine{lwarf}
11321  {%
11322    Unknown equation tag format for \protect\theequation.\MessageBreak
11323    Article-style equation numbering will be used%
11324  }
11325  }}}}}
11326 }

```

\LWR@syncmathjax Sets the MATHJAX equation format and number for the following equations.

These MATHJAX commands are printed inside “\(” and “\)” characters. They are printed to HTML output, not interpreted by LATEX.

```
11327 \newcommand*{\LWR@syncmathjax}{%
```

Tell MATHJAX that the next equation number is the current LATEX equation number.

Before each equation, lwarf 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 “\(” and “\)” characters, to be printed to HTML, not interpreted by LATEX.

```

11328      \LWR@stopars%
11329      \InlineClass{hidden}{%
11330        \textbackslash%%
11331        \textbackslash%{}seteqnumber%
11332        \{\theMathJaxsubequations\}%
11333        \{\theMathJaxsection\}%

```

```

11334      \{\theMathJaxequation\}%
11335      \textbackslash)%
11336  }
11337  \LWR@startpars%
11338 }
```

\LWR@hidelatexequation {*environment*} {*contents*}

Creates the L<sup>A</sup>T<sub>E</sub>X version of the equation inside an HTML comment.

```
11339 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%
```

Stop HTML paragraph handling and open an HTML comment:

```

11340  \LWR@stoppars
11341  \LWR@htmlopencomment
11342
```

Start the L<sup>A</sup>T<sub>E</sub>X math environment inside the HTML comment:

```

11343  \begingroup
11344  \nameuse{\LWR@orig#1}
```

While in the math environment, restore various commands to their L<sup>A</sup>T<sub>E</sub>X meanings.

```

11345  \LWR@restoreorigformatting
11346  \booltrue{\LWR@insidemathcomment}
```

See \LWR@htmlmathlabel in section 81.7.1.

Print the contents of the equation:

```
11347  #2
```

End the L<sup>A</sup>T<sub>E</sub>X math environment inside the HTML comment:

```

11348  \nameuse{\LWR@origend#1}
11349  \endgroup
11350
```

Close the HTML comment and resume HTML paragraph handling:

```

11351  \LWR@htmlclosecomment
11352  \boolfalse{\LWR@insidemathcomment}
11353  \LWR@startpars
11354 }
```

\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 L<sup>A</sup>T<sub>E</sub>X.

```
11355 \NewDocumentCommand{\LWR@addmathjax}{m +m}{%
```

Enclose the MATHJAX environment inside printed “\(`” and “\)`” characters.

```
11356 \LWR@origtilde\LWR@orignewline
```

Print the environment name and contents, sanitizing for HTML special characters.

```
11357 {%
11358   \LWR@print@ttfamily%
11359   \textbackslash{}begin\{\#1\}
11360   \LWR@orignewline%
11361   \LWR@HTMLsanitizeexpand{\detokenize\expandafter\{\#2\}}%
11362   \LWR@orignewline%
11363   \textbackslash{}end\{\#1\}
11364 }%
11365 \LWR@orignewline
11366 }
```

## 81.5 Equation environment

Remember existing equation environment, after redefined by `amsmath`, if loaded.

```
11367 \AtBeginDocument{%
11368   \let\LWR@origequation\equation
11369   \let\LWR@origendequation\endequation
11370   \csletcs{\LWR@origequation*}{equation*}
11371   \csletcs{\LWR@origendequation*}{endequation*}
11372 }
```

```
\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.

```
11373 \newcommand*{\LWR@doequation}[2]{%
11374 }
```

If `mathjax` or `FormatWP`, print the LATEX expression:

```
11375 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
```

MATHJAX output:

```
11376 {
```

Print commands to synchronize MATHJAX's equation number and format to the current L<sup>A</sup>T<sub>E</sub>X chapter/section and equation number:

```
11377 \LWR@syncmathjax%
```

Print the L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment:

```
11378 \LWR@hidelatexequation{#2}{#1}
11379 }
```

SVG output: Create the `lateximage` along with an HTML `<alt>` tag having an equation number, the L<sup>A</sup>T<sub>E</sub>X equation environment commands, and the contents of the environment's `\BODY`.

```
11380 {* not mathjax
```

Begin the `lateximage` with an `<alt>` tag containing the math source:

```
11381 \ifstrequal{#2}{equation*}{%
11382   \begin{BlockClass}{displaymath}%
11383 }{%
11384   \begin{BlockClass}{displaymathnumbered}%
11385 }%
11386 \LWR@newautoanchor%
11387 \booltrue{\LWR@indisplaymathimage}%
11388 \begin{lateximage}[%*
11389   \ifstrequal{#2}{equation*}{%
11390     \ifdefequal{\LWR@equationtag}{\theequation}{%
11391       % no tag was given
11392     }{%
11393       (\LWR@equationtag) % tag was given
11394     }%
11395   }{%
11396     (\LWR@equationtag) % automatic numbering
11397   }%
11398   \textbackslash\begin{#2} % extra space
11399   \LWR@HTMLsanitizeexpand{\detokenize\expandafter{#1}} % extra space
11400   \textbackslash\end{#2}%
11401 ]* alt tag
```

Support for `xfakebold`:

```
11402 \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.

```
11403 \@nameuse{\LWR@orig#2}%
11404 #1% contents collected by \collect@body
11405 \@nameuse{\LWR@origend#2}%
11406 \end{lateximage}%
11407 \end{BlockClass}%
11408 }% not mathjax
```

Clear the single-use alt text:

```
11409     \gdef\LWR@ThisAltText{}%
11410 }
```

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.

```
11411 \newcommand*{\LWR@doendequation}[1]{%
11412     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
11413     {%
11414         \IfSubStr{\detokenize\expandafter{\BODY}}{\detokenize{note}}{%
11415             \InlineClass{hidden}{\LWR@syncnotenumbers}%
11416             \LWR@addmathjax{\#1}{\BODY}%
11417             \InlineClass{hidden}{\LWR@syncnotenames}%
11418         }{%
11419             \LWR@addmathjax{\#1}{\BODY}%
11420         }%
11421     }{%
11422 }
```

Clear the single-use alt text:

```
11423     \gdef\LWR@ThisAltText{}%
11424 }
```

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 LATEX 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*}

```
11425 \newcommand*{\LWR@synconenotenumber}[2]{%
11426     \textbackslash{%
11427     \textbackslash{def}\textbackslash{#1}\{\#2\}%
11428     \textbackslash{%
11429 }}
```

\LWR@syncnotenumbers Assignments to make.

```
11430 \newcommand*{\LWR@syncnotenumbers}{\LWR@synconenotenumber{\LWRfootnote}{\thefootnote}}
```

\LWR@synconenotename {*MATHJAX variable*} {*text*}

```
11431 \newcommand*{\LWR@synconenotename}[2]{%
11432     \textbackslash{%
11433     \textbackslash{def}\textbackslash{#2}\{\#1\}%
11434     \textbackslash{%
11435 }}
```

\LWR@syncnotenames Assignments to make.

```
11436 \newcommand*{\LWR@syncnotenames}{\LWR@synconenotename{\LWRfootnote}{\footnotename}}
```

Remove existing equation environment:

```
11437 \AtBeginDocument{  
11438     \let\equation\relax  
11439     \let\endequation\relax  
11440     \csletcs{equation*}{\relax}  
11441     \csletcs{\endequation*}{\relax}  
11442 }
```

**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`.

```
11443 \AtBeginDocument{  
11444     \NewEnviron{equation}{%  
11445         {\LWR@doequation{\BODY}{equation}}%  
11446         [\LWR@doendequation{equation}]}  
11447  
11448     \LetLtxMacro{\LWR@equationnormal}{equation}  
11449     \LetLtxMacro{\endLWR@equationnormal}{\endequation}  
11450 }% AtBeginDocument
```

**Env** `equation*`

```
11451 \AtBeginDocument{  
11452     \NewEnviron{equation*}{%  
11453         {\LWR@doequation{\BODY}{equation*}}%  
11454         [\LWR@doendequation{equation*}]}  
11455  
11456     \csletcs{\LWR@equationnormalstar}{equation*}  
11457     \csletcs{\LWR@endequationnormalstar}{\endequation*}  
11458 }% AtBeginDocument
```

Remember the “less” version of `equation`, which uses `MATHJAX` and `alt` tags, but does not support complicated contents such as some `Tikz` expressions.

```
11459 \AtBeginDocument{  
11460     \LetLtxMacro{\LWR@equationless}{equation}  
11461     \LetLtxMacro{\endLWR@equationless}{\endequation}  
11462     \csletcs{\LWR@equationlessstar}{equation*}  
11463     \csletcs{\LWR@endequationlessstar}{\endequation*}  
11464 }
```

## 81.6 `\displaymathnormal` and `\displaymathother`

`\displaymathnormal` By default, or when selecting `\displaymathnormal`, `MATHJAX` math display environments print their contents as text into `HTML`, 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.

```
11465 \newcommand*{\displaymathnormal}{%
11466   \ifbool{LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
11467   \LetLtxMacro{[\LWR@openbracketnormal}%
11468   \LetLtxMacro{]}\LWR@closebracketnormal}%
11469   \LetLtxMacro{\displaymath}{\LWR@displaymathnormal}%
11470   \LetLtxMacro{\enddisplaymath}{\endLWR@displaymathnormal}%
11471   \LetLtxMacro{\equation}{\LWR@equationnormal}%
11472   \LetLtxMacro{\endequation}{\endLWR@equationnormal}%
11473   \csletcs{equation*}{\LWR@equationnormalstar}%
11474   \csletcs{endequation*}{\LWR@endequationnormalstar}%
11475 }
```

**\displaymathother  
complicated math objects** Use when display math environments have complicated objects which will not work with MathJax or should not be included in HTML alt tags. Complicated contents are more likely to compile correctly.

```
11476 \newcommand*{\displaymathother}{%
11477   \boolfalse{mathjax}}%
11478   \LetLtxMacro{\displaymath}{\LWR@displaymathother}%
11479   \LetLtxMacro{\enddisplaymath}{\endLWR@displaymathother}%
11480   \LetLtxMacro{[\LWR@displaymathother}%
11481   \LetLtxMacro{]}\endLWR@displaymathother}%
11482   \LetLtxMacro{\equation}{\LWR@equationother}%
11483   \LetLtxMacro{\endequation}{\endLWR@equationother}%
11484   \csletcs{equation*}{\displaymath}%
11485   \csletcs{endequation*}{\enddisplaymath}%
11486 }

11487 \end{warpHTML}
```

**for PRINT output:** 11488 \begin{warpprint}

Print-mode versions:

```
11489 \newcommand*{\displaymathnormal}{}%
11490 \newcommand*{\displaymathother}{}%

11491 \end{warpprint}
```

**for HTML output:** 11492 \begin{warpHTML}

## 81.7 AMS Math environments

### 81.7.1 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.

```
11493 \newbool{LWR@amsmultiline}
11494 \boolfalse{LWR@amsmultiline}
```

\LWR@beginhideamsmath Starts hiding L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment.

```
11495 \newcommand*{\LWR@beginhideamsmath}{
11496     \LWR@stoppars
11497     \LWR@origtilde\LWR@orignewline
11498     \LWR@htmlopencomment
11499
11500     \begingroup
11501     \LWR@restoreorigformatting
11502     \booltrue{LWR@insidemathcomment}
11503 }
```

\LWR@endhideamsmath Ends hiding L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment.

```
11504 \newcommand*{\LWR@endhideamsmath}{
11505     \endgroup
11506
11507     \LWR@htmlclosecomment
11508     \boolfalse{LWR@insidemathcomment}
11509     \LWR@orignewline
11510     \LWR@startpars
11511 }
```

### 81.7.2 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 lateximage environment, along with a special optional argument of \LWR@amsmathbody or \LWR@amsmathbodynumbered telling lateximage to use as the HTML <alt> tag the environment's contents which were automatically captured by the *AMS* environment.

For MATHJAX: Each environment is synched 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.

```
11512 \let\LWR@origeqnarray\eqnarray
11513 \let\LWR@origendeqnarray\endeqnarray
```

To remember whether the starred environment was used, and thus whether to number the equations:

```
11514 \newbool{\LWR@numbereqnarray}
11515 \booltrue{\LWR@numbereqnarray}
```

Common code used by eqnarray and Beqnarray (from fancybox):

```
11516 \newcommand{\LWR@eqnarrayfactor}{%
```

If `mathjax` or `FormatWP`, print the L<sup>A</sup>T<sub>E</sub>X expression:

```
11517 \ifboolexpr{\bool{mathjax} \or (\ bool{FormatWP} \and \bool{WPMarkMath} ) }%
11518 {%
```

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:

```
11519 \LWR@syncmathjax%
11520 \boolfalse{\LWR@amsmultiline}%
11521 \ifbool{\LWR@numbereqnarray}%
11522 {%
```

If numbering the equations, execute a copy inside an HTML comment block:

```
11523 \LWR@beginhideamsmath%
11524 \LWR@origeqnarray%
11525 \BODY%
11526 \LWR@origendeqnarray%
11527 \LWR@endhideamsmath%
```

Then print the (sanitized) contents to the output for MATHJAX to interpret:

```
11528 \LWR@addmathjax{eqnarray}{\BODY}%
11529 }%
11530 {%\ not \LWR@numbereqnarray
```

If not numbering equations, just create the contents for MATHJAX:

```
11531 \LWR@addmathjax{eqnarray*}{\BODY}%
11532 }% \LWR@numbereqnarray
```

```

11533      }% mathjax
11534      {%
11535          \ifbool{LWR@numbereqnarray}{%
11536              {%

```

For numbered SVG equations, first create a `\teximage` with an `alt` attribute containing sanitized copy of the source code:

```

11537          \begin{BlockClass}{displaymathnumbered}%
11538              \LWR@newautoidanchor%
11539              \booltrue{LWR@indisplaymathimage}%
11540              \begin{teximage}[(\LWR@startingequationtag\textendash\LWR@equationtag)%
11541                  \LWR@addmathjax{eqnarray}\{\BODY\}]*%

```

Support for `xfakebold`:

```
11542          \LWR@applyxfakebold%
```

Create the image contents using an actual `eqnarray`:

```

11543          \LWR@origeqnarray%
11544          \BODY%
11545          \LWR@origendeqnarray%
11546          \end{teximage}%
11547          \end{BlockClass}%
11548      }%
11549      {%

```

If not numbered, do the same, but an extra `\nonumber` seems to be required:

```

11550          \begin{BlockClass}{displaymath}%
11551              \LWR@newautoidanchor%
11552              \booltrue{LWR@indisplaymathimage}%
11553              \begin{teximage}[\LWR@addmathjax{eqnarray*}\{\BODY\}]*%

```

Support for `xfakebold`:

```

11554          \LWR@applyxfakebold%
11555          \def\@eqncr{\nonumber\@seqncr}%
11556          \csuse{LWR@origeqnarray}%
11557          \BODY%
11558          \nonumber\csuse{LWR@origendeqnarray}%
11559          \end{teximage}%
11560          \end{BlockClass}%
11561      }% LWR@numbereqnarray
11562      }% not mathjax

```

Default to number equations in the future:

```
11563      \booltrue{LWR@numbereqnarray}%
```

Clear the single-use `alt` text:

```
11564     \gdef\LWR@ThisAltText{}%
11565 }
```

eqnarray itself is made with a blank line before and after to force it to be on its own line:

```
11566 \RenewEnviron{eqnarray}{%
11567 {%
11568 \LWR@eqnarrayfactor
11569 \LWR@eqnarrayfactor
11570 }%
11571 }
```

The starred version is patched to turn off the numbering:

```
11572 \csgpreto{eqnarray*}{\boolfalse{\LWR@numbereqnarray}}%
11573 \end{warpHTML}
```

## 82 Lateximages

### 82.1 Description

**Env** `lateximage` A `lateximage` is a piece of the document which is typeset in L<sup>A</sup>T<sub>E</sub>X 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 79.)

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 *l warpmk* 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 L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X 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}
```

## 82.2 Support counters and macros

**for HTML output:** 11574 `\begin{warpHTML}`

Ctr LWR@lateximagenumber Sequence the images.

```
11575 \newcounter{LWR@lateximagenumber}
11576 \setcounter{LWR@lateximagenumber}{0}
```

Ctr LWR@lateximagedepth Do not create `\lateximage` inside of `\lateximage`.

```
11577 \newcounter{LWR@lateximagedepth}
11578 \setcounter{LWR@lateximagedepth}{0}
```

A few utility macros to write special characters:

```
11579 \edef\LWR@hashmark{\string#} % for use in \write
11580 \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`.

```
11581 \newcounter{LWR@LIpage}
```

---

```
11582 \end{warpHTML}
```

## 82.3 Font size

**for HTML & PRINT:** 11583 \begin{warpall}

\LateximageFontSizeName Declares how large to write text in \latexitimages. 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.*

```
11584 \newcommand*\{\LateximageFontSizeName\}{normalsize}
```

\LateximageFontSize Scale 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.

```
11585 \newcommand*\{\LateximageFontSize\}{1}
```

```
11586 \end{warpall}
```

## 82.4 Equation numbers

**for HTML output:** 11587 \begin{warpHTML}

Ctr LWR@startingequation For use with lateximage and multi-line numbered equations. Remembers the next equation number so that it may be printed in the alt tag.

```
11588 \newcounter{LWR@startingequation}
11589
11590 \@ifundefined{chapter}
11591 {
11592 \renewcommand{\theLWR@startingequation}{%
11593     \arabic{LWR@startingequation}%
11594 }
11595 }
11596 {% chapter defined
11597 \renewcommand{\theLWR@startingequation}{%
11598     \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}. }{}%
11599     \arabic{LWR@startingequation}%
11600 }
11601 }
```

Bool LWR@isstartingequation True for the first equation tag, false for later tags in the same environment.

```
11602 \newbool{LWR@isstartingequation}
```

---

\LWR@startingequationtag Prints the starting equation number or tag.

```
11603 \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`.

```
11604 \newcommand*{\LWR@equationtag}{}%
```

Only if SVG math, patch `\tag` after packages have loaded, in case someone else modified `\tag`.

```
11605 \AtBeginDocument{%
11606   \ifbool{mathjax}{}{%
11607     \global\boolfalse{LWR@isstartingequation}%
11608     \xdef\LWR@startingequationtag{\#1}%
11609   }%
11610 }
```

\LWR@remembertag  $\{\langle tag \rangle\}$

For use inside the math environments while using SVG math. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```
11608 \NewDocumentCommand{\LWR@remembertag}{m}{%
11609   \ifbool{LWR@isstartingequation}{%
11610     \global\boolfalse{LWR@isstartingequation}%
11611     \xdef\LWR@startingequationtag{\#1}%
11612   }%
11613 }
```

```
11614 \xdef\LWR@equationtag{\#1}%
11615 }%
11616 }%
11617 }% AtBeginDocument
```

## 82.5 HTML alt tags

\LWR@amsmathbody  $\{\langle envname \rangle\}$  For use inside the optional argument to a `\teximage` to add the contents of a AMS math environment to the `<alt>` tag.

```
11618 \newcommand*{\LWR@amsmathbody}[1]{%
11619   \textbackslash\begin\{\#1\} % extra space
11620   \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\the\envbody}}%
11621   \textbackslash\end\{\#1\}%
11622 }
```

\LWR@amsmathbodynumbered  $\{\langle envname \rangle\}$  For use inside the optional argument to a `\teximage` to add the contents of a AMS math environment to the alt tag, prefixed by the equation numbers.

```

11624 \newcommand{\LWR@amsmathbodynumbered}[1]
11625 {%
11626     \ifnumcomp{\value{\LWR@startingequation}}{=}{\value{equation}}{%
11627         {(\LWR@equationtag)}%
11628         {(\LWR@startingequationtag\textrandash\LWR@equationtag)} % extra space
11629     \LWR@amsmathbody{\#1} % extra space
11630 }

```

## 82.6 `lateximage` environment

`\LWR@lateximage@oneimageb {<1: alt text>} {<2: filename>} {<3: CSS style>}` Creates the image for the `lateximage`.

```

11631 \newcommand{\LWR@lateximage@oneimageb}[3]{%
11632     \LWR@subinlineimage{\#1}{lateximage}%
11633     {%
11634         \LWR@print@mbox{%
11635             \LWR@ImagesDirectory\OSPathSymbol%
11636             #2%
11637         }%
11638     }{svg}{\#3}%
11639 }

```

`\LWR@lateximage@oneimage {<1: alt text>} {<2: filename>} {<3: css style>} {<4: delimit?>}`

Creates an image for the `lateximage`, whose alt text depends on the circumstances.

```

11640 \newcommand{\LWR@lateximage@oneimage}[4]{%
11641     \ifdefvoid{\LWR@ThisAltText}{%
11642         \IfBooleanTF{\#4}{%
11643             \LWR@Lateximage@oneimageb{\#1}{\#2}{\#3}%
11644         }{%
11645             \LWR@lateximage@oneimageb%
11646             {\AltTextOpen\#1\AltTextClose}%
11647             {\#2}{\#3}%
11648         }%
11649     }{%
11650         \LWR@Lateximage@oneimageb%
11651         {\AltTextOpen\LWR@ThisAltText\AltTextClose}%
11652         {\#2}{\#3}%
11653     }%
11654 }

```

Env  `lateximage * [<2: <alt> tag] * [<4: add'l hashing>] [<5: css style>]`

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.

```
11655 \catcode`\$=\active%
11656
11657 \NewDocumentEnvironment{lateximage}{s 0{\ImageAltText} s 0{} 0{}}
11658 {%
11659 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
11660 \LWR@traceinfo{lateximage: entering depth is \arabic{LWR@lateximagedepth}}%
```

Nested `lateximage`s remain one large `lateximage`:

```
11661 \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 `lateximage`s.

```
11662 {%
11663 %      \addtocounter{LWR@lateximagedepth}{1}%
11664      \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
11665 }%
```

Otherwise, this is the outer-most `lateximage`:

```
11666 {% start of outer-most lateximage
```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```
11667      \LWR@traceinfo{lateximage: starting outer-most lateximage}%
```

```

11668  \setcounter{LWR@startingequation}{\value{equation}}%
11669  \addtocounter{LWR@startingequation}{1}%
11670  \booltrue{LWR@isstartingequation}%
11671  \let\LWR@startingequationtag\theLWR@startingequation%

```

The default equation tag, unless overwritten by \tag:

```
11672  \let\LWR@equationtag\theequation%
```

Starting a new lateximage:

```

11673  \addtocounter{LWR@lateximagenumber}{1}%
11674  \LWR@traceinfo{lateximage: LWR@lateximagenumber is \arabic{LWR@lateximagenumber}}%

```

While inside a lateximage, locally do not use mathjax:

```
11675  \boolfalse{mathjax}%
```

Be sure that are doing a paragraph:

```
11676  \LWR@ensuredoingapar%
```

Next file:

```

11677  \addtocounter{LWR@externalfilecnt}{1}%
11678  \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:

```

11679  \setcounterpageref{LWR@LIPage}{%
11680      LWR@lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}%
11681  }%
11682  \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:

```

11683  \LWR@htmlltag{span\LWR@indentHTML%
11684      id="lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}"\LWR@indentHTML%
11685      class="lateximagesource"\LWR@orignewline%
11686  }%

```

Write instructions to the <ImagesDirectory>.txt file:

```

11687  \LWR@traceinfo{lateximage: about to write to \BaseJobname-images.txt}%
11688  \IfBooleanTF{#1}{} starred
11689  {} hash

```

Compute and save the hashed file name for later use:

```

11690  \ifdefvoid{\LWR@ThisAltText}{%
11691      \IfBooleanTF{#3}{%

```

```

11692          \edef\LWR@hashedname{%
11693              \LWR@mdfive{\detokenize\expandafter{\#2}-!-\#4}%
11694          }%
11695      }{%
11696          \edef\LWR@hashedname{%
11697              \LWR@mdfive{\detokenize\expandafter{\AltTextOpen#2\AltTextClose}-!-\#4}%
11698          }%
11699      }%
11700  }{%
11701      \edef\LWR@hashedname{%
11702          \LWR@mdfive{\detokenize\expandafter{\AltTextOpen\LWR@ThisAltText\AltTextClose}-!-\#4}%
11703      }%
11704  }%
11705  \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%

```

Write the page, hashing, and hashed name:

```

11706      \immediate\write\LWR@lateximagesfile{%
11707          |\arabic{\LWR@LIPage}|true|\LWR@hashedname|%
11708          }%
11709      }% hash
11710  {%- no hash

```

No hash, so write the page, no hashing, and the image number:

```

11711      \LWR@traceinfo{lateximage: hash false}%
11712      \immediate\write\LWR@lateximagesfile{%
11713          |\arabic{\LWR@LIPage}|false|\LWR@ImagesName\arabic{\LWR@externalfilecnt}|%
11714          }%
11715  }% no hash

```

Place an open comment tag. This will hide any traces of the lateximage PDF page which were picked up by *pdftotext*.

```

11716  \LWR@traceinfo{lateximage: about to create open comment}%
11717  \LWR@htmlopencomment%

```

One level deeper. At this outer-most lateximage, it is known that this is not being used inside an *AMS* \text, since the outer-most level will never be in math mode.

```

11718  \addtocounter{\LWR@lateximagedepth}{1}%

```

Start the new PDF page:

```

11719  \LWR@traceinfo{lateximage: about to create a new page}%
11720  \LWR@maybe@orignewpage%

```

If the current page is larger, typeset the image in a “standard” width page and font size:

```

11721  \LWR@traceinfo{lateximage: about to create minipage}%
11722  \ifdimless{\linewidth}{6in}{%
11723      \LWR@print@minipage{\linewidth}%
11724  }%

```

```

11725      \LWR@print@minipage{6in}%
11726      }%
11727      \nameuse{\LWR@print@\LateximageFontSizeName}%

```

Temporarily restore formatting to its PDF definitions: Do not produce HTML tags for \\hspace, etc. inside a lateximage.

```

11728      \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
11729      \LWR@restoreorigformatting%

```

Use full-page footnotes instead of minipage footnotes. These become HTML footnotes.

```

11730      \def\@mpfn{footnote}%
11731      \def\thempfn{\thefootnote}%
11732      \LetLtxMacro\@footnotetext\LWR@footnotetext%

```

Create the LWR lateximage<number> label:

```

11733      \LWR@traceinfo{lateximage: about to create label}%
11734      \LWR@orig@label{LWR lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
11735      \LWR@traceinfo{lateximage: finished creating the label}%

```

Adjust the rule color to match HTML:

```

11736      \ifdefvoid{\LWR@ruleHTMLcolor}{}{%
11737          \LWR@print@arrayrulecolor[HTML]{\LWR@ruleHTMLcolor}%
11738      }%

```

Enable print-mode math functions:

```

11739      \LetLtxMacro$\LWR@origdollar%
11740      \catcode`\$=3% math shift
11741      \LetLtxMacro\(\LWR@origopenparen%
11742      \LetLtxMacro\)\LWR@origcloseparen%

```

Only enable print-mode display math if are not already inside display math:

```

11743      \ifbool{\LWR@indisplaymathimage}{}{%
11744          \LetLtxMacro\[ \LWR@origopenbracket%
11745          \LetLtxMacro\] \LWR@origclosebracket%
11746          \let\equation\LWR@origequation%
11747          \let\endequation\LWR@origendequation%
11748          \csletcs{equation*}{\LWR@origequation*}%
11749          \csletcs{endequation*}{\LWR@origendequation*}%
11750      }%

```

For chemformula:

```

11751      \LetLtxMacro\newsingledollar$%
11752      \LetLtxMacro\newsingledollar$% syntax highlighting
11753 }% end of outer-most lateximage
11754 \LWR@traceinfo{lateximage: finished start of environment}%
11755 }% end of \begin{lateximage}

```

\end{lateximage} When the environment closes:

```
11756 {%
  start of \end{lateximage}
11757 \LWR@traceinfo{lateximage: starting end of lateximage}%
```

Nested more than one deep?

```
11758 \LWR@traceinfo{lateximage: internal depth was \arabic{LWR@lateximagedepth}}%
11759 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%
```

If nesting inside an already existing lateximage, simply record one less level. Uses a lower-level TEX macro due to AMS \text change of \addtocounter.

```
11760 {%
11761   \LWR@traceinfo{lateximage: unnesting}%
11762   \global\advance\c@LWR@lateximagedepth -1\relax%
11763 }%
```

If this is the outer-most lateximage:

```
11764 {%
  end of outer-most lateximage
```

Finish the lateximage minipage and start a new PDF page:

```
11765 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
11766   \endLWR@print@minipage%
11767   \LWR@maybe@orignewpage%
```

Close the HTML comment which encapsulated any traces of the lateximage picked up by pdftotext:

```
11768   \LWR@print@vspace*{.5\baselineskip}%
11769   \LWR@htmclosecomment%
11770   \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}%
```

Create a link to the lateximage, allowing its natural height:

```
11771   \IfBooleanTF{#1}{%
11772     starred
11773     \LWR@lateximage@oneimage{#2}{\LWR@hashedname}{#5}{#3}%
11774   }{%
11775     no hash
11776     \LWR@lateximage@oneimage{#2}{\LWR@ImagesName\theLWR@externalfilecnt}{#5}{#3}%
11777   }{%
11778     no hash}
```

Be sure that are doing a paragraph:

```
11778   \LWR@ensuredoingapar%
```

Close the HTML span which has the pdftotext comment and also the link to the .svg image:

```
11779   \LWR@htmlltag{/span}%
```

```
11780 \ifbool{HTMLDebugComments}{%
11781     \LWR@htmlcomment{End of \textrimage}%
11782 }{}%
```

Undo one \textrimage level. This is not inside an  $\mathcal{AM}$   $\text{\texttt{text}}$ , so regular \addtocounter may be used here.

```
11783 \addtocounter{LWR@textrimagedepth}{-1}%
```

Clear the single-use alt text:

```
11784 \gdef\LWR@ThisAltText{}%
11785 }% end of outer-most \textrimage
11786 \LWR@traceinfo{\textrimage: exiting depth is \arabic{LWR@textrimagedepth}}%
11787 \LWR@traceinfo{\textrimage: done}%
11788 }%
11789 \catcode`\$=3% math shift
11790 \end{warpHTML}
```

**for PRINT output:** 11791 \begin{warpprint}

Env \textrimage \* [<alt> tag] \* [<add'l hashing>] [<css style>]

varwidth is used to create a box of the natural width of its contents.

```
11792 \NewDocumentEnvironment{\textrimage}{s o s o o}
11793     {\begin{varwidth}[b]{\linewidth}}
11794     {\end{varwidth}}
```

```
11795 \end{warpprint}
```

## 83 center, flushleft, flushright

**for HTML output:** 11796 \begin{warpHTML}

Env center Replace center functionality with css tags:

```
11797 \newenvironment*{\LWR@HTML@center}{%
11798 {
11799     \LWR@forcenewpage
11800     \ifbool{FormatWP}{%
11801         {\BlockClass[\LWR@print@mbox{text-align:center}]{center}}%
11802         {\BlockClass{center}}%
11803     }%
11804     {\endBlockClass}%
11805 }
11806 \LWR@formattedenv{center}}
```

Env flushright

```
11807 \newenvironment*{\LWR@HTML@flushright}{%
11808 {
11809   \LWR@forcenewpage
11810   \ifbool{FormatWP}{%
11811     {\BlockClass[\LWR@print@mbox{text-align:right}]{flushright}}%
11812     {\BlockClass{flushright}}%
11813 }%
11814 {\endBlockClass}%
11815
11816 \LWR@formattedenv{flushright}
```

Env flushleft

```
11817 \newenvironment*{\LWR@HTML@flushleft}{%
11818 {
11819   \LWR@forcenewpage
11820   \ifbool{FormatWP}{%
11821     {\BlockClass[\LWR@print@mbox{text-align:left}]{flushleft}}%
11822     {\BlockClass{flushleft}}%
11823 }%
11824 {\endBlockClass}%
11825
11826 \LWR@formattedenv{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

```
11827 \newcommand*{\LWR@HTML@centering}{%
11828   \ifbool{HTMLDebugComments}{%
11829     \LWR@htmlcomment{centering}%
11830   }{}%
11831 }
11832 \LWR@formatted{centering}
```

\raggedleft

```
11833 \newcommand*{\LWR@HTML@raggedleft}{%
11834   \ifbool{HTMLDebugComments}{%
11835     \LWR@htmlcomment{raggedleft}%
11836   }{}%
11837 }
11838 \LWR@formatted{raggedleft}
```

\raggedright

```
11839 \newcommand*{\LWR@HTML@raggedright}{%
```

```

11840 \ifbool{HTMLDebugComments}{%
11841     \LWR@htmlcomment{raggedright}%
11842 }{}%
11843 }%
11844 \LWR@formatted{raggedright}

\leftline {\langle text\rangle}

11845 \renewcommand{\leftline}[1]{\begin{flushleft}\#1\end{flushleft}}

\centerline {\langle text\rangle}

11846 \renewcommand{\centerline}[1]{\begin{center}\#1\end{center}>

\rightline {\langle text\rangle}

11847 \renewcommand{\rightline}[1]{\begin{flushright}\#1\end{flushright}>

11848 \end{warpHTML}

```

## 84 Preloaded packages

**for HTML output:** 11849 \begin{warpHTML}

If the given package was loaded before or by `lwarp`, load the `lwarp` version as well.

```

\LWR@PreloadedPackage {\langle packagename\rangle}

11850 \newcommand*{\LWR@PreloadedPackage}[1]{%
11851     \@ifpackageloaded{\#1}{%
11852         {%
11853             \AtBeginDocument{%
11854                 \LWR@origRequirePackage{l warp-\#1}%
11855             }%
11856         }%
11857     }%
11858 }

```

If `inputrc` was loaded before `lwarp`, as is usually done, explicitly load the `lwarp` patches now:

```
11859 \LWR@PreloadedPackage{inputrc}
```

If `textcomp` was loaded before `lwarp`, perhaps as part of the font-related packages, explicitly load the `lwarp` patches now:

```
11860 \LWR@PreloadedPackage{textcomp}
```

If `xunicode` was loaded before `l warp`, perhaps as part of the font-related packages, explicitly load the `l warp` patches now:

11861 \LWR@PreloadedPackage{xunicode}

If `graphics` or `graphicx` were loaded before `l warp`, perhaps by `xunicode`, explicitly load the `l warp` patches now:

11862 \LWR@PreloadedPackage{graphics}  
11863 \LWR@PreloadedPackage{graphicx}

`fontaxes` must be preloaded so that `l warp` may patch it for `HTML`.

11864 \LWR@PreloadedPackage{fontaxes}

`newpxmath`, etc. may be loaded before `l warp`:

11865 \LWR@PreloadedPackage{newpxmath}  
11866 \LWR@PreloadedPackage{newtxmath}  
11867 \LWR@PreloadedPackage{newtxsf}  
11868 \LWR@PreloadedPackage{mathalpha}

`nfssext-cfr` may be preloaded by `cfm-lm` or related font packages.

11869 \LWR@PreloadedPackage{nfssext-cfr}

`ulem` may be preloaded by `ctex`, `ctexart`, and related classes.

11870 \LWR@PreloadedPackage{ulem}

`xetexko-vertical` may be preloaded by `xetexko`.

11871 \LWR@PreloadedPackage{xetexko-vertical}

`geometry` is preloaded by `l warp`, and perhaps by various classes.

11872 \LWR@PreloadedPackage{geometry}

`plex` is preloaded by some CJK classes.

11873 \LWR@PreloadedPackage{plex}

`stfloats` is preloaded by `ltj*` classes.

11874 \LWR@PreloadedPackage{stfloats}

`lltjext` is preloaded by `ltj*` classes.

11875 \LWR@PreloadedPackage{lltjext}

`luatexko` must be loaded before `l warp`.

11876 \LWR@PreloadedPackage{luatexko}

---

11877 \end{warpHTML}

## 85 siunitx

Pkg siunitx The `lwarp` 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, `lwarp` 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. `siunitx` macros with more than one optional value cannot absorb the second optional value, and complicated parsing such as for `\ang` is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

`lwarp`'s MATHJAX emulation for `siunitx` is meant to be a stop-gap measure until an extension is included in MATHJAX. As of this writing, the third-party `siunitx` extension for MATHJAX is not currently hosted at any public CDN, thus `siunitx` is not usable with this extension unless a local copy of this extension is created first. See `\MathJaxFilename` to select a custom MathJax script, but `lwarp`'s emulation would have to be disabled as well.

Document modifications required for MATHJAX:

**custom units**

- Custom units may be added with `\CustomizeMathJax`. See the `lwarp-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:** 11878 `\begin{warpHTML}`

Options for `siunitx`:

11879 `\newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}`  
 11880 `\newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}`

```

11881 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLunicode{2032}}
11882 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLunicode{2033}}
11883 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\HTMLunicode{210F}}}}}
11884
11885 \appto{\LWR@restoreorigformatting}{%
11886 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^{\circ}C}}}\%
11887 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^{\circ}}}}\%
11888 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{^{\prime}}}}\%
11889 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{^{\prime\prime}}}}\%
11890 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}}\%
11891 }
11892
11893 \PassOptionsToPackage{
11894   detect-mode=true,
11895   per-mode=symbol,% fraction is not seen by pdftotext
11896   text-celsius = {\LWR@siunitx@textcelsius},
11897   text-degree = {\LWR@siunitx@textdegree},
11898   text-arcminute = {\LWR@siunitx@textprime},
11899   text-arcsecond = {\LWR@siunitx@textdblprime},
11900 }{siunitx}

11901 \end{warpHTML}

```

## 86 Graphics print-mode modifications

### 86.1 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, `lwarp` 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** Enter ⇒ **lwarpmk pdftosvg \*.PDF**

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** 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.

**⚠ viewport  
viewport units** 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 L<sup>A</sup>T<sub>E</sub>X, so expect some ugly results for scaling and rotating.

## 86.2 Print-mode modifications

**for PRINT output:** For print output, accept and then discard the new class key:

```
11902 \begin{warpprint}
11903 \define@key{Gin}{class}{}%
11904 \define@key{Gin}{alt}{}%
```

Print-mode additions for the `overpic` package. See section 419 for the HTML version.

```
11905 \AtBeginDocument{%
11906 @ifpackageloaded{overpic}{%
11907 \newcommand*\overpicfontsize}{12}%
11908 \newcommand*\overpicfontskip}{14}%
11909 }{}%
11910 }%
11911 \end{warpprint}
```

## 87 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 `lateximage`. 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:** 11912 \begin{warpall}

After `xparse` may have been loaded ...

```
11913 \AtBeginDocument{%
... and only if xcolor was loaded:
```

```
11914 @ifpackageloaded{xcolor}{%
11915 \LWR@traceinfo{patching xcolor}}
```

The print version:

`\colorboxBlock` `\colorboxBlock` is the same as `\colorbox`:

```
11916 \LetLtxMacro\colorboxBlock\colorbox
```

The original definition is reused by the new versions:

```
11917 \LetLtxMacro{\LWR@orig@print@fcolorbox}{\fcolorbox}
```

```
\fcolorbox [⟨framemode⟩] {⟨framecolor⟩} [⟨boxmode⟩] {⟨boxcolor⟩} {⟨text⟩}
```

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`.)

```
11918 \newsavebox{\LWR@colorminipagebox}
11919
11920 \NewDocumentCommand{\LWR@print@fcolorbox}{o m o m +m}{%
11921 \LWR@traceinfo{\LWR@print@fcolorbox #2 #4}}%
```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
11922 \begin{lrbox}{\LWR@colorminipagebox}%
11923 #5%
11924 \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.

```
11925 \ifstreq{\#4}{none}%
11926 {%
11927     \LWR@traceinfo{background is none}%
11928     \% scope the \colorlet
11929         \colorlet{\LWR@currentcolor}{.}%
11930         \color{\#2}%
11931         \fbox{%
11932             \color{\LWR@currentcolor}%
11933             \usebox{\LWR@colorminipagebox}%
11934         }%
11935     }%
11936 }%
11937 \% #4 not none
11938 \LWR@traceinfo{background not none}%
11939 \IfValueTF{\#1}{%
11940 {%
11941     \IfValueTF{\#3}{%
11942         {\LWR@orig@print@fcolorbox[#1]{\#2}{\#3}{\#4}{\usebox{\LWR@colorminipagebox}}}%
11943         {\LWR@orig@print@fcolorbox[#1]{\#2}{\#4}{\usebox{\LWR@colorminipagebox}}}%
11944 }%
11945 \% no value #1
11946     \IfValueTF{\#3}{%
11947         {\LWR@orig@print@fcolorbox{\#2}{\#3}{\#4}{\usebox{\LWR@colorminipagebox}}}%
11948         {\LWR@orig@print@fcolorbox{\#2}{\#4}{\usebox{\LWR@colorminipagebox}}}%
11949 }%
11950 \% #4 not none
11951 }
```

```

11951 \LWR@traceinfo{\LWR@print@fcolorbox done}%
11952 }

11953 \renewrobustcmd*\{fcolorbox\}{\LWR@print@fcolorbox}%

\fcolorboxBlock  [⟨framemode⟩] {⟨framecolor⟩} [⟨boxmode⟩] {⟨boxcolor⟩} {⟨text⟩}

```

In print mode, `\fcolorboxBlock` is the same as `\fcolorbox`.

```

11954 \newcommand*\{LWR@print@fcolorboxBlock\}{\LWR@print@fcolorbox}

11955 \newrobustcmd*\{fcolorboxBlock\}{\LWR@print@fcolorboxBlock}

```

**Env** `fcolorminipage` [⟨1:framemode⟩] {⟨2:framecolor⟩} [⟨3:boxmode⟩] {⟨4:boxcolor⟩} [⟨5:align⟩] [⟨6:height⟩]
[⟨7:inner-align⟩] {⟨8:width⟩}

In print mode, becomes a `\fcolorbox` containing a `minipage`:

```

11956 \NewDocumentEnvironment{\LWR@print@fcolorminipage}{o m o m O{c} O{} o m}
11957 {%
11958 \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%

```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
11959 \begin{lrbox}{\LWR@colorminipagebox}%
```

If inner alignment is not given, use the outer alignment instead:

```

11960 \IfValueTF{#7}%
11961 {\begin{minipage}[#5][#6][#7]{#8}}%
11962 {\begin{minipage}[#5][#6][#5]{#8}}%
11963 }%
11964 {%
11965 \end{minipage}%
11966 \end{lrbox}%
11967 \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.

```

11968 \ifstreq{\#4}{none}%
11969 {%
11970   #4 none
11971   {% scope the \colorlet
11972     \colorlet{\LWR@currentcolor}{.}%
11973     \color{#2}%
11974     \fbox{%
11975       \color{\LWR@currentcolor}%
11976       \usebox{\LWR@colorminipagebox}%
11976     }%
11976   }%

```

```

11977      )% colorlet
11978 }% #4 none
11979 {%
11980     \IfValueTF{#1}%
11981     {%
11982         \IfValueTF{#3}%
11983         {\LWR@orig@print@fcolorbox[#1]{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
11984         {\LWR@orig@print@fcolorbox[#1]{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
11985     }%
11986     {%
11987         \IfValueTF{#3}%
11988         {\LWR@orig@print@fcolorbox[#2]{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
11989         {\LWR@orig@print@fcolorbox[#2]{#4}{\usebox{\LWR@colorminipagebox}}}%
11990     }%
11991     {%
11992         \LWR@traceinfo{*** finished end fcolorminipage}%
11993     }%
11994 \NewDocumentEnvironment{fcolorminipage}{}%
11995     {\LWR@print@fcolorminipage}%
11996     {\endLWR@print@fcolorminipage}%
11997 \LWR@traceinfo{xcolor patches done}%
11998 }% xcolor loaded
11999 }% AtBeginDocument
12000 \end{warpall}

```

## 88 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:** 12001 `\begin{warpprint}`

```

12002 \AtBeginDocument{%
12003 \@ifpackageloaded{chemmacros}{%

```

Env `polymerdelims`

```

12004 \DeclareDocumentEnvironment{polymerdelims}{}%
12005     {}{%

```

Env `redoxreaction` `{<space above>} {<space below>}`

For print output, extra space is include above and below the image, and a `lateximage` 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 [185.4](#).

```
12006 \DeclareDocumentEnvironment{redoxreaction}{m m}
12007     {\rule{0pt}{#1}}{\rule[-#2]{0pt}{#2}}
12008 }% chemmacros
12009 }% AtBeginDocument
12010 \end{warpprint}
```

## 89 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:**

```
12011 \begin{warpHTML}
12012
12013 \AtEndPreamble{
12014     \RequirePackage{cleveref}
12015 }
12016
12017 \end{warpHTML}
```

## 90 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:**

```
12018 \begin{warpHTML}
12019
12020 \LetLtxMacro{\LWR@orig@\label}{\label}% includes memoir, before cleveref
12021 \LetLtxMacro{\label}{\LWR@new@\label}
12022
12023 \LetLtxMacro{\LWR@orig@\pageref}{\pageref}
12024 \LetLtxMacro{\pageref}{\LWR@new@\pageref}
12025
12026 \end{warpHTML}
```

## 91 picture environment

`Env picture` The picture environment is enclosed inside a `\lateximage`.  
**for HTML output:** 12027 `\begin{warpHTML}`

```
Env picture

12028 \BeforeBeginEnvironment{picture}{\begin{\lateximage}[picture]}
12029
12030 \AfterEndEnvironment{picture}{\end{\lateximage}}

12031 \end{warpHTML}
```

## 92 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, multicol** Inside a `tabular` or `multicol` environment, where the width depends on the browser

---

\UseMinipageWidths  
\IgnoreMinipageWidths

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 multcols, \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:** 12032 \begin{warpHTML}

## 92.1 Computed lengths

Len \LWR@minipagewidth Used to convert the width into printable units.

12033 \newlength{\LWR@minipagewidth}

Len \LWR@minipageheight Used to convert the height into printable units.

12034 \newlength{\LWR@minipageheight}

## 92.2 Virtual page size

Ctr \LWR@virtualpagedepth Used to only reset the line width at the outermost minipage.

12035 \newcounter{LWR@virtualpagedepth}  
12036 \setcounter{LWR@virtualpagedepth}{0}

Env \LWR@setvirtualpage \* [*columns*]

If not nesting a minipage, adjust \linewidth, \textwidth, and \textheight for a virtual 6 × 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.

```
12037 \NewDocumentEnvironment{\LWR@setvirtualpage}{s 0{1}}{%
12038   \ifnumequal{\value{LWR@virtualpagedepth}}{0}{%
12039     \IfBooleanT{#1}{\LWR@maybe@orignewpage}%
12040     \setlength{\linewidth}{6in/#2}%
12041     \setlength{\textwidth}{6in}%
12042     \setlength{\textheight}{9in}%
12043   }{}%
12044   \addtocounter{LWR@virtualpagedepth}{1}%
12045 }
12046 {\addtocounter{LWR@virtualpagedepth}{-1}}
```

### 92.3 Footnote handling

Also see section 59 for other forms of footnotes. Minipage footnotes are gathered in section 59.5, and then placed into the document in section 92.4.

### 92.4 Minipage handling

Bool LWR@minipagefullwidth Should the next minipage have no HTML width?

```
12047 \newbool{LWR@minipagefullwidth}
12048 \boolefalse{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.

```
12049 \newbool{LWR@forceminipagefullwidth}
12050 \boolefalse{LWR@forceminipagefullwidth}
```

\minipagefullwidth Requests that the next minipage have no width tag in HTML:

**for HTML output:** 12051 \newcommand\*{\minipagefullwidth}{\global\booltrue{LWR@minipagefullwidth}}

\UseMinipageWidths Locally requests that minipage widths be honored.

```
12052 \newcommand*{\UseMinipageWidths}{\boolefalse{LWR@forceminipagefullwidth}}
```

\IgnoreMinipageWidths Locally requests that minipage widths be ignored.

```
12053 \newcommand*{\IgnoreMinipageWidths}{\booltrue{LWR@forceminipagefullwidth}}
12054 \end{warpHTML}
```

**for PRINT output:** 12055 \begin{warpprint}
12056 \newcommand\*{\minipagefullwidth}{}\\
12057 \newcommand\*{\UseMinipageWidths}{}\\
12058 \newcommand\*{\IgnoreMinipageWidths}{}\\
12059 \end{warpprint}

**for HTML output:** 12060 \begin{warpHTML}

Bool LWR@minipagethispar Has a minipage been seen this paragraph? If true, prevents paragraph tags around horizontal space between minipages.

```
12061 \newbool{LWR@minipagethispar}
12062 \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 6x9 inch text area.

```
12063 \NewDocumentEnvironment{LWR@HTML@sub@minipage}{m m m m}
12064 {%
12065 \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.

```
12066 \begin{LWR@setvirtualpage}*
```

Save the requested width now that \linewidth, etc. are adjusted to virtual size.

```
12067 \setlength{\LWR@minipagewidth}{#4}%
12068 \ifnumequal{\value{\LWR@virtualpagedepth}}{1}{%
12069     \addtolength{\LWR@minipagewidth}{3em}%
12070 }{%
12071 \LWR@traceinfo{computed width is \LWR@printlength{\LWR@minipagewidth}}%
```

Compute height:

```
12072 \setlength{\LWR@minipageheight}{\textheight}%
12073 \ifblank{#2}{%
    \setlength{\LWR@minipageheight}{#2}}
```

L<sup>A</sup>T<sub>E</sub>X 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.

```
12074 \ifbool{FormatWP}{\newline}{%
12075 \LWR@stoppars}
```

If FormatWP, add a text frame:

```
12076 \ifbool{FormatWP}{%
12077 %
12078 \addtocounter{LWR@thisautoidWP}{1}%
12079 \LWR@htmlltag{%
12080     div id="\LWR@print@mbox{autoidWP-\arabic{LWR@thisautoidWP}}" %
12081     class="wpminipage"%
12082 }%
12083 %
12084 }{}}
```

Create the <div> tag with optional alignment style:

```
12085 \LWR@traceinfo{minipage: creating div class}%
12086 \LWR@htmlltag{div class="minipage" style="%"%
12087 \ifthenelse{\equal{#1}{t}}{\LWR@print@mbox{vertical-align:bottom} ; }{%
12088 \ifthenelse{\equal{#1}{c}}{\LWR@print@mbox{vertical-align:middle} ; }{%
12089 \ifthenelse{\equal{#1}{b}}{\LWR@print@mbox{vertical-align:top} ; }{}}
```

---

```

12090 \ifthenelse{\equal{#3}{t}}{\LWR@print@mbox{justify-content:flex-start} ; }{}%
12091 \ifthenelse{\equal{#3}{c}}{\LWR@print@mbox{justify-content:center} ; }{}%
12092 \ifthenelse{\equal{#3}{b}}{\LWR@print@mbox{justify-content:flex-end} ; }{}%
12093 \ifthenelse{\equal{#3}{s}}{\LWR@print@mbox{justify-content:space-between} ; }{}%

```

Print the width and optional height styles:

```

12094 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth}}%
12095 \ifbool{\LWR@minipagefullwidth}%
12096 {\global\boolfalse{\LWR@minipagefullwidth}}%
12097 {%
12098     \ifbool{\LWR@forceminipagefullwidth}%
12099         {}%
12100         {%
12101             \ifdim=\#4{\linewidth}%
12102                 {}%
12103                 {width:\LWR@printlength{\LWR@minipagewidth} ; }%
12104             }%
12105 }%
12106 \LWR@traceinfo{minipage: about to print the height}%
12107 \ifblank{#2}{height:\LWR@printlength{\LWR@minipageheight} ; }%
12108 "}%

```

Finish with an empty line to start the contents on a new line.

```

12109
12110 % 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.

```

12111 \ifnum=\value{\LWR@virtualpagedepth}{1}{%
12112     \addtolength{\LWR@minipagewidth}{-3em}%
12113 }{%
12114 \setlength{\linewidth}{\LWR@minipagewidth}%

```

`\raggedright` cancels hyphenation, which will be done by `HTML` instead.

```

12115 \LWR@print@raggedright%

```

Set minipage footnotes:

```

12116 \def\@mpfn{mpfootnote}%
12117 \def\thempfn{\thempfootnote}\c@mpfootnote\z@%
12118 \let\footnotetext\mpfootnotetext%

```

Resume paragraph tag handling for the contents of the minipage:

```

12119 \LWR@startpars%
12120 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12121

```

```

12122 === begin minipage ===
12123
12124 }{ }%
12125 \LWR@traceinfo{minipage: finished starting the minipage}%
12126 }% finished \minipage
12127 { \% \endminipage

```

Print pending minipage footnotes:

```
12128 \LWR@printpendingmpfootnotes%
```

End the environment with closing tag:

```

12129 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12130
12131 === end minipage ===
12132
12133 }{ }%
12134 \LWR@stoppars%
12135
12136 \ifbool{FormatWP}{%
12137
12138 \LWR@htmlelementend{div}%
12139
12140 }{ }%
12141 \LWR@htmldivclassend{minipage}%
12142
12143 \end{LWR@setvirtualpage}%
12144 \LWR@startpars%
12145 \ifbool{FormatWP}{\newline}{ }%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

12146 \global\booltrue{LWR@minipagethispar}%
12147 \LWR@traceinfo{LWR@minipage: done}%
12148 }
12149
12150 \NewDocumentEnvironment{LWR@HTML@minipage}{O{t} O{} O{t} m}
12151     {\LWR@HTML@sub@minipage{#1}{#2}{#3}{#4}}
12152     {\endLWR@HTML@sub@minipage}
12153
12154 \LWR@formattedeenv{minipage}

```

## 92.5 \parbox, \mbox, \makebox, \framebox, \fbox, \raisebox

**for HTML output:**

```
\parbox [⟨pos⟩] [⟨height⟩] [⟨inner-pos⟩] {⟨width⟩} {⟨text⟩}
```

A parbox uses the minipage code:

```
12155 \NewDocumentCommand{\LWR@HTML@parbox}{O{t} O{} O{t} m +m}
```

```

12156 {
12157 \LWR@traceinfo{parbox of width #4}%
12158 \begin{minipage}[#1][#2][#3]{#4}%
12159 #5
12160 \end{minipage}%
12161 }
12162
12163 \LWR@formatted{parbox}

```

\mbox {*text*} Nullified for HTML.

```

12164 \newcommand*{\LWR@HTML@mbox}[1]{#1}%
12165
12166 \LWR@formatted{mbox}

```

\LWR@@makebox@paren {*width*} , {*height*}

Adds to the style in \LWR@temptwo.

```

12167 \NewDocumentCommand{\LWR@@makebox@paren}{m m}{%
12168 \IfValueTF{#2}{%
12169   \setlength{\LWR@tempwidth}{#1\unitlength}%
12170   \setlength{\LWR@tempheight}{#2\unitlength}%
12171   \appto{\LWR@temptwo}{%
12172     \LWR@print@mbox{width:\LWR@printlength{\LWR@tempwidth}} ; % space
12173     \LWR@print@mbox{height:\LWR@printlength{\LWR@tempheight}} ; % space
12174   }%
12175 }{%
12176   \PackageError{lwarp}{%
12177     {(width,height) is missing a comma ',' character}%
12178     {\protect\makebox\space and \protect\framebox\space accept
12179       a size in the format (width,height).}%
12180 }%
12181 }

```

\LWR@@makebox@align {*alignment character*}

Adds to the style in \LWR@temptwo.

```

12182 \newcommand*{\LWR@@makebox@align}[1]{%
12183   \def\LWR@align{center}%
12184   \ifstrequal{#1}{l}{\def\LWR@align{left}}{}%
12185   \ifstrequal{#1}{r}{\def\LWR@align{right}}{}%
12186   \ifstrequal{#1}{s}{\def\LWR@align{justify}}{}%
12187   \appto{\LWR@temptwo}{%
12188     \LWR@print@mbox{text-align:\LWR@align} ; %
12189   }%
12190 }

```

\makebox {*width,height*} [*width*] [*pos*] {*text*}

```

12191 \NewDocumentCommand{\LWR@HTML@makebox}{>{\SplitArgument{1}{,}}d() o o +m}{%

```

Build the style depending on arguments:

```

12192      \begin{LWR@setvirtualpage}%
12193          \def\LWR@temptwo{}%
12194          \IfValueTF{#1}%
12195              {%
12196                  (\width,\height) ..
12197                  \LWR@@makebox@paren #1%
12198                  \IfValueT{#2}%
12199                      {%
12200                          (\width,\height) [posn]
12201                          \LWR@@makebox@align{#2}%
12202                      }%
12203                  }%
12204                  {%
12205                      [width]
12206                      \IfValueT{#2}{ [width]}
12207                      {%
12208                          \setlength{\LWR@tempwidth}{#2}%
12209                          \ifdimgreater{\LWR@tempwidth}{0pt}{%
12210                              \appto{\LWR@temptwo}{%
12211                                  width:\LWR@printlength{\LWR@tempwidth} ; % space
12212                              }%
12213                          }%
12214                          \IfValueT{#3}{%
12215                              { [width] [posn]
12216                                  \LWR@@makebox@align{#3}%
12217                              }%
12218                              \InlineClass[%
12219                                  \LWR@print@mbox{display:inline-block} ; %
12220                                  \LWR@temptwo%
12221                              ]%
12222                              {makebox}%
12223                              {#4}%
12224                          }%
12225 \end{LWR@setvirtualpage}%
12226 \LWR@formatted{makebox}

```

\framebox ((*width,height*) [*width*] [*pos*] {*text*})

```

12226 \NewDocumentCommand{\LWR@HTML@framebox}{d() o o +m}{%
12227     \fbox{\makebox[#1][#2][#3]{#4}}%
12228 }
12229
12230 \LWR@formatted{framebox}

```

\LWR@forceminwidth {*length*}

Sets \LWR@atleastonept to be at least 1pt.

```

12231 \newlength{\LWR@atleastonept}
12232
12233 \newcommand*\LWR@forceminwidth[1]{%
12234 \setlength{\LWR@atleastonept}{#1}%
12235 \ifthenelse{%

```

```

12236  \lengthtest{\LWR@atleastonept>0pt}\AND%
12237  \lengthtest{\LWR@atleastonept<1pt}%
12238 }%
12239  {\setlength{\LWR@atleastonept}{1pt}}%
12240  {}%
12241 }

```

\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.

```

12242 \newcommand*{\LWR@fboxstyle}{%
12243 \LWR@findcurrenttextcolor%
12244 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@origpound\LWR@tempcolor ; %
12245 padding:\LWR@printlength{\fboxsep} ; %
12246 color:\LWR@origpound\LWR@tempcolor%
12247 }

```

\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:

```

12248 \newcommand{\LWR@HTML@fbox}[1]{%
12249 \LWR@traceinfo{HTML fbox}%
12250 \LWR@forceminwidth{\fboxrule}%
12251 \InlineClass[%%
12252   \LWR@print@mbox{display:inline-block} ; %
12253   \LWR@fboxstyle%
12254 ]{fbox}{#1}%
12255 }

```

xcolor \lets things to \fbox when it is loaded, and this must remain even for HTML output while in a \teximage, so \fbox is not modified until \AtBeginDocument:

```
12256 \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:**

```

12257 \end{warpHTML}%
12258 \begin{warpall}%
12259 \let\fboxBlock\fbox%
12260 \end{warpall}%
12261%
12262 \begin{warpHTML}%

```

**for HTML output:** Next, an HTML version:

```
12263 \newcommand{\LWR@HTML@fboxBlock}[1]{%
```

```

12264 \LWR@forceminwidth{\fboxrule}%
12265 \LWR@stopars%
12266 \begin{BlockClass}[%  

12267 \LWR@fboxstyle%
12268 ]{fboxBlock}
12269 #1
12270 \end{BlockClass}
12271 \LWR@startpars%
12272 }
12273
12274 \LWR@formatted{fboxBlock}
12275
12276 \end{warpHTML}

```

**Env** `fminipage` [*<align>*] [*<height>*] [*<align>*] {[*<width>*}]

Creates a framed HTML <div> around its contents.

**for HTML & PRINT:** Print version:

```

12277 \begin{warpall}
12278
12279 \newsavebox{\LWR@fminipagebox}
12280
12281 \NewDocumentEnvironment{\LWR@print@fminipage}{O{t} o O{t} m}
12282 {%

```

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:

```

12283 \IfValueTF{#3}%
12284 {\def\LWR@thisalign{#3}}
12285 {\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.

```

12286 \IfValueTF{#2}%
12287 {\minipage[#1][#2+2\fboxsep+2\fboxrule][\LWR@thisalign]{#4+2\fboxsep+2\fboxrule}}%
12288 {\minipage[#1]{#4+2\fboxsep+2\fboxrule}}%

```

Capture the contents of the environment:

```
12289 \begin{lrbox}{\LWR@fminipagebox}%
```

Nest the contents inside an inner minipage of the desired size:

```

12290 \IfValueTF{#2}%
12291 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
12292 {\minipage[#1]{#4}}%
12293 }
12294 {%

```

Close the inner minipage and the LR box with the contents:

```
12295 \endminipage%
12296 \end{lrbox}%
```

Create a frame around the contents of the environment:

```
12297 \fbox{\usebox{\LWR@fminipagebox}}%
```

The entire thing is placed inside the outer minipage:

```
12298 \endminipage%
12299 }
12300
12301 \LetLtxMacro\fminipage\LWR@print@fminipage
12302 \LetLtxMacro\endfminipage\endLWR@print@fminipage
12303 % \newenvironment{fminipage}{\LWR@print@fminipage}{\endLWR@print@fminipage}
12304
12305 \end{warpall}
```

HTML version:

**for HTML output:**

```
12306 \begin{warpHTML}
12307
12308 \NewDocumentEnvironment{\LWR@HTML@fminipage}{O{t} o O{t} m}
12309 {%
12310 \LWR@traceinfo{fminipage #1 #2 #3 #4}%

```

Locally change to the virtual page size before processing the requested sizes:

```
12311 \begin{LWR@setvirtualpage}%
12312 \setlength{\LWR@tempwidth}{#4}%
12313 \IfValueT{#2}{\setlength{\LWR@tempheight}{#2}}%
```

Use a rule of at least one pixel in width:

```
12314 \LWR@forceminwidth{\fboxrule}%
12315 \LWR@stopars%
12316 \begin{BlockClass}[%]
12317 \LWR@fboxstyle ; %
12318 \IfValueT{#2}{height:\LWR@printlength{\LWR@tempheight} ; }%
12319 \ifbool{\LWR@minipagefullwidth}%
12320 {\global\boolfalse{\LWR@minipagefullwidth}}%
12321 {%
12322     \ifbool{\LWR@forceminipagefullwidth}%
12323         {}%
12324         {%
12325             \ifdimequal{\LWR@tempwidth}{\ linewidth}%
12326                 {}%
12327                 {width:\LWR@printlength{\LWR@tempwidth} ; }%
12328         }%
12329 }%
```

```

12330 ]{fminipage}%
12331 }
12332 {%
12333 \end{BlockClass}%
12334 \end{LWR@setvirtualpage}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

12335 \global\booltrue{LWR@minipagethispar}%
12336 \LWR@traceinfo{fminipage done}%
12337 }
12338
12339 \LWR@formattedenv{fminipage}

\raisebox {\raiselen} [\height] [\depth] {\text}

12340 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%
12341 #4%
12342 }
12343
12344 \LWR@formattedenv{raisebox}

12345 \end{warpHTML}

```

## 93 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 [51.9](#).

**for HTML & PRINT:** `12346 \begin{warpall}`

**Bool FixSmallCaps** User may set `FixSmallCaps` to true if small caps are being incorrectly rendered as all caps.

```

12347 \newbool{FixSmallCaps}
12348 \boolefalse{FixSmallCaps}

12349 \end{warpall}

```

**for HTML output:** 12350 \begin{warpHTML}

\emph {<text>}

```
12351 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%
12352     {%
12353         \LWR@HTML@itshape%
12354         \LWR@htmlspan{em}{#1}%
12355     }%
12356 }
12357
12358 \LWR@formatted{emph}
```

\textmd {<text>}

```
12359 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%
12360     {%
12361         \LWR@HTML@mdseries%
12362         \InlineClass(font-weight:normal){textmd}{#1}%
12363     }%
12364 }
12365
12366 \LWR@formatted{textmd}
```

\textbf {<text>}

```
12367 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%
12368     {%
12369         \LWR@HTML@bfseries%
12370         \LWR@htmlspan{b}{#1}%
12371     }%
12372 }
12373
12374 \LWR@formatted{textbf}
```

\texteb {<text>} From **nfssext-cfr.**

```
12375 \DeclareRobustCommand{\LWR@HTML@texteb}[1]{%
12376     {%
12377         \LWR@HTML@ebweight%
12378         \InlineClass{texteb}{#1}%
12379     }%
12380 }
12381
12382 \LWR@formatted{texteb}
```

\textlg {<text>} From **nfssext-cfr.**

```
12383 \DeclareRobustCommand{\LWR@HTML@textlg}[1]{%
12384     {%
12385         \LWR@HTML@lgweight%
```

```
12386      \InlineClass{textlg}{#1}%
12387      }%
12388 }
12389
12390 \LWR@formatted{textlg}

\textrm {<text>}

12391 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%
12392      {%
12393          \LWR@HTML@rmfamily%
12394          \InlineClass{font-family:serif}{textrm}{#1}%
12395      }%
12396 }
12397
12398 \LWR@formatted{textrm}

\textsf {<text>}

12399 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%
12400      {%
12401          \LWR@HTML@sffamily%
12402          \InlineClass{font-family:sans}{textsf}{#1}%
12403      }%
12404 }
12405
12406 \LWR@formatted{textsf}

\textrm{<text>}

12407 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%
12408      {%
12409          \LWR@HTML@ttfamily%
12410          \LWR@htmlspan{kbd}{#1}%
12411      }%
12412 }
12413
12414 \LWR@formatted{texttt}

\textup {<text>}

12415 \DeclareRobustCommand{\LWR@HTML@textup}[1]{%
12416      {%
12417          \LWR@HTML@upshape%
12418          \InlineClass{font-style:normal}{textup}{#1}%
12419      }%
12420 }
12421
12422 \LWR@formatted{textup}

\textit {<text>}
```

```
12423 \DeclareRobustCommand{\LWR@HTML@textit}[1]{%
12424     {%
12425         \LWR@HTML@itshape%
12426         \LWR@htmlspan{i}{#1}%
12427     }%
12428 }
12429
12430 \LWR@formatted{textit}
```

\textsc {\textit{*text*}}

```
12431 \DeclareRobustCommand{\LWR@HTML@textsc}[1]{%
12432     {%
12433         \LWR@HTML@scshape%
12434         \InlineClass{textsc}{#1}%
12435     }%
12436 }
12437
12438 \LWR@formatted{textsc}
```

\textulc {\textit{*text*}} From fontaxes.

```
12439 \DeclareRobustCommand{\LWR@HTML@textulc}[1]{%
12440     {%
12441         \LWR@HTML@ulcshape%
12442         \InlineClass{textulc}{#1}%
12443     }%
12444 }
12445
12446 \LWR@formatted{textulc}
```

\textsi {\textit{*text*}}

```
12447 @ifundefined{textsi}%
12448     \LetLtxMacro{\LWR@print@textsi}{\LWR@print@textsc}
12449 }{%
12450
12451 \DeclareRobustCommand{\LWR@HTML@textsi}[1]{%
12452     {%
12453         \LWR@HTML@sishape%
12454         \textsc{\textit{#1}}%
12455 %         \InlineClass{%
12456 %             font-style: italic;
12457 %             font-variant: small-caps ;
12458 %             font-variant-numeric: oldstyle-nums ;
12459 %             }{textsi}{#1}%
12460     }%
12461 }
12462
12463 \LWR@formatted{textsi}
```

\textsl {\textit{*text*}}

```
12464 \DeclareRobustCommand{\LWR@HTML@textsl}[1]{%
12465   {%
12466     \slshape%
12467     \InLineClass(font-style:oblique){textsl}{#1}%
12468   }%
12469 }
12470
12471 \LWR@formatted{textsl}

\textssc {<text>}

12472 \newrobustcmd{\LWR@HTML@textssc}[1]{\textsc{#1}}
12473 \LWR@formatted{textssc}

\textnormal {<text>}

12474 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{\textmd{\textrm{\textup{#1}}}}
12475
12476 \LWR@formatted{textnormal}

12477 \FilenameNullify{%
12478   \LetLtxMacro{\emph}{\firstofone}%
12479   \LetLtxMacro{\textmd}{\firstofone}%
12480   \LetLtxMacro{\textbf}{\firstofone}%
12481   \LetLtxMacro{\texteb}{\firstofone}%
12482   \LetLtxMacro{\textlg}{\firstofone}%
12483   \LetLtxMacro{\textrm}{\firstofone}%
12484   \LetLtxMacro{\textsf}{\firstofone}%
12485   \LetLtxMacro{\texttt}{\firstofone}%
12486   \LetLtxMacro{\textup}{\firstofone}%
12487   \LetLtxMacro{\textit}{\firstofone}%
12488   \LetLtxMacro{\textsc}{\firstofone}%
12489   \LetLtxMacro{\textulc}{\firstofone}%
12490   \LetLtxMacro{\textsi}{\firstofone}%
12491   \LetLtxMacro{\textsl}{\firstofone}%
12492   \LetLtxMacro{\textssc}{\firstofone}%
12493   \LetLtxMacro{\textnormal}{\firstofone}%
12494 }
```

Remembers the current font family, series, and shape. **fontaxes** support is integrated here.

```
12495 \newcommand*{\LWR@f@family}{rm}
12496 \newcommand*{\LWR@f@series}{md}
12497 \newcommand*{\LWR@f@shape}{up}
12498 \newcommand*{\LWR@f@shapecaps}{ulc}
```

\LWR@textcurrentfont {<text>}

Prints the text with the current font choices. Avoids nesting repeated font selections.

```
12499 \newcounter{LWR@textcurrentfontdepth}
```

```

12500 \setcounter{LWR@textcurrentfontdepth}{0}
12501
12502 \newcommand*{\LWR@textcurrentfont}[1]{%
12503     \ifnumcomp{\value{LWR@textcurrentfontdepth}}{>}{0}%
12504         {%
12505             \addtocounter{LWR@textcurrentfontdepth}{1}%
12506             #1%
12507             \addtocounter{LWR@textcurrentfontdepth}{-1}%
12508         }%
12509     {%
12510         \addtocounter{LWR@textcurrentfontdepth}{1}%
12511         \InlineClass{%
12512             text\LWR@f@family\LWR@origtilde{}%
12513             text\LWR@f@series\LWR@origtilde{}%
12514             text\LWR@f@shape\LWR@origtilde{}%
12515             text\LWR@f@shapecaps%
12516         }%
12517         {#1}%
12518         \addtocounter{LWR@textcurrentfontdepth}{-1}%
12519     }%
12520 }

```

Env `LWR@blocktextcurrentfont` Prints the contents with the current font choices.

```

12521 \newenvironment*{\LWR@blocktextcurrentfont}{%
12522 \LWR@stoppars%
12523 \BlockClass{%
12524     text\LWR@f@family\LWR@origtilde{}%
12525     text\LWR@f@series\LWR@origtilde{}%
12526     text\LWR@f@shape\LWR@origtilde{}%
12527     text\LWR@f@shapecaps%
12528 }%
12529 }{\endBlockClass\LWR@startpars}

```

`\mdseries`

```

12530 \newrobustcmd*{\LWR@HTML@mdseries}{%
12531     \LWR@print@mdseries%
12532     \renewcommand*{\LWR@f@series}{md}%
12533 }
12534 \LWR@formatted{mdseries}

```

`\bfseries`

```

12535 \newrobustcmd*{\LWR@HTML@bfseries}{%
12536     \LWR@print@bfseries%
12537     \renewcommand*{\LWR@f@series}{bf}%
12538 }
12539 \LWR@formatted{bfseries}

```

`\ebweight` From `nfssext-cfr`.

```
12540 \newrobustcmd*\{\LWR@HTML@ebweight\}{%
12541     \LWR@print@ebweight%
12542     \renewcommand*\{\LWR@f@series\}{eb}%
12543 }
12544 \LWR@formatted{ebweight}
```

\lgweight From nfssext-cfr.

```
12545 \newrobustcmd*\{\LWR@HTML@lgweight\}{%
12546     \LWR@print@lgweight%
12547     \renewcommand*\{\LWR@f@series\}{lg}%
12548 }
12549 \LWR@formatted{lgweight}
```

\rmfamily

```
12550 \newrobustcmd*\{\LWR@HTML@rmfamily\}{%
12551     \LWR@print@rmfamily%
12552     \renewcommand*\{\LWR@f@family\}{rm}%
12553 }
12554 \LWR@formatted{rmfamily}
```

\sffamily

```
12555 \newrobustcmd*\{\LWR@HTML@sffamily\}{%
12556     \LWR@print@sffamily%
12557     \renewcommand*\{\LWR@f@family\}{sf}%
12558 }
12559 \LWR@formatted{sffamily}
```

\ttfamily

```
12560 \newrobustcmd*\{\LWR@HTML@ttfamily\}{%
12561     \LWR@print@ttfamily%
12562     \renewcommand*\{\LWR@f@family\}{tt}%
12563 }
12564 \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

```
12565 \newrobustcmd*\{\LWR@HTML@upshape\}{%
12566     \LWR@print@upshape%
12567     \renewcommand*\{\LWR@f@shape\}{up}%
12568 }
12569 \AtBeginDocument{\LWR@formatted{upshape}}
```

\itshape

---

```

12570 \newrobustcmd*{\LWR@HTML@itshape}{%
12571     \LWR@print@itshape%
12572     \renewcommand*{\LWR@f@shape}{it}%
12573 }
12574 \AtBeginDocument{\LWR@formatted{itshape}}
```

\scshape Note: \LWR@print@scshape is not used here since some fonts, such as *erewhon*, copy/paste as all-caps.

```

12575 \newrobustcmd*{\LWR@HTML@scshape}{%
12576     \ifbool{FixSmallCaps}{}{%
12577         \LWR@print@scshape%
12578     }%
12579     \renewcommand*{\LWR@f@shapecaps}{sc}%
12580 }
12581 \AtBeginDocument{\LWR@formatted{scshape}}
```

\ulcshape From *fontaxes*.

```

12582 \@ifundefined{ulcshape}{%
12583     \LetLtxMacro\ulcshape\upshape
12584 }{%
12585 \newrobustcmd*{\LWR@HTML@ulcshape}{%
12586     \LWR@print@ulcshape%
12587     \renewcommand*{\LWR@f@shapecaps}{ulc}%
12588 }
12589 \AtBeginDocument{\LWR@formatted{ulcshape}}
```

\sishape

```

12590 \@ifundefined{sishape}{%
12591     \LetLtxMacro\sishape\scshape
12592 }{%
12593 \newrobustcmd*{\LWR@HTML@sishape}{%
12594     \ifbool{FixSmallCaps}{}{%
12595         \LWR@print@sishape%
12596     }%
12597     \renewcommand*{\LWR@f@shape}{it}%
12598     \renewcommand*{\LWR@f@shapecaps}{sc}%
12599 }
12600 \AtBeginDocument{\LWR@formatted{sishape}}
```

\slshape

```

12601 \newrobustcmd*{\LWR@HTML@slshape}{%
12602     \LWR@print@slshape%
12603     \renewcommand*{\LWR@f@shape}{sl}%
12604 }
12605 \AtBeginDocument{\LWR@formatted{slshape}}
```

\sscshape

```
12606 \newrobustcmd{\LWR@HTML@sscshape}{\LWR@HTML@scshape}
12607 \AtBeginDocument{\LWR@formatted{sscshape} }

\normalfont

12608 \newrobustcmd*{\LWR@HTML@normalfont}{\rmfamily\mdseries\upshape\ulcshape}
12609 \LWR@formatted{normalfont}

12610 \FilenameNullify{%
12611   \LetLtxMacro\rmfamily\empty%
12612   \LetLtxMacro\sffamily\empty%
12613   \LetLtxMacro\ttfamily\empty%
12614   \LetLtxMacro\bfseries\empty%
12615   \LetLtxMacro\ebweight\empty%
12616   \LetLtxMacro\lgweight\empty%
12617   \LetLtxMacro\mdseries\empty%
12618   \LetLtxMacro\upshape\empty%
12619   \LetLtxMacro\slshape\empty%
12620   \LetLtxMacro\sshape\empty%
12621   \LetLtxMacro\scshape\empty%
12622   \LetLtxMacro\itshape\empty%
12623   \LetLtxMacro\ulcshape\empty%
12624   \LetLtxMacro\sscshape\empty%
12625   \LetLtxMacro\normalfont\empty%
12626 }
```

\sp {*text*}

For **siunitx**. Must work in math mode.

```
12627 \renewcommand{\sp}[1]{\text{\sup#1}}
```

\sb {*text*}

For **siunitx**. Must work in math mode.

```
12628 \renewcommand{\sb}[1]{\text{\sub#1}}
```

\textsuperscript {*text*}

```
12629 \newrobustcmd{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
12630 \LWR@formatted{textsuperscript}
```

\@textsuperscript {*text*}

```
12631 \newcommand{\LWR@HTML@@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
12632 \LWR@formatted{@textsuperscript}
```

\textsubscript {*text*}

```
12633 \newrobustcmd{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
12634 \LWR@formatted{textsubscript}
```

```
\@textsubscript {<text>}
```

```
12635 \newcommand{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}  
12636 \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.

```
12637 \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.

```
12638 \AtBeginDocument{\let\fup\textsuperscript}
```

```
\underline {<text>}
```

```
12639 \renewcommand{\underline}[1]{%  
12640   \InlineClass%  
12641     (text-decoration:underline; text-decoration-skip: auto)%  
12642     {underline}{#1}%  
12643 }
```

```
\LWR@overline {<text>}
```

```
12644 \newcommand{\LWR@overline}[1]{%  
12645   \InlineClass%  
12646     (text-decoration:overline; text-decoration-skip: auto)%  
12647     {overline}{#1}%  
12648 }
```

\LWR@currenttextcolor The color to use for text and \rule, defaulting to black:

```
12649 \newcommand*{\LWR@currenttextcolor}{black}
```

\LWR@tempcolor The color converted to HTML colorspace.

\LWR@tempcolortwo

```
12650 \newcommand*{\LWR@tempcolor}{}  
12651 \newcommand*{\LWR@tempcolortwo}{}  
12652 \newcommand*{\LWR@findcurrenttextcolor}{}  
12653 \renewcommand{\LWR@tempcolor}{#000000}  
12654 }
```

\LWR@findcurrenttextcolor Sets \LWR@tempcolor to the current color.

```
12652 \newcommand*{\LWR@findcurrenttextcolor}{}  
12653 \renewcommand{\LWR@tempcolor}{#000000}  
12654 }
```

\LWR@textcurrentcolor {⟨text⟩} Like \textcolor but uses the current \color instead.

```
12655 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%
12656     \renewcommand*\LWR@currenttextcolor{black}%
12657     #1%
12658 }

12659 \end{warpHTML}
```

**for PRINT output:** 12660 \begin{warpprint}

\LWR@textcurrentfont {⟨text⟩}

Prints the text with the current font choices.

```
12661 \newcommand*\LWR@textcurrentfont[1]{#1}
```

Env LWR@blocktextcurrentfont Prints the contents with the current font choices.

```
12662 \newenvironment*{LWR@blocktextcurrentfont}{}{}
```

\FilenameNullify {⟨macros to nullify⟩}

```
12663 \newcommand*\FilenameNullify[1]{}{}
```

```
12664 \end{warpprint}
```

## 94 Skips, spaces, font sizes

**for HTML output:** 12665 \begin{warpHTML}

\, and \thinspace may be redefined by other packages, so are redefined \AtBeginDocument here.

Direct-formatting space commands become HTML entities:

```
12666 \AtBeginDocument{%
12667 \renewrobustcmd*{\,}{\HTMLUnicode{202f}} % HTML thin non-breakable space
12668 \renewrobustcmd*{\thinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
12669 \renewrobustcmd*{\negthinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
12670 \renewrobustcmd*{\~}{\HTMLEntity{nbsp}}
12671 \renewrobustcmd*{\textellipsis}{\HTMLUnicode{2026}}
12672 \renewrobustcmd*{\vdots}{\HTMLUnicode{22EE}}
12673 }
```

Direct-formatting font sizes are remembered for future use:

```
12674 \newcommand*\LWR@font@size{normalsize}
```

```
12675
12676 \newrobustcmd*{\LWR@HTML@normalsize}{\renewcommand*{\LWR@font@size}{normalsize}}
12677 \LWR@formatted{normalsize}
12678
12679 \newrobustcmd*{\LWR@HTML@small}{\renewcommand*{\LWR@font@size}{small}}
12680 \LWR@formatted{small}
12681
12682 \newrobustcmd*{\LWR@HTML@footnotesize}{\renewcommand*{\LWR@font@size}{footnotesize}}
12683 \LWR@formatted{footnotesize}
12684
12685 \newrobustcmd*{\LWR@HTML@scriptsize}{\renewcommand*{\LWR@font@size}{scriptsize}}
12686 \LWR@formatted{scriptsize}
12687
12688 \newrobustcmd*{\LWR@HTML@tiny}{\renewcommand*{\LWR@font@size}{tiny}}
12689 \LWR@formatted{tiny}
12690
12691 \newrobustcmd*{\LWR@HTML@large}{\renewcommand*{\LWR@font@size}{large}}
12692 \LWR@formatted{large}
12693
12694 \newrobustcmd*{\LWR@HTML@Large}{\renewcommand*{\LWR@font@size}{Large}}
12695 \LWR@formatted{Large}
12696
12697 \newrobustcmd*{\LWR@HTML@LARGE}{\renewcommand*{\LWR@font@size}{LARGE}}
12698 \LWR@formatted{LARGE}
12699
12700 \newrobustcmd*{\LWR@HTML@huge}{\renewcommand*{\LWR@font@size}{huge}}
12701 \LWR@formatted{huge}
12702
12703 \newrobustcmd*{\LWR@HTML@Huge}{\renewcommand*{\LWR@font@size}{Huge}}
12704 \LWR@formatted{Huge}

12705 \DeclareDocumentCommand{\onecolumn}{}{ }
12706
12707 \DeclareDocumentCommand{\twocolumn}{O{}}{
12708
12709 #1
12710
12711 }

\hfill

12712 \newcommand*{\LWR@HTML@hfill}{\qquad}
12713 \LWR@formatted{hfill}

\hrulefill

12714 \newcommand*{\LWR@HTML@hrulefill}{%
12715     \ifbool{\LWR@doingapar}{%
12716         {\rule{1in}{1pt}}%
12717     }{%
12718         \LWR@findcurrenttextcolor%
12719         \ifdefstring{\LWR@tempcolor}{000000}{%
12720             {%
```

```

12721           \begin{BlockClass}{hrule}%
12722           \end{BlockClass}%
12723       }%
12724   {%
12725       \begin{BlockClass}[%
12726           border-top: 1px solid \LWR@origpound\LWR@tempcolor % space
12727       ]{hrule}%
12728       \end{BlockClass}%
12729   }%
12730 }%
12731 }%
12732 \LWR@formatted{hrulefill}

```

## \dotfill

```

12733 \newcommand*{\LWR@HTML@dotfill}{\dots}
12734 \LWR@formatted{dotfill}

```

## \newpage

```

12735 \renewcommand*{\newpage}{%
12736 }
12737 }

```

\newline Uses the HTML <br /> element.

```

12738 \newrobustcmd*{\LWR@newlinebr}{\unskip\LWR@htmltag{br /}\LWR@orignewline}%
12739 \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.

```

12740 \LetLtxMacro{\LWR@origendofline} \\
12741 \NewDocumentCommand{\LWR@endofline}{s 0{0pt}}%
12742 {%
12743 \newline%

```

```

12744 \setlength{\LWR@templengthone}{#2}%
12745 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{}%
12746 }

```

\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, lwarp correctly suppresses the paragraph tags between the minipages, unless some other text is between

\hspace \enskip \quad \qqquad 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 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 `\qqquad` 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 `\qqquad`'s HTML output.

```
12747 \newcommand*{\LWR@minipagestartpars}{%
12748     \ifbool{LWR@minipagethispar}{\LWR@startpars}{}%
12749 }
```

`\LWR@minipagestopars` Placed just after `\hspace`, `\quad`, or `\qqquad`'s HTML output.

```
12750 \newcommand*{\LWR@minipagestopars}{%
12751     \ifbool{LWR@minipagethispar}{\LWR@stopars}{}%
12752 }
```

`\quad` Handles special minipage & horizontal space interactions. Uses 2003 EM SPACE to pass validation.

```
12753 \renewrobustcmd*{\quad}{%
12754     \LWR@minipagestopars%
12755     \HTMLunicode{2003}%
12756     \LWR@minipagestartpars%
12757 }
```

`\qqquad` Handles special minipage & horizontal space interactions.

```
12758 \renewrobustcmd*{\qqquad}{\quad\quad}
```

`\enskip` Handles special minipage & horizontal space interactions.

```
12759 \renewrobustcmd*{\enskip}{%
12760     \LWR@minipagestopars%
12761     \HTMLunicode{2002}%
12762     \LWR@minipagestartpars%
12763 }
```

`\Len \LWR@tempwidth` Used to compute span width, height, raise for `\hspace` and `\rule`:

```
12764 \newlength{\LWR@tempwidth}
12765 \newlength{\LWR@tempheight}
12766 \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 \qquad.
```

```
12767 \newcommand{\LWR@select@html@hspace}{%
12768 \RenewDocumentCommand{\hspace}[2]{m}{%
12769 \setlength{\LWR@tempwidth}{##2}}%
```

If \fill, change to \qquad:

```
12770 \ifnum\gluestretchorder>\LWR@tempwidth>0%
12771 \setlength{\LWR@tempwidth}{2em}%
12772 \fi%
```

Only if the width is greater than zero:

```
12773 \ifdim\tempwidth>0pt{%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
12774 \LWR@minipagestopars%
```

Support the HTML thin wrappable space:

```
12775 \ifdim\tempwidth=.16667em{%
12776 {%
12777 \HTMLunicode{2009}% thin breakable space
12778 }%
```

Print the span with the converted width. Not rounded.

```
12779 {%
1280 \LWR@htmltagc{%
1281     span style="width:\LWR@printlength{\LWR@tempwidth}; % extra space
1282         display:inline-block"%
1283 }%
```

If formatting for a word processor, approximate with a number of \quads, in case a span of a given width is not supported:

```
12784 \ifbool{FormatWP}{%
12785     \setlength{\LWR@templengthone}{\LWR@tempwidth}%
12786     \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
12787         \quad%
12788         \addtolength{\LWR@templengthone}{-1em}%
12789     }%
12790 }%
```

If NOT formatting for a word processor, include an empty comment to avoid an empty span:

```
12791      {\LWR@htmlcomment{}%}
```

Close the span:

```
12792      \LWR@htmlltagc{/span}%
12793  }%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
12794      \LWR@minipagestartpars%
12795  }{}% width greater than 0
12796  }%
12797 }
```

\LWR@select@html@nohspace \* {*length*}  
 \hspace  
 Used to disable \hspace while creating description \items.

```
12798 \newcommand{\LWR@select@html@nohspace}{%
12799   \RenewDocumentCommand{\hspace}{s m}{%
12800 }}
```

\LWR@select@print@hspace

```
12801 \newcommand*{\LWR@select@print@hspace}{%
12802   \renewrobustcmd\hspace{\@ifstar\@hspacer\@hspace}%
12803 }
```

\hspace \* {*length*}

Handles special minipage & horizontal space interactions.

```
12804 \LWR@select@html@hspace
```

\LWR@vspace \* {*length*} Nullified vspace.

```
12805 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}
12806
12807 \LWR@formatted{vspace}
```

\linebreak [*num*] Inserts an HTML br tag.

```
12808 \renewcommand*{\linebreak}[1][]{\newline}
```

\nolinebreak [*num*]

```
12809 \renewcommand*{\nolinebreak}[1][]{}
```

---

\pagebreak [*num*] Starts a new paragraph.

```
12810 \renewcommand*\{\pagebreak}[1][]{
12811
12812 }
```

\nopagebreak [*num*]

```
12813 \renewcommand*\{\nopagebreak}[1][]{}
```

\enlarge thispage \* {*len*}

```
12814 \RenewDocumentCommand{\enlarge thispage}{s m}{}{}
```

\clearpage  
\cleardoublepage

```
12815 \renewcommand*\{\clearpage}(){}
12816 \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.

```
12817 \newcommand*\{\LWR@HTML@rule}[3][]{}%
```

The width is copied into a temporary L<sup>A</sup>T<sub>E</sub>X length, from which comparisons and conversions may be made:

```
12818 \setlength{\LWR@tempwidth}{#2}%
```

If it's zero-width then skip the entire rule:

```
12819 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}%
12820 {}% zero- width
12821 {}% non-zero width
```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```
12822 \ifthenelse{%
12823   \lengthtest{\LWR@tempwidth>0pt}\AND%
12824   \lengthtest{\LWR@tempwidth<1pt}%
12825 }%
12826   {\setlength{\LWR@tempwidth}{1pt}}%
12827 }%
```

Likewise with height:

```

12828 \setlength{\LWR@tempheight}{#3}%
12829 \ifthenelse{%
12830   \lengthtest{\LWR@tempheight>0pt}\AND%
12831   \lengthtest{\LWR@tempheight<1pt}%
12832 }%
12833 {\setlength{\LWR@tempheight}{1pt}}%
12834 {}%

```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```
12835 \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.

```

12836 \LWR@findcurrenttextcolor%
12837 \LWR@htmntagcf%
12838 span\LWR@indentHTML%
12839 style="%"
```

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.

```
12840 \ifbool{FormatWP}{}{background:\LWR@currenttextcolor ; }%
```

The width and height are printed, converted to PT:

```

12841 width:\LWR@printlength{\LWR@tempwidth} ; %
12842 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.

```

12843 \ifblank{#1}%
12844 {}%
12845 {%
12846   \setlength{\LWR@tempraise}{0pt-#1}%
12847   \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
12848   \LWR@indentHTML%
12849   -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
12850   \LWR@indentHTML%
12851   -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
12852   \LWR@indentHTML%
12853   transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
12854   \LWR@indentHTML%
12855 }%
```

Display inline-block to place the span inline with the text:

```
12856     display:inline-block;"\LWR@orignewline%
12857     }%
```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```
12858     \ifbool{FormatWP}{%
12859         \setlength{\LWR@templengthone}{\LWR@tempwidth}%
12860         \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
12861             \_\_{}%
12862             \addtolength{\LWR@templengthone}{-1em}%
12863         }%
12864     }%
```

If NOT formatting for a word processor, add a comment to avoid an empty <span>:

```
12865     {\LWR@htmlcomment{}}%
```

Close the span:

```
12866     \LWR@htmlltagc{/span}%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
12867     \LWR@minipagestartpars%
12868 }% non-zero width
12869 }
12870
12871 \LWR@formatted{rule}

12872 \end{warpHTML}
```

## 95 \phantomsection

**for HTML output:** 12873 \begin{warpHTML}

\LWR@phantomsection Emulate the hyperref \phantomsection command, often used to insert the bibliography into the table of contents. Ignores \ForceHTMLTOC.

```
12874 \newrobustcmd*\LWR@phantomsection{%
12875     \begingroup%
12876     \boolexpr{LWR@forcinghtmltoc}%
12877     \section*{}%
12878     \endgroup%
12879 }

12880 \end{warpHTML}
```

## 96 \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: 12881 \begin{warpall}
12882 \newbool{LWR@warnXe}
12883 \boolfalse{LWR@warnXe}
12884
12885 \newrobustcmd*{\Xe}
12886   {%
12887     X\hspace{-.1667em}\raisebox{-.5ex}{E}%
12888     \global\booltrue{LWR@warnXe}%
12889   }
12890
12891 \AtBeginDocument{
12892   \@ifpackageloaded{graphics}{
12893     \@ifpackageloaded{metalogo}{}{
12894       \renewrobustcmd*{\Xe}
12895         {X\hspace{-.1667em}\raisebox{-.5ex}{\reflectbox{E}}}}
12896   }
12897 }()
12898 }
12899
12900 \AtEndDocument{
12901   \ifbool{LWR@warnXe}{
12902     \PackageWarningNoLine{lwarp}{Load graphicx or graphics
12903       for improved XeTeX logo}
12904   }()
12905 }
12906
12907 \providerobustcmd*{\XeTeX}{\mbox{\Xe\hspace{-.125em}\TeX}}
12908 \providerobustcmd*{\XeLaTeX}{\mbox{\Xe\hspace{-.125em}\LaTeX}}
12909 \providerobustcmd*{\AMS}{%
12910   \leavevmode\hbox{$\mathcal A$\kern-.2em\lower.376ex%
12911   \hbox{$\mathcal M$}\kern-.2em$\mathcal S$}%
12912 }
12913 \newrobustcmd*{\LyX}{\textsf{LyX}}
12914 \providerobustcmd*{\LuaTeX}{\mbox{Lua\TeX}}
12915 \providerobustcmd*{\LuaLaTeX}{\mbox{Lua\LaTeX}}
12916 \providerobustcmd*{\BibTeX}{\mbox{B\textsc{ib}\TeX}}
12917 \providerobustcmd*{\MakeIndex}{\mbox{\textit{MakeIndex}}}
12918 \providerobustcmd*{\ConTeXt}{\mbox{Con\TeX{}t}}
12919 \providerobustcmd*{\MiKTeX}{\mbox{MiK\TeX{}}}
12920 \end{warpall}
```

**for HTML output:** 12921 \begin{warpHTML}

The print-mode versions of the following may be changed by `metalog`, so their print formatting is recorded `\AtBeginDocument`.

\TeX\ \TeX

`latexlogo` is a css class used to properly typeset the E and A in L<sup>A</sup>T<sub>E</sub>X 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, Lua<sup>A</sup>T<sub>E</sub>X, Con<sup>T</sup>E<sub>X</sub>t, etc.

```
12922 \newrobustcmd*\{\LWR@HTML@TeX\}
12923 {%
12924     \InlineClass{latexlogofont}%
12925     {%
12926         \InlineClass{latexlogo}%
12927         {%
12928             T%
12929             \InlineClass{latexlogosub}{e}%
12930             X%
12931         }%
12932     }%
12933 }%
12934 \AtBeginDocument{\LWR@formatted{TeX}}% may have been patched by metalog
```

\LaTeX\ L<sup>A</sup>T<sub>E</sub>X, L<sup>A</sup>T<sub>E</sub>X<sub>2</sub><sup>E</sup>

\LaTeX e

```
12935 \newrobustcmd*\{\LWR@HTML@LaTeX\}
12936 {%
12937     \InlineClass{latexlogofont}%
12938     {%
12939         \InlineClass{latexlogo}%
12940         {%
12941             L%
12942             \InlineClass{latexlogosup}{a}%
12943             T%
12944             \InlineClass{latexlogosub}{e}%
12945             X%
12946         }%
12947     }%
12948 }%
12949 \AtBeginDocument{\LWR@formatted{LaTeX}}% may have been patched by metalog
12951
12952
12953 \newrobustcmd*\{\LWR@HTML@LaTeXe\}
12954 {%
12955     \LaTeX%
12956     \InlineClass{latexlogofont}{%
12957         \InlineClass{latexlogotwoe}{%
12958             2%
12959             \InlineClass{latexlogotwoesub}{\HTMLUnicode{03B5}}%
12960         }%
12961     }%
```

```
12961      }%
12962 }
12963 \AtBeginDocument{\LWR@formatted{LaTeXe}}% may have been patched by metalogo

\LuaTeX \LuaTeX, \LuaLATEX
\LuaTeX
12964 \newrobustcmd*\{\LWR@HTML@LuaTeX\}{\InlineClass{latexlogofont}{Lua}\TeX}
12965 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo
12966
12967 \newrobustcmd*\{\LWR@HTML@LuaTeX\}{\InlineClass{latexlogofont}{Lua}\LaTeX}
12968 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo

\XeTeX \XeTeX, \XeLATEX
\XeTeX
xetexlogo is a css class which aligns the backwards E in \XeTeX and spaces \TeX appropriately.

xelatexlogo is a css class which aligns the backwards E in \XeLATEX and spaces \TeX appropriately.

12969 \newrobustcmd*\{\LWR@HTML@Xe\}
12970      {%
12971          X%
12972          \InlineClass{xelatexlogosub}{\HTMLunicode{18e}}%
12973      }
12974 \AtBeginDocument{\LWR@formatted{Xe}}% may have been patched by metalogo
12975
12976 \newrobustcmd*\{\LWR@HTML@XeTeX\}{\InlineClass{xelatexlogo}{\Xe}\TeX}
12977 \AtBeginDocument{\LWR@formatted{XeTeX}}% may have been patched by metalogo
12978
12979 \newrobustcmd*\{\LWR@HTML@XeLaTeX\}{\InlineClass{xelatexlogo}{\Xe}\LaTeX}
12980 \AtBeginDocument{\LWR@formatted{XeLaTeX}}% may have been patched by metalogo

\ConTeXt \ConTeXt
\ConTeXt
12981 \newrobustcmd*\{\LWR@HTML@ConTeXt\}%
12982     \InlineClass{latexlogofont}{Con}\TeX{}%
12983     \InlineClass{latexlogofont}{t}%
12984 }
12985 \LWR@formatted{ConTeXt}

\BibTeX \BIBTeX, MakeIndex
\MakeIndex
12986 \newrobustcmd*\{\LWR@HTML@BibTeX\}
12987     {\InlineClass{latexlogofont}{B\textrm{textrm}{ib}}\TeX}
12988 \LWR@formatted{BibTeX}
12989
12990 \newrobustcmd*\{\LWR@HTML@MakeIndex\}
12991     {\InlineClass{latexlogofont}{\textit{MakeIndex}}}}
12992 \LWR@formatted{MakeIndex}
```

## \AmS \AMS

`amslogo` is a css class used for the  $\mathcal{AMS}$  logo.

```

12993 \AtBeginDocument{%
12994 \newrobustcmd*\{\LWR@HTML@AmS}%
12995 {%
12996   \InlineClass{amslogo}{%
12997     \textit{%
12998       A%
12999       \InlineClass{latexlogosub}{M}%
13000       S%
13001     }%
13002   }%
13003 }%
13004 \LWR@formatted{AmS}%
13005 }
```

## \MiKTeX MiKTeX

```

13006 \newrobustcmd*\{\LWR@HTML@MiKTeX}{\InlineClass{latexlogofont}{MiK}\TeX}%
13007 \LWR@formatted{MiKTeX}
```

## \LyX LyX

`lyxlogo` is a css class used for the  $\mathsf{LyX}$  logo.

```

13008 \newrobustcmd*\{\LWR@HTML@LyX}{\InlineClass{lyxlogo}{LyX}}%
13009 \LWR@formatted{LyX}

13010 \end{warpHTML}
```

## 97 Starting and stopping lwarp

**for HTML output:** 13011 `\begin{warpHTML}`

```

\LWR@LwarpStart Automatically sets up the HTML-related actions for the start and end of the document.
\LWR@LwarpEnd
13012 \AfterEndPreamble{\LWR@LwarpStart}
13013 \AtEndDocument{\LWR@LwarpEnd}

13014 \end{warpHTML}
```

## 98 Loading everyshi patches

`everyshi` is emulated by the  $\text{\LaTeX}$  core, so its patches are loaded here. `\AtBeginDocument` is used in case an older verison of  $\text{\LaTeX}$  is used.

---

**for HTML output:** 13015 \begin{warpHTML}  
 13016 \AtBeginDocument{  
 13017 \@ifpackageloaded{everyshi}{  
 13018 \RequirePackage{l warp-everyshi}  
 13019 }{}  
 13020 }  
 13021 \end{warpHTML}

## 99 Loading textcomp patches

textcomp has now been integrated into the LATEX core, so its patches are loaded now.

**for HTML output:** 13022 \begin{warpHTML}  
 13023 \RequirePackage{l warp-textcomp}  
 13024 \end{warpHTML}

## 100 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:** 13025 \begin{warpHTML}  
 13026 \@ifpackageloaded{amsthm}{  
 13027 \RequirePackage{l warp-amsthm}  
 13028 }{}  
  
 13029 \@ifpackageloaded{amsmath}{  
 13030 \RequirePackage{l warp-amsmath}  
 13031 }{}  
 13032  
 13033 % \pkg{amsthm} may load \pkg{centernot}, so \pkg{centernot} must be checked second.  
 13034 % \begin{macrocode}  
 13035 \@ifpackageloaded{centernot}{  
 13036 \RequirePackage{l warp-centernot}  
 13037 }{}  
 13038 \end{warpHTML}

## 101 Loading KOMA-SCRIPT class patches

Load patches to koma-script.

**for HTML output:** 13039 \begin{warpHTML}  
  
 13040 \@ifclassloaded{scrbook}{\RequirePackage{l warp-patch-komascript}}{}  
 13041 \@ifclassloaded{scrartcl}{\RequirePackage{l warp-patch-komascript}}{}  
 13042 \@ifclassloaded{scrreprt}{\RequirePackage{l warp-patch-komascript}}{}  
  
 13043 \end{warpHTML}

## 102 Loading MEMOIR class patches

Load patches to memoir.

**for HTML & PRINT:** 13044 \begin{warpprint}  
 13045 \@ifclassloaded{memoir}{\LWR@origRequirePackage{xcolor}}{}  
 13046 \end{warpprint}

**for HTML output:** 13047 \begin{warpHTML}  
 13048 \@ifclassloaded{memoir}{\RequirePackage{lwarp-patch-memoir}}{}  
 13049 \end{warpHTML}

## 103 ut\* class patches

Load patches to uj\* and ut\* classes, as well as ltj\* classes.

**for HTML output:** 13050 \begin{warpHTML}  
  
 13051 \newcommand\*{\LWR@patchujtclasses}{  
  
 uj/t does not use \partname  
  
 13052 \def\@partnameformat{}  
  
 13053 \def\@partcntformat##1{%
 13054 \prepartname%
 13055 \csname the##1\endcsname%
 13056 \postpartname%
 13057 \quad%
 13058 }
 13059 \@ifundefined{chapter}{}{
 13060 \def\@chapcntformat##1{%
 13061 \prechaptername%
 13062 \csname the##1\endcsname%
 13063 \postchaptername%
 13064 \quad%
 13065 }
 13066 }
 13067 \renewcommand\*{\LWR@printchaptername}{}  
  
 Use decimal points instead of centered dots:  
  
 13068 \renewcommand{\thepart}{\@Roman\c@part}
 13069 \ifundefined{chapter}{}{
 13070 \renewcommand{\thesection}{\@arabic\c@section}
 13071 }{
 13072 \renewcommand{\thechapter}{\@arabic\c@chapter}
 13073 \renewcommand{\thesubsection}{\thechapter.\@arabic\c@subsection}
 13074 }{
 13075 \renewcommand{\thesubsubsection}{\thesection.\@arabic\c@subsubsection}

```

13076 \renewcommand{\thesubsubsection}{%
13077   \thesubsection.\@arabic\c@subsubsection}
13078 \renewcommand{\theparagraph}{%
13079   \thesubsubsection.\@arabic\c@paragraph}
13080 \renewcommand{\thesubparagraph}{%
13081   \theparagraph.\@arabic\c@subparagraph}
13082 \@ifundefined{chapter}{%
13083   \renewcommand{\thefigure}{\@arabic\c@figure}
13084   \renewcommand{\thetable}{\@arabic\c@table}
13085 }{%
13086   \renewcommand{\thefigure}{%
13087     \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@figure}
13088   \renewcommand{\thetable}{%
13089     \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@table}
13090 }
13091 }
13092
13093 \@ifclassloaded{ujarticle}{\LWR@patchujtclasses}{}%
13094 \@ifclassloaded{ujbook}{\LWR@patchujtclasses}{}%
13095 \@ifclassloaded{ujreport}{\LWR@patchujtclasses}{}%
13096 \@ifclassloaded{utarticle}{\LWR@patchujtclasses}{}%
13097 \@ifclassloaded{utbook}{\LWR@patchujtclasses}{}%
13098 \@ifclassloaded{utreport}{\LWR@patchujtclasses}{}%
13099 \@ifclassloaded{ltjarticle}{\LWR@patchujtclasses}{}%
13100 \@ifclassloaded{ltjbook}{\LWR@patchujtclasses}{}%
13101 \@ifclassloaded{ltjreport}{\LWR@patchujtclasses}{}%
13102 \@ifclassloaded{ltjsarticle}{\LWR@patchujtclasses}{}%
13103 \@ifclassloaded{ltjsbook}{\LWR@patchujtclasses}{}%
13104 \@ifclassloaded{ltjsreport}{\LWR@patchujtclasses}{}%
13105 \@ifclassloaded{ltjskiyou}{\LWR@patchujtclasses}{}%
13106 \@ifclassloaded{ltjspf}{\LWR@patchujtclasses}{}%
13107 \@ifclassloaded{ltjtarticle}{\LWR@patchujtclasses}{}%
13108 \@ifclassloaded{ltjtbook}{\LWR@patchujtclasses}{}%
13109 \@ifclassloaded{ltjtreport}{\LWR@patchujtclasses}{}%
13110 \end{warpHTML}

```

## 104 CTEX patches

Patches for `ctex` and related classes, which are loaded before `lwarp`.

All CTEX classes and the `ctex` package seem to load `ctexpatch`, so its presence is used to decide whether to have `lwarp` patch CTEX.

**for HTML output:** 13111 \begin{warpHTML}

\AtBeginDocument in case the user set `FileSectionNames` in the preamble.

```

13112 \AtBeginDocument{%
13113   \@ifpackageloaded{ctexpatch}{%
13114     \def\@partcntformat{\%%
13115       \LWR@isolate{\CTEX@partname}\~\%}

```

```

13116      \CTEX@part@aftername%
13117  }%
13118
13119  \def\@partnameformat{}%
13120
13121  \def\@chapcntformat#1{%
13122      \LWR@isolate{\CTEX@chaptername}~%
13123      \CTEX@chapter@aftername%
13124  }%
13125
13126  \renewcommand*\LWR@printchaptername{}%
13127 }%
13128 }

13129 \end{warpHTML}

```

## 105 **kotexutf patches**

Patch for **kotexutf**, which is loaded before **lwarp**.

**kotexutf**'s `\@setref` was conflicting with **lwarp**'s cross references.

**for HTML output:** 13130 `\begin{warpHTML}`

If **kotexutf**'s version of `\@setref` is detected, it is reverted to the original.

```

13131 \AtBeginDocument{
13132 \@ifpackageloaded{kotexutf}{%
13133   \def\LWR@kotexutf@setref#1#2#3{%
13134     \@setref@dhucs@orig{#1}{#2}{#3}%
13135     \ifx#1\relax\else
13136       \bgroup
13137       \dhucs@make@cjkchar@null
13138       \edef\@temp{\expandafter#2#1}\global\josatoks\expandafter{\@temp}%
13139       \egroup
13140     \fi%
13141   }%
13142
13143   \ifdefequal{\@setref}{\LWR@kotexutf@setref}{%
13144     \let\@setref\@setref@dhucs@orig
13145   }%
13146 }%
13147 }

13148 \end{warpHTML}

```

## 106 **babel and polyglossia warnings**

**lwarp** 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. . . . \begindocumenthook
```

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: 13149 \begin{warpHTML}
13150 \AtBeginDocument{
13151
13152 \@ifpackageloaded{polyglossia}{
13153     \PackageWarningNoLine{l warp}
13154     {%
13155         Polyglossia has been loaded. L warp also uses cleveref.\MessageBreak
13156         See the cleveref documentation regarding\MessageBreak
13157         polyglossia support. Some languages are not supported%
13158     }
13159     \typeout{---}
13160     \typeout{Package l warp:}
13161     \typeout{If the error}
13162     \typeout{\space\space`! Undefined control sequence.
13163             \space ... \space \protect\@begindocumenthook'}
13164     \typeout{occurs here, use the polyglossia macro:}
13165     \typeout{\space\space\protect\setmainlanguage\protect{...}\protect{}}
13166     \typeout{---}
13167 }{
13168     \@ifpackageloaded{babel}{

13169         \PackageWarningNoLine{l warp}
13170         {%
13171             Babel has been loaded. L warp also uses cleveref.\MessageBreak
13172             See the cleveref documentation regarding\MessageBreak
13173             babel support. Some languages are not supported%
13174         }
13175     }{}}}
13176 }
13177
13178 }
13179 \end{warpHTML}
```

## 107 MATHJAX warnings

```
\LWR@mathjaxwarn {⟨packagename⟩} {⟨More text.⟩}
```

To be done \AtBeginDocument.

```

13180 \newcommand*{\LWR@mathjaxwarn}[2]{%
13181     \@ifpackageloaded{lwarf-#1}{%
13182         \ifblank{#2}{%
13183             \PackageWarningNoLine{lwarf}%
13184             {%
13185                 Lwarp provides emulation for MathJax when used\MessageBreak
13186                 with the #1 package%%
13187             }%
13188         }{%
13189             \PackageWarningNoLine{lwarf}%
13190             {%
13191                 Lwarp provides emulation for MathJax when used\MessageBreak
13192                 with the #1 package.\MessageBreak
13193                 #2%
13194             }%
13195         }%
13196     }{%
13197 }
13198
13199 \AtBeginDocument{%
13200     \ifbool{mathjax}{%
13201         \LWR@mathjaxwarn{arydshln}%
13202             {In a math array, do not use the optional argument\MessageBreak
13203             for \protect\cdashline.\space\space%
13204             Furthermore, \protect\cline\space is not\MessageBreak
13205             supported by MathJax}%
13206         \LWR@mathjaxwarn{autonum}%
13207             {MathJax does not support equation+.\MessageBreak
13208             You may use the warpprint and warpHTML\MessageBreak
13209             environments to isolate the package load\MessageBreak
13210             and the equation+ environments}%
13211         \LWR@mathjaxwarn{backnaur}%
13212             {You may enclose its uses inside\MessageBreak
13213             lateximage environments to force SVG output,\MessageBreak
13214             but this also changes the print output}%
13215         \LWR@mathjaxwarn{bigdelim}%
13216             {Delimiters appear only of the first line}%
13217         \LWR@mathjaxwarn{booktabs}%
13218             {In a math array, do not use (trim) for \protect\cmidrule}%
13219         \LWR@mathjaxwarn{breqn}%
13220             {Each environment becomes an SVG image}%
13221         \LWR@mathjaxwarn{delarray}%
13222             {Enclose its uses inside lateximage\MessageBreak
13223             environments to force SVG output}%
13224         \LWR@mathjaxwarn{jkmath}{}%
13225         \LWR@mathjaxwarn{mathtools}%
13226             {See the Lwarp manual regarding the disallowspaces\MessageBreak
13227             and showonlyrefs options, the alignat environment,\MessageBreak

```

```
13228         and \protect\DeclarePairedDelimiter\space and related%
13229         }
13230     \LWR@mathjaxwarn{mathspec}{}
13231     \LWR@mathjaxwarn{multirow}
13232     {Multirow works as expected in text mode, but\MessageBreak
13233     limited emulation is provided for MathJax math.\MessageBreak
13234     \protect\multirow\space ignores all arguments except\MessageBreak
13235     the text}
13236     \LWR@mathjaxwarn{pb-diagram}
13237     {Enclose its uses inside \textrm{ lateximage } environments\MessageBreak
13238     to force SVG output}
13239 %     \LWR@mathjaxwarn{physics}
13240 %     {The third-party extension is not used.\MessageBreak
13241 %     {The MathJax v3 extension is used.\MessageBreak
13242 %     See the Lwarp manual for details}
13243     \LWR@mathjaxwarn{unicode-math}
13244     {Not all characters are encoded correctly.\MessageBreak
13245     Some symbol fonts are not supported by MathJax,\MessageBreak
13246     and are only approximated}
13247     \LWR@mathjaxwarn{witharrows}
13248     {Arrows can only point to the next line.\MessageBreak
13249     Text is only placed on a single line}
13250     \LWR@mathjaxwarn{xy}
13251     {xy works in text, but in math you must\MessageBreak
13252     enclose its uses inside \textrm{ lateximage } \MessageBreak
13253     environments to force SVG output}
13254   }()
13255 }
```

---

**File 2 l warp-2in1.sty****§ 108 Package 2in1**

Pkg 2in1 2in1 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2in1}

---

**File 3 l warp-2up.sty****§ 109 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****§ 110 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****§ 111 Package a4wide**

Pkg a4wide a4wide is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4wide}[1994/08/30]

---

**File 6 l warp-a5comb.sty****§ 112 Package a5comb**

Pkg a5comb a5comb is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a5comb}

---

**File 7 l warp-abstract.sty****§ 113 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 provided 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@bstract
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

### § 114 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**

## § 115 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}{\LARGE\grave{##1}}%
22     \renewcommand{\acute}{\LARGE\acute{##1}}%
23     \renewcommand{\check}{\LARGE\check{##1}}%
24     \renewcommand{\breve}{\LARGE\breve{##1}}%
25     \renewcommand{\bar}{\LARGE\bar{##1}}%
26     \renewcommand{\hat}{\LARGE\hat{##1}}%
27     \renewcommand{\dot}{\LARGE\dot{##1}}%
28     \renewcommand{\tilde}{\LARGE\tilde{##1}}%
29     \renewcommand{\ddot}{\LARGE\ddot{##1}}%
30     \renewcommand{\vec}{\LARGE\vec{##1}}%
31     \renewcommand{\widetilde}{\LARGE\widetilde{\phantom{##1}}\hphantom{##1}}%
32     \underset{\raise 2pt {#1}}{\widetilde{##2}}%
33     \let\grave\grave%
34     \let\acute\acute%
35     \let\check\check%
36     \let\breve\breve%
37     \let\bar\bar%
38     \let\hat\hat%
39     \let\dot\dot%
40     \let\tilde\tilde%
41     \let\ddot\ddot%
42     \let\vec\vec%
43     \let\widetilde\widetilde%
44   }%
45 }%
46
47 \CustomizeMathJax{\newcommand{\undertilde}[1]{%
48   \underset{\raise 3pt {\widetilde{\phantom{##1}}}}{##1}%
49 }%
50 \end{warpMathJax}

```

---

#### File 10 **lwarp-accessibility.sty**

### § 116 Package **accessibility**

Pkg **accessibility** **accessibility** is emulated.

**for HTML output:** Discard all options for **lwarp-accessibility**:

```

1 \LWR@ProvidesPackageDrop{accessibility}[2019/10/14]

2 \newcommand{\alt}{\ThisAltText{#1}}
3 \newcommand{\newhref}[3]{\ThisAltText{#2}\LWR@href{#1}{#3}}%
4 \providecommand{\thead}{\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**

§ 117 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 **l warp-acro.sty**

§ 118 Package **acro**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg acro acro is patched for use by l warp.

⚠ 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 l warp has not yet made the dollar active, so temporarily enable l warp math catcode just for this definition:

```

2 \ExplSyntaxOn
3 \NewDocumentCommand \LWR@DeclareAcronym {mm}
4 {
5     \acro_declare_acronym:nn {\#1} {\#2}
6     \catcode`\$=3% l warp
7 }
8 \ExplSyntaxOff
9
10 \RenewDocumentCommand{\DeclareAcronym}{}{
11     \catcode`\$=\active% l warp
12     \LWR@DeclareAcronym
13 }
```

Modified to activate the current font:

```
14 \ExplSyntaxOn
15 \@ifpackagelater{acro}{2020/04/29}%
16 {}% v3 or later
17 {}% before v3
18 \@ifpackagelater{acro}{2019/09/23}%
19 {}% v2.10 or later
20 \cs_gset_protected:Npn \__acro_typeset:nn #1#2
21 {
22     \mode_if_horizontal:F { \leavevmode }
23     \group_begin:
24         \use:x
25         {
26             \bool_if:cTF {\l__acro_custom_#1_format_bool}
27             { \exp_not:v {\l__acro_custom_#1_format_tl} }
28             { \exp_not:v {\l__acro_#1_format_tl} }
29             {\exp_not:N\LWR@textcurrentfont{#2}}% lwarp
30         }
31     \group_end:
32 }
33
34 \cs_gset_protected:Npn \__acro-ending_format:nn #1#2
35 {
36     \bool_if:NTF \l__acro_include_endings_format_bool
37     {
38         \str_case:nn {#1}
39         {
40             {long}
41             {
42                 \bool_if:NTF \l__acro_custom_long_format_bool
43                 { \l__acro_custom_long_format_tl }
44                 {
45                     \bool_if:NTF \l__acro_first_instance_bool
46                     { \l__acro_first_long_format_tl }
47                     { \l__acro_long_format_tl }
48                 }
49             }
50             {short}
51             {
52                 \bool_if:NTF \l__acro_custom_short_format_bool
53                 { \l__acro_custom_short_format_tl }
54                 { \l__acro_short_format_tl }
55             }
56             {alt}
57             {
58                 \bool_if:NTF \l__acro_custom_alt_format_bool
59                 { \l__acro_custom_alt_format_tl }
60                 { \l__acro_alt_format_tl }
61             }
62         }
63     }
64     { \use:n }
65     {\exp_not:N\LWR@textcurrentfont{#2}}% lwarp
66 }
```

```
67 }% v2.10 or later
68 {%
69 \cs_gset_protected:Npn \acro_write_short:nn #1#2
70 {
71     \mode_if_horizontal:F { \leavevmode }
72     \group_begin:
73         \bool_if:NTF \l__acro_custom_format_bool
74             { \l__acro_custom_format_tl }
75             { \l__acro_short_format_tl }
76             {\LWR@textcurrentfont{#2}}% lwarp
77     \group_end:
78 }
79
80 \cs_gset_protected:Npn \acro_write_alt:nn #1#2
81 {
82     \mode_if_horizontal:F { \leavevmode }
83     \group_begin:
84         \bool_if:NTF \l__acro_custom_format_bool
85             { \l__acro_custom_format_tl }
86             { \l__acro_alt_format_tl }
87             {\LWR@textcurrentfont{#2}}% lwarp
88     \group_end:
89 }
90
91 \cs_gset_protected:Npn \acro_write_long:nn #1#2
92 {
93     \mode_if_horizontal:F { \leavevmode }
94     \group_begin:
95         \bool_if:NTF \l__acro_custom_long_format_bool
96             { \l__acro_custom_long_format_tl }
97             { \use:n }
98     {
99         \use:x
100     {
101         \exp_not:n {#1}
102     {
103         \bool_if:NTF \l__acro_first_upper_bool
104             { \exp_not:N \__acro_first_upper_case:n { \exp_not:n {
105                 \LWR@textcurrentfont{#2}}% lwarp
106             } } }
107             { \exp_not:n {\LWR@textcurrentfont{#2}} }% lwarp
108     }
109 }
110 }
111 \group_end:
112 }
113 }% before v2.10
114 }% before v3
115 \ExplSyntaxOff
```

---

**File 13 `l warp-acronym.sty`**
**§ 119 Package `acronym`**

*(Emulates or patches code by TOBIAS OETIKER.)*

Pkg `acronym` `acronym` is patched for use by `l warp`.

**⚠ multiply-defined labels** `\acresetall` does not work with `cleveref`, causing multiply-defined labels. `l warp` 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 %   \Qifundefined{#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****§ 120 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 l warp-addlines.sty****§ 121 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****§ 122 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****§ 123 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 **lwarp** 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 }
```

```

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@printlnl}[1]{%
68   \InlineClass{alg2elinenumber}{\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   \vlineskip\normallineskip\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 \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 **lwarf-algorithmicx.sty**

### § 124 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 [576.1](#).

**for HTML output:** 2 \begin{warpHTML}

```

3 \AtBeginEnvironment{algorithmic}{%
4 %
5 \let\origALG@doentity\ALG@doentity%
6 %
7 \renewcommand*\ALG@doentity{%
8 \origALG@doentity%
9 \LWR@htmltagc%
10 span style="width:\LWR@printlength{\ALG@thistlm}; display:inline-block;"%
11 }%
12 \ifbool{FormatWP}{%
13 \setlength{\LWR@templengthone}{\the\ALG@thistlm}%
14 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
15 \quad%
16 \addtolength{\LWR@templengthone}{-1em}%
17 }%

```

---

```

18 }{ }%
19 \LWR@htmltagc{/span}%
20 }%
21
22 \let\LWR@origComment\Comment%
23
24 \renewcommand{\Comment}[1]{%
25     \InlineClass{floatright}{\LWR@origComment{#1}}%
26 }%
27 }
28
29 \renewcommand\algorithmiccomment[1]{%
30 \hfill\HTMLunicode{25B7} #1% white right triangle
31 }%

32 \end{warpHTML}

```

---

**File 19 lwarp-alltt.sty**

§ 125      Package **alltt**

*(Emulates or patches code by JOHANNES BRAAMS.)*

Pkg alltt alltt is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{alltt}[1997/06/16]

```

2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching alltt.}
4 \AtBeginEnvironment{alltt}{%
5     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
6         {}%
7         {%
8             \LWR@forcenewpage
9             \LWR@atbeginverbatim{3}{alltt}%
10        }%
11    }%
12 \AfterEndEnvironment{alltt}{%
13     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
14         {}%
15         {%
16             \LWR@afterendverbatim{2}%
17         }%
18    }%
19 }

```

---

**File 20 lwarp-amsmath.sty**

§ 126      Package **amsmath**

*(Emulates or patches code by AMERICAN MATHEMATICAL SOCIETY, LATEX3 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  $\mathcal{AM}$ S math \tag macro to remember the first tag:

```
6 \ifbool{mathjax}{}{%
7   \LetLtxMacro{\LWR@origmake@df@tag@@}{\make@df@tag@@}
8   \LetLtxMacro{\LWR@origmake@df@tag@@@}{\make@df@tag@@@}
9
10  \renewcommand*{\make@df@tag@@}[1]{%
11    \LWR@remembertag{#1}%
12    \LWR@origmake@df@tag@@{#1}%
13  }
14
15  \renewcommand*{\make@df@tag@@@}[1]{%
16    \LWR@remembertag{#1}%
17    \LWR@origmake@df@tag@@@{#1}%
18  }
19
20
21 }% not mathjax
```

For nesting  $\mathcal{AM}$ S environments:

```
22 \newcounter{\LWR@amsmathdepth}
23 \setcounter{\LWR@amsmathdepth}{0}
```

The following  $\mathcal{AM}$ S environments are patched in-place:

\LWR@amsmathenv@@before \* {\langle environment name \rangle}

\* 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{latentimage}[\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                 \ifstreq{\#2}{multiline}{\booltrue{\LWR@amsmultiline}}{}%
43                 \ifstreq{\#2}{multiline*}{\booltrue{\LWR@amsmultiline}}{}%
44             \begin{hideramsmath}
```

 autonum's "+" environments are not supported by MATHJAX.

```
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

\* {*<environment name>*}  
 \* 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@endhideramsmath
64                 \boolfalse{\LWR@amsmultiline}
65                 \LWR@addmathjax{\#2}{\the\@envbody}
66             }
67             {\LWR@amsmathenv@@after}}
```

Clear the single-use alt text:

```
68      \gdef\LWR@ThisAltText{}%
69      }{%
70      \addtocounter{LWR@amsmathdepth}{-1}%
71 }

Env  multiline

72 \BeforeBeginEnvironment{multiline}{\LWR@amsmathenv@before{multiline}}%
73
74 \AfterEndEnvironment{multiline}{\LWR@amsmathenv@after{multiline}}%

Env  multiline*

75 \BeforeBeginEnvironment{multiline*}{\LWR@amsmathenv@before*{multiline*}}%
76
77 \AfterEndEnvironment{multiline*}{\LWR@amsmathenv@after*{multiline*}}%
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 \end{warpMathJax}

```

### File 21 l warp-amsthm.sty

§ 127 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.

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

```

---

Table 16: `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.

---

```

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 {}
```

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}% lwarp
23   }{%
24     \thm@style{#1}%
25     \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
26   }%
27 }
```

Patched to remember the style for this theorem type:

```

28 \def\@xthm#1#2{%
29   \csedef{\LWR@thmstyle#2}{\LWR@newtheoremstyle}% lwarp
30   \let\@tempa\relax
31   \expandafter\ifdefinable\csname #2\endcsname{%
32     \global\expandafter\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{\ynthm{#2}}[]}{%
40       \fi
41       \AtBeginEnvironment{#2}{%
42         \edef\LWR@thisthmstyle{\nameuse{LWR@thmstyle#2}}{%
43       }%
44     }%
45   \@tempa
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}%
70   \let\@currentlabelname\GetTitleStringResult% lwarp
71   \item[%
72 %   \deferred@thm@head{%
73 %     \the\thm@headfont \thm@indent%
74 %     \@ifempty{#1}{\let\thmname\@gobble}{\LWR@haveamsthmname}%
75 %     \@ifempty{#2}{\let\thmnumber\@gobble}{\LWR@haveamsthmnumber}%
76 %     \@ifempty{#3}{\let\thmnote\@gobble}{\LWR@haveamsthmnote}%
77 %     \thm@swap\swappedhead\thmhead{#1}{#2}{#3}%
78   \the\thm@headpunct~%

```

```

79   \thmheadnl % possibly a newline.
80   \hskip\thm@headsep
81 % }
82   ]
83 \ignorespaces}

```

Patched for css:

```

84 \def\@thm#1#2#3{%
85   \ifhmode\unskip\unskip\par\fi
86   \normalfont
87   \LWR@forcenewpage%           lwarp
88   \BlockClass{amsthmbody}\LWR@thisthmstyle}%    lwarp
89   \trivlist
90   \let\thmheadnl\relax
91   \let\thm@swap\@gobble
92   \thm@notefont{\fontseries\mddefault\upshape}%
93   \thm@headpunct{.}% add period after heading
94   \thm@headsep 5\p@ plus\p@ minus\p@\relax
95   \thm@space@setup
96   #1% style overrides
97   \atopsep \thm@preskip          % used by thm head
98   \atopsepadd \thm@postskip      % used by \@endparenv
99   \def\@tempa{#2}\ifx\@empty\@tempa
100    \def\@tempa{\@oparg{\@begintheorem{#3}{}}[]}%
101  \else
102    \refstepcounter{#2}%
103    \def\@tempa{\@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]}%
104  \fi
105  \@tempa
106 }

```

`cleveref` patches `\@thm` to do `\cref@thmoptarg` if an optional argument is given. `lwarp` then patches `\cref@thmoptarg` `\AtBeginDocument`.

```

107 \AtBeginDocument{%
108 \def\cref@thmoptarg[#1]#2#3#4{%
109   \ifhmode\unskip\unskip\par\fi%
110   \normalfont%
111   \LWR@forcenewpage%           lwarp
112   \BlockClass{amsthmbody}\LWR@thisthmstyle}%    lwarp
113   \trivlist
114   \let\thmheadnl\relax%
115   \let\thm@swap\@gobble%
116   \thm@notefont{\fontseries\mddefault\upshape}%
117   \thm@headpunct{.}% add period after heading
118   \thm@headsep 5\p@ plus\p@ minus\p@\relax%
119   \thm@space@setup%
120   #2% style overrides
121   \atopsep \thm@preskip          % used by thm head
122   \atopsepadd \thm@postskip      % used by \@endparenv
123   \def\@tempa{#3}\ifx\@empty\@tempa
124    \def\@tempa{\@oparg{\@begintheorem{#4}{}}[]}%
125  \else%
126    \refstepcounter{#1}{#3}%%<<< cleveref modification

```

```

127      \def\@tempa{\@oparg{\@begintheorem{\#4}{\csname the\#3\endcsname}[]}}%
128      \fi%
129      \@tempa
130 }%
131 }% AtBeginDocument
132
133 \def\@endtheorem{\endtrivlist\endBlockClass\@endpefalse }

```

Proof QED symbol:

```

134 \AtBeginDocument{
135 \@ifundefined{LWR@orig@openbox}%
136 \LetLtxMacro\LWR@orig@openbox\openbox
137 \LetLtxMacro\blacksquare\blacksquare
138 \LetLtxMacro\blackbox\Box
139
140 \def\openbox{\text{\HTMLunicode{25A1}}}% UTF-8 white box
141 \def\blacksquare{\text{\HTMLunicode{220E}}}% UTF-8 end-of-proof
142 \def\Box{\text{\HTMLunicode{25A1}}}% UTF-8 white box
143
144 \appto\LWR@restoreorigformatting{%
145   \LetLtxMacro\openbox\LWR@orig@openbox%
146   \LetLtxMacro\blacksquare\blackbox%
147   \LetLtxMacro\Box\blackbox%
148 }% appto
149 }{}% @ifundefined
150 }% AtBeginDocument

```

Patched for css:

```

151 \renewenvironment{proof}[1][\proofname]{\par
152 \LWR@forcenewpage% lwarp
153   \BlockClass{amsthmproof}% lwarp
154   \pushQED{\qed}%
155   \normalfont \topsep6\p@\relax
156   \trivlist
157   \item[
158     \InLineClass{amsthmproofname}{\#1\@addpunct{.}}]\ignorespaces% changes
159 }{%
160   \InLineClass{theoremendmark}{\popQED}\endtrivlist%
161   \endBlockClass% lwarp
162   \endpefalse
163 }

```

## File 22 **lwarp-anonchap.sty**

### § 128 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

⚠ **tocloft & other packages**

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.

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 23 **l warp-any size.sty**

### § 129 Package **any size**

(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)

Pkg `any size` `any size` is ignored.

```
for HTML output: 1 \LWR@ProvidesPackageDrop{any size}[1994/08/13]

2 \def\paperSize#1#2{%
3 \def\marginSize#1#2#3#4{%
```

---

#### File 24 **l warp-appendix.sty**

### § 130 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 25 **l warp-ar.sty**

§ 131 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 \teximage, additionally hashed by the font series, with a width depending on the given glyph:

```
10 \begin{teximage}*[\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{teximage}%
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{lateximage}*{[AR][tt]}[\LWR@ar@printwidth{\LWR@print@ARtt}]%
37   \LWR@print@ARtt%
38   \end{lateximage}%
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 26 **l warp-arabicfront.sty**

§ 132 Package **arabicfront**

Pkg arabicfront arabicfront is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{arabicfront}[2006/09/03]

---

**File 27 l warp-array.sty****§ 133 Package array**

Pkg array array is used as-is for print output, and emulated for HTML.

plarray and plectarray do not affect \firsthline or \lasthline, and so are not affected by the following.

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 28 l warp-arydshln.sty****§ 134 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{;}{[]}{|}%
22 \LetLtxMacro{\dashline}{\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 `lateximage`:

```
24 \def\hdashline{
25 %     \adl@hline\adl@ihdashline
26     \adl@hline\adl@inactivehdl
27 }
28 \def\adl@hdashline#1{\noalign{\ifnum0='}\fi
29 %     \ifadl@zhrule \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\vhdashline \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 29 **l warp-asymptote.sty**

§ 135 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 30 **l warp-atbegshi.sty**

#### § 136 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 31 l warp-attachfile.sty

#### § 137 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{latentimage} *%
5         [-attachfile-]%
6         [%
7             \detokenize\expandafter{\atfi@icon@icon}-%
8             \detokenize\expandafter{\atfi@color@rgb}%
9         ]%
10 }
11 {
12     \end{latentimage}
13 }

```

Each icon is enclosed inside a `\LWR@attachfile@icon` environment:

```

14 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
15 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
16
17 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
18 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
19
20 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
21 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
22
23 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
24 \xapptocmd{\atfi@acroTag}{\endLWR@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 32 **l warp-attachfile2.sty**

#### § 138 Package **attachfile2**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg **attachfile2** **attachfile2** is patched for use by **l warp**.



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@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}}%     l warp
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}%     l warp
68 %     \expandafter
69 %     \atfi@refxform\csname atfi@appobj@\atfi@icon@icon\endcsname
70 %   \else
71 %     \makebox[\atfi@appearancewidth]{}
72   \fi
73 \endgroup
74 }

```

### File 33 **l warp-authblk.sty**

## § 139 Package **authblk**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg authblk authblk is patched for HTML.

**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 67.8.

*(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 {}

```

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 34 **lwarp-autobreak.sty**

§ 140 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 35 **l warp-autonum.sty**

§ 141 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 36 l warp-awesomebox.sty****§ 142 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}[% 
34     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 37 **l warp-axessibility.sty**

§ 143 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 38 l warp-axodraw2.sty****§ 144 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 39 l warp-backnaur.sty****§ 145 Package backnaur**

(Emulates or patches code by ADRIAN P. ROBSON.)

Pkg backnaur backnaur is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{backnaur}[2019/06/18]

```
2 \renewenvironment{bnf}{\eqnarray}{\endeqnarray}
3 \renewenvironment{bnf*}{\csuse{eqnarray*}}{\csuse{endeqnarray*}}
```

---

**File 40 l warp-backref.sty****§ 146 Package backref**

(Emulates or patches code by DAVID CARLISLE AND SEBASTIAN RAHTZ.)

Pkg backref backref is patched for use by l warp.

**⚠ 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   \ref{#3}%
6 }
7
8 \let\backrefxxx\hyper@section@backref

```

---

File 41 **l warp-balance.sty**

§ 147 Package **balance**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg **balance** **balance** is ignored.

**for HTML output:** Discard all options for **l warp-balance**:

```

1 \LWR@ProvidesPackageDrop{balance}[1999/02/23]

2 \newcommand*\{\balance\}{}%
3 \newcommand*\{\nobalance\}{}%

```

---

File 42 **l warp-bbd ing.sty**

§ 148 Package **bbding**

*(Emulates or patches code by KAREL HORAK, PETER MØLLER NEERGAARD.)*

Pkg **bbding** **bbding** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bbding}[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@bdingssymbol{020}} {261F}}
21 \newcommand{\LWR@HTML@HandRight}{\LWR@bdingssymbol{021}} {261E}}
22 \newcommand{\LWR@HTML@HandLeft}{\LWR@bdingssymbol{022}} {261C}}
23 \newcommand{\LWR@HTML@HandRightUp}{\LWR@bdingssymbol{023}} {261D}}
24 \newcommand{\LWR@HTML@HandLeftUp}{\LWR@bdingssymbol{024}} {261F}}
25 \newcommand{\LWR@HTML@Peace}{\LWR@bdingssymbol{025}} {270C}}
26 \newcommand{\LWR@HTML@HandPencilLeft}{\LWR@bdingssymbol{026}} {270D}}
27 \newcommand{\LWR@HTML@PencilRight}{\LWR@bdingssymbol{027}} {270F}}
28 \newcommand{\LWR@HTML@PencilLeft}{\LWR@bdingssymbol{030}} {270F}}
29 \newcommand{\LWR@HTML@PencilRightUp}{\LWR@bdingssymbol{031}} {2710}}
30 \newcommand{\LWR@HTML@PencilLeftUp}{\LWR@bdingssymbol{032}} {2710}}
31 \newcommand{\LWR@HTML@PencilRightDown}{\LWR@bdingssymbol{033}} {270E}}
32 \newcommand{\LWR@HTML@PencilLeftDown}{\LWR@bdingssymbol{034}} {270E}}
33 \newcommand{\LWR@HTML@NibRight}{\LWR@bdingssymbol{035}} {2711}}
34 \newcommand{\LWR@HTML@NibLeft}{\LWR@bdingssymbol{036}} {2711}}
35 \newcommand{\LWR@HTML@NibSolidRight}{\LWR@bdingssymbol{037}} {2712}}
36 \newcommand{\LWR@HTML@NibSolidLeft}{\LWR@bdingssymbol{040}} {2712}}
37 \newcommand{\LWR@HTML@Checkmark}{\LWR@bdingssymbol{041}} {2713}}
38 \newcommand{\LWR@HTML@CheckmarkBold}{\LWR@bdingssymbol{042}} {2714}}
39 \newcommand{\LWR@HTML@XSolid}{\LWR@bdingssymbol{043}} {2715}}
40 \newcommand{\LWR@HTML@XSolidBold}{\LWR@bdingssymbol{044}} {2716}}
41 \newcommand{\LWR@HTML@XSolidBrush}{\LWR@bdingssymbol{045}} {2717}}
42 \newcommand{\LWR@HTML@PlusOutline}{\LWR@bdingssymbol{046}} {2719}}
43 \newcommand{\LWR@HTML@Plus}{\LWR@bdingssymbol{047}} {271A}}
44 \newcommand{\LWR@HTML@PlusCenterOpen}{\LWR@bdingssymbol{050}} {271C}}
45 \newcommand{\LWR@HTML@PlusThinCenterOpen}{\LWR@bdingssymbol{051}} {271B}}
46 \newcommand{\LWR@HTML@Cross}{\LWR@bdingssymbol{052}} {271D}}
47 \newcommand{\LWR@HTML@CrossOpenShadow}{\LWR@bdingssymbol{053}} {271E}}
48 \newcommand{\LWR@HTML@CrossOutline}{\LWR@bdingssymbol{054}} {271F}}
49 \newcommand{\LWR@HTML@CrossBoldOutline}{\LWR@bdingssymbol{055}} {271F}}
50 \newcommand{\LWR@HTML@CrossMaltese}{\LWR@bdingssymbol{056}} {2720}}
51 \newcommand{\LWR@HTML@DavidStarSolid}{\LWR@bdingssymbol{057}} {2721}}
52 \newcommand{\LWR@HTML@DavidStar}{\LWR@bdingssymbol{060}} {2721}}
53 \newcommand{\LWR@HTML@FourAsterisk}{\LWR@bdingssymbol{061}} {2722}}
54 \newcommand{\LWR@HTML@JackStar}{\LWR@bdingssymbol{062}} {2723}}
55 \newcommand{\LWR@HTML@JackStarBold}{\LWR@bdingssymbol{063}} {2724}}
56 \newcommand{\LWR@HTML@CrossClowerTips}{\LWR@bdingssymbol{064}} {2725}}
57 \newcommand{\LWR@HTML@FourStar}{\LWR@bdingssymbol{065}} {2726}}
58 \newcommand{\LWR@HTML@FourStarOpen}{\LWR@bdingssymbol{066}} {2727}}
59 \newcommand{\LWR@HTML@FiveStarLines}{\LWR@bdingssymbol{067}} {2729}}
60 \newcommand{\LWR@HTML@FiveStar}{\LWR@bdingssymbol{070}} {2605}}
61 \newcommand{\LWR@HTML@FiveStarOpen}{\LWR@bdingssymbol{071}} {2729}}
62 \newcommand{\LWR@HTML@FiveStarOpenCircled}{\LWR@bdingssymbol{072}} {272A}}
63 \newcommand{\LWR@HTML@FiveStarCenterOpen}{\LWR@bdingssymbol{073}} {272B}}
64 \newcommand{\LWR@HTML@FiveStarOpenDotted}{\LWR@bdingssymbol{074}} {272C}}
65 \newcommand{\LWR@HTML@FiveStarOutline}{\LWR@bdingssymbol{075}} {272D}}
66 \newcommand{\LWR@HTML@FiveStarOutlineHeavy}{\LWR@bdingssymbol{076}} {272E}}
67 \newcommand{\LWR@HTML@FiveStarConvex}{\LWR@bdingssymbol{077}} {272F}}
68 \newcommand{\LWR@HTML@FiveStarShadow}{\LWR@bdingssymbol{100}} {2730}}
69 \newcommand{\LWR@HTML@AsteriskBold}{\LWR@bdingssymbol{101}} {2731}}
70 \newcommand{\LWR@HTML@AsteriskCenterOpen}{\LWR@bdingssymbol{102}} {2732}}
71 \newcommand{\LWR@HTML@AsteriskThin}{\LWR@bdingssymbol{103}} {273B}}
72 \newcommand{\LWR@HTML@AsteriskThinCenterOpen}{\LWR@bdingssymbol{104}} {273C}}
73 \newcommand{\LWR@HTML@EightStarTaper}{\LWR@bdingssymbol{105}} {2733}}
74 \newcommand{\LWR@HTML@EightStarConvex}{\LWR@bdingssymbol{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@TwelveStar}{\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{TwelveStar}
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{FourCloverOpen}
217 \LWR@formatted{FourCloverSolid}
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 43 **l warp-biblatex.sty**

§ 149 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. **l warp** uses **newfloat**.
2. For classes with chapters which **newfloat** does not know about, such as CTEX-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 \protected\def\blx@imc@bibhyperref{%
16     \@ifnextchar[%]
17         {\blx@bibhyperref}
18         {\blx@bibhyperref[\abx@field@entrykey]}%
19
20 \long\def\blx@bibhyperref[#1]#2{%
21 %         \blx@sfsave
22 %         \hyperlink{cite.\the\c@refsection @#1}{%
23 %             \blx@sfrst
24 %             #2%
25 %             \blx@sfsave
26 %             }%
27 %             \blx@sfrst%
28 }% \def\blx@nohyperref[#1]#2{#2}%
29
30 \protected\long\def\blx@imc@bibhyperlink#1#2{%
31 %         \blx@sfsave
32 %         \hyperlink{cite.\the\c@refsection:#1}{%
33 %             \blx@sfrst
34 %             #2%
35 %             \blx@sfsave
36 %             }%
37 %             \blx@sfrst%
38 }%
39
40 \protected\long\def\blx@imc@bibhypertarget#1#2{%
41 %         \blx@sfsave%
42 %         \hypertarget{cite.\the\c@refsection:#1}{%
43 %             \blx@sfrst
44 %             #2%
45 %             \blx@sfsave%
46 %             }%
47 %             \blx@sfrst%
48 }
49
50 \let\blx@imc@ifhyperref\@firstoftwo
51 }

```

---

File 44 **lwarf-bibunits.sty**

§ 150 Package **bibunits**

*(Emulates or patches code by THORSTEN HANSEN.)*

Pkg bibunits bibunits is patched for use by lwarf.

for HTML output 1 \LWR@ProvidesPackagePass{bibunits}[2004/05/12]

---

```
2 \def\bu@bibdata{\BaseJobname}
```

---

#### File 45 **l warp-bigdelim.sty**

## § 151 Package **bigdelim**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

Pkg **bigdelim** **bigdelim** is used as-is for print or `\textrimage`, 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`** `\l delim` and `\r delim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\l delim` or `\r delim`, but not in cells which are above or below the delimiter:

---

```
\begin{tabular}{lll}
<empty> & a & b \\
\l delim{[]}{3}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}
```

---

<->	a	b
left	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 `\l delim` and `\r delim`, which were previously defined for tabular scanning in case `bigdelim` was not loaded:

```
1 \let\l delim\relax
2 \let\r delim\relax
```

Next, load the package's new definitions:

```
3 \LWR@ProvidesPackagePass{bigdelim}[2018/08/03]
```

```
\l delim {<1:delimiter>} {<2:#rows>} {<3:width>} [<4:text>]
\r delim
```

---

```

4 \NewDocumentCommand{\LWR@HTML@ldelim}{m m m O{}}{%
5 \renewcommand{\LWR@multirowborder}{right}%
6 \multirow{#2}{#3}{\#4 \InlineClass{l delim}{#1}}{%
7 }%
8 %
9 \LWR@formatted{l delim}%
10 %
11 \NewDocumentCommand{\LWR@HTML@rdelim}{m m m O{}}{%
12 \renewcommand{\LWR@multirowborder}{left}%
13 \multirow{#2}{#3}{\InlineClass{r delim}{#1} #4}{%
14 }%
15 %
16 \LWR@formatted{r delim}%

```

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{\LWRl delim}[1][]{\text{\#1}\sim\bigdelim}}
20 \CustomizeMathJax{\def\ldelim#1#2#3{\def\bigdelim{\#1}\LWRl delim}}
21 % \rdelim ) [n]{width}[text]
22 \CustomizeMathJax{\newcommand{\LWRr delim}[1][]{\bigdelim\text{\#1}\sim}}
23 \CustomizeMathJax{\def\rdelim#1#2#3{\def\bigdelim{\#1}\LWRr delim}}
24 \end{warpMathJax}

```

---

#### File 46 l warp-bigfoot.sty

## § 152 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 47 l warp-bigstrut.sty**

§ 153      Package **bigstrut**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

Pkg **bigstrut** **bigstrut** is used as-is for print or `\textrimage`, 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 48 l warp-bitpattern.sty**

§ 154      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{\textrimage}[-bitpattern-\PackageDiagramAltText]}
5   {}
6   {\LWR@patcherror{bitpattern}{bitpattern}}
7
8 \xpatchcmd{\bp@Done}
9   {\endgroup}
10  {\end{\textrimage}}
11  {}
12  {\LWR@patcherror{bitpattern}{bp@Done}}
```

---

**File 49 l warp-blowup.sty****§ 155 Package blowup**

Pkg blowup blowup is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{blowup}[2018/01/02]  
2 \newcommand\*\blowUp[1]{}

---

**File 50 l warp-bm.sty****§ 156 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 \onlypreamble{\DeclareBoldMathCommand
11
12 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}{%
13 \end{warpMathJax}}
```

---

**File 51 l warp-booklet.sty****§ 157 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\ifuselandscape \uselandscapefalse
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 52 **l warp-bookmark.sty**

#### § 158 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 53 **l warp-booktabs.sty**

#### § 159 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 `lwarf`, such as by `memoir`, use it as-is. If not, the `lwarf` 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   \LWR@expandableformatted{bottomrule}%
59
60 \DeclareDocumentCommand{\LWR@HTML@addlinespace}{o}{%
61   \LWR@expandableformatted{addlinespace}%
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{\newcommand{\cmidrule}[2][]{}% avoid (trim)}
78 \CustomizeMathJax{\newcommand{\morecmidrules}{}}
79 \CustomizeMathJax{\newcommand{\specialrule}[3]{\hline}}
80 \CustomizeMathJax{\newcommand{\addlinespace}[1][]{}}
81 \end{warpMathJax}

```

#### File 54 lwarp-bophook.sty

§ 160 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 55 l warp-bounddvi.sty****§ 161 Package bounddvi**

Pkg bounddvi bounddvi is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bounddvi}[2016/12/28]

---

**File 56 l warp-boxedminipage.sty****§ 162 Package boxedminipage**

(Emulates or patches code by SCOTT PAKIN.)

Pkg boxedminipage boxedminipage is emulated for HTML, and used as-is for lateximages.

**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 57 l warp-boxedminipage2e.sty****§ 163 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 58 l warp-braket.sty**

§ 164      Package **braket**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg **braket** **braket** works as-is for HTML with SVG math. For MATHJAX, emulation is provided by MATHJAX macros.

**for HTML output:** 1 \LWR@ProvidesPackagePass{braket}% No date is provided by the file.

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\bra}[1]{\langle#1\vert}}
4 \CustomizeMathJax{\newcommand{\Bra}[1]{\left\langle\#1\right|}}
5 \CustomizeMathJax{\newcommand{\ket}[1]{\vert#1\rangle}}
6 \CustomizeMathJax{\newcommand{\Ket}[1]{\left|\#1\right\rangle}}
7 \CustomizeMathJax{\newcommand{\braket}[1]{\langle#1\rangle}}
8 \CustomizeMathJax{\newcommand{\Braket}[1]{\left\langle\#1\right\rangle}}
9 \CustomizeMathJax{\newcommand{\set}[1]{\{\#1\}}}
10 \CustomizeMathJax{\newcommand{\Set}[1]{\left\{\#1\right\}}}
11 \end{warpMathJax}
```

---

**File 59 l warp-breakurl.sty**

§ 165      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\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 60 l warp-breqn.sty**

§ 166      Package **breqn**

(Emulates or patches code by MICHAEL J. DOWNES, MORTEN HØGHLØM.)

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 61 l warp-bsheaders.sty****§ 167 Package bsheaders**

Pkg bsheaders bsheaders is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bsheaders}[1997/10/06]

---

**File 62 l warp-bxpapersize.sty****§ 168 Package bxpapersize**

Pkg bxpapersize bxpapersize is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bxpaper size}[2017/10/08]

---

```
2 \providecommand*\papersizesetup{\bxpapersizesetup}
3 \newcommand*\bxpapersizesetup[1]{}
```

---

File 63 **l warp-bytefield.sty**

§ 169 Package **bytefield**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg bytefield bytefield is patched for use by l warp.

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 64 **l warp-cancel.sty**

§ 170 Package **cancel**

Pkg cancel cancel is used as-is for SVG math, and emulated for HTML text output.

for HTML output 1 \LWR@origRequirePackage{l warp-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@origxcancel}%
11 }
```

\LWR@cancelcolor {\text} {\color} {\class} {\colorstyle} {FormatWPstyle}

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 {⟨text⟩}

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{l warp, cancel}{The MathJax v3 extension will be used}
31 \CustomizeMathJax{\require{cancel}}
32 \end{warpMathJax}

```

#### File 65 **l warp-canoniclayout.sty**

### § 171 Package **canoniclayout**

Pkg canoniclayout canoniclayout is ignored.

**for HTML output:** s1 \LWR@ProvidesPackageDrop{canoniclayout}[2011/11/05]

```

2 \newcommand*{\currentfontletters}{}%
3 \newcommand*{\charactersperpage}{}%

```

#### File 66 **l warp-caption.sty**

### § 172 Package **caption**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg caption caption is patched for use by l warp.

**for HTML output:**

```

1 \typeout{---}%
2 \typeout{Packages l warp 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}[2020/08/24]

```

```
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 }
```

Redefined to look ahead for \centering, etc:

```

58 \AtBeginDocument{
59   \def\xfloat#1[#2]{%
60     \caption@ORI\xfloat{#1}{#2}%
61     \caption@settype{#1}%
62     \LWR@futurenonspacel\LWR@mynexttoken\LWR@floatalignment%
63   }%
64   \def\xdblfloat#1[#2]{% required for token capture
65     \caption@ORI\xfloat{#1}{#2}%
66     \caption@settype{#1}%
67     \LWR@futurenonspacel\LWR@mynexttoken\LWR@floatalignment%
68   }%
69 }
```

Updates for late patches for scrextend:

```

70 \caption@AtBeginDocument{
71 \@ifpackageloaded{l warp-scrextend}{%
72   \LetLtxMacro\captionbelow\caption
73   \LetLtxMacro\captionabove\caption
74   \LetLtxMacro\captionofbelow\captionof
75   \LetLtxMacro\captionofabove\captionof
76 }{}%
77 }
```

### File 67 l warp-caption3.sty

## § 173 Package caption3

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg caption3 caption3 is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass[caption3][2020/08/23]

```
\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%                                l warp
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}%
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%
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}}% l warp
42 \% \caption@ifstrut
43 \% {\ifhmode\@finalstrut\strutbox\fi}%
44 \% {}%
45 \caption@textend}}%
46 \LWR@startpars% l warp
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@stoppars% l warp
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%
81   \caption@ifstrut
82     {\vrule\@height\ht\strutbox\@width\z@}%
83   }%
84   \nobreak\hskip\z@skip % enable hyphenation
85   \LWR@isolate{\caption@tfmt{#2}}%
86   \caption@ifstrut
87     {\ifhmode\@finalstrut\strutbox\fi}%
88   }%
89 }%
90   \LWR@startpars%
91 \LWR@traceinfo{caption@@@make done}%
92 }
93 }% earlier than 2020/08/23

```

```

\caption@@make@  {\langle\rangle} {\langle\rangle}

94 \renewcommand{\caption@@make@}[2]{%
95   \caption@stepthecounter%
96   \caption@beginhook%
97     \caption@@make{#1}{#2}%
98   \caption@endhook%
99 }

```

Add non-breakable spaces:

```

100 \DeclareCaptionLabelSeparator{colon}{:~}
101 \DeclareCaptionLabelSeparator{period}{.~}
102 \DeclareCaptionLabelSeparator{space}{~}
103 \DeclareCaptionLabelSeparator{*{endash}{~\textendash}}
104 \DeclareCaptionLabelSeparator{arabi}{\if@rl~\fi:~}

105 \DeclareCaptionBox{none}{#2}
106 \DeclareCaptionBox{parbox}{%
107   #2%

```

```
108 }

109 \DeclareCaptionBox{colorbox}{%
110     #2%
111 }
```

---

**File 68 l warp-cases.sty****§ 174 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 69 l warp-centernot.sty****§ 175 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 70 **l warp-changebar.sty**

### § 176 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*\cbcolor[1] {}
8 \newlength\changebarwidth
9 \newlength\deletebarwidth
10 \newlength\changebarsep
11 \newcounter{changebargrey}
```

---

#### File 71 **l warp-changelayout.sty**

### § 177 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 72 **l warp-changepage.sty**

§ 178 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}{\oddpage=true}
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 73 **l warp-changes.sty**

§ 179 Package **changes**

*(Emulates or patches code by EKKART KLEINOD.)*

Pkg changes changes is patched for use by lwarf.

for HTML output 1 \LWR@ProvidesPackagePass{changes}[2019/01/26]

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
2 \renewcommand{\ChangesListline}{\%}
3   \IfSubStr{\Changes@loc@show}{#1}{%
4     \LWR@startpars%
5     #2: #3 \qquad
6     \nameref{\BaseJobname-autopage-\#4}%
7     \LWR@stoppars%
8   }{%
9 }
10
11 \renewcommand{\Changes@summaryline}{\%}
12   \IfSubStr{\Changes@loc@show}{#1}{%
13     \ifthenelse{\not\equal{\Changes@loc@style}{compactsummary} \or #2 > 0}{%
14       %
15       #3:\#4%
16     }{%
17   }{%
18 }
19
20 \xpatchcmd{\listofchanges}{%
21   {\changesauthorname: \changesanonymousname}}{%
22   {\LWR@textcurrentcolor{\changesauthorname: \changesanonymousname}}}{}{%
23   {}{%
24   \LWR@patcherror{changes}{listofchanges A}}}
25
26 \xpatchcmd{\listofchanges}{%
27   {\changesauthorname: \Changes@InID}}{%
28   {\LWR@textcurrentcolor{\changesauthorname: \Changes@InID}}}{}{%
29   {}{%
30   \LWR@patcherror{changes}{listofchanges B}}}
31
32 \xpatchcmd{\listofchanges}{%
33   {(\Changes@InName)}}{%
34   {\LWR@textcurrentcolor{(\Changes@InName)}}}{}{%
35   {}{%
36   \LWR@patcherror{changes}{listofchanges C}}}
37
38 \xpatchcmd{\listofchanges}{%
39   {\parbox{\Changes@summary@width}}}{%
40   {}{%
41   {}{%
42   \LWR@patcherror{changes}{listofchanges D}}}}
43
44 \xpatchcmd{\Changes@Markup@comment}{%
45   {%
46     \ifthenelse{\isAnonymous{#2}}{%
47       \textbf{[\arabic{Changes@commentCount}:#2]:} }{%
48       \textbf{[#3\arabic{Changes@commentCount}:#2]:} }%
49     #1%
50   }}{}
```

```
51   {%
52     \LWR{textcurrentcolor}{%           lwarp
53     \ifthenelse{\isAnonymous{#2}}{%
54       {\textbf{[\arabic{Changes@commentCount#2}]:} }%
55       {\textbf{[#3~\arabic{Changes@commentCount#2}]:} }%
56     #1%
57   }%                                lwarp
58 }
59 {}
60 {\LWR{patcherror{changes}}{\Changes@Markup@comment A}}
61
62 \xpatchcmd{\Changes@Markup@comment}
63 {%
64   \uwave{%
65     \ifthenelse{\isAnonymous{#2}}{%
66       {\textbf{[\arabic{Changes@commentCount#2}]:} }%
67       {\textbf{[#3~\arabic{Changes@commentCount#2}]:} }%
68     #1%
69   }%
70 }
71 {%
72   \LWR{textcurrentcolor}{%           lwarp
73   \uwave{%
74     \ifthenelse{\isAnonymous{#2}}{%
75       {\textbf{[\arabic{Changes@commentCount#2}]:} }%
76       {\textbf{[#3~\arabic{Changes@commentCount#2}]:} }%
77     #1%
78   }%
79 }%                                lwarp
80 }
81 {}
82 {\LWR{patcherror{changes}}{\Changes@Markup@comment B}}
83
84 \xpatchcmd{\Changes@output}
85   {\Changes@Markup@author{\Changes@output@author{#2}{left}}}
86   {\LWR{textcurrentcolor}{\Changes@Markup@author{\Changes@output@author{#2}{left}}}}
87   {}
88 {\LWR{patcherror{changes}}{\Changes@output A}}
89
90 \xpatchcmd{\Changes@output}
91 {%
92   \ifthenelse{\equal{#1}{added}}{\Changes@Markup@added{#3}}{%
93   \ifthenelse{\equal{#1}{deleted}}{\Changes@Markup@deleted{#4}}{%
94   \ifthenelse{\equal{#1}{replaced}}{%
95     {\Changes@Markup@added{#3}}\allowbreak\Changes@Markup@deleted{#4}}%
96   }{%
97   \ifthenelse{\equal{#1}{highlight}}{\Changes@Markup@highlight{#3}}{%
98   }%
99 }%
100 \LWR{textcurrentcolor}{%
101 \ifthenelse{\equal{#1}{added}}{\Changes@Markup@added{#3}}{%
102 \ifthenelse{\equal{#1}{deleted}}{\Changes@Markup@deleted{#4}}{%
103 \ifthenelse{\equal{#1}{replaced}}{%
104   {\Changes@Markup@added{#3}}\allowbreak\Changes@Markup@deleted{#4}}%
105 }}%
```

```
106      \ifthenelse{\equal{#1}{highlight}}{\Changes@Markup@highlight{#3}}{}%
107      }%
108  }
109  {}%
110  {\LWR@patcherror{changes}{Changes@output B}}
111
112 \xpatchcmd{\Changes@output}
113   {\Changes@Markup@author{\Changes@output@author{#2}{right}}}
114   {\LWR@textcurrentcolor{\Changes@Markup@author{\Changes@output@author{#2}{right}}}}
115   {}%
116   {\LWR@patcherror{changes}{Changes@output C}}
```

---

**File 74 l warp-chappg.sty****§ 180 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 75 l warp-chapterbib.sty****§ 181 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 76 l warp-chemfig.sty****§ 182 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}[2020/03/05]

```
2
3 \catcode`\_=11
4
5 \@ifpackagelater{chemfig}{2020/03/05}
6 {
7   \xpretocmd\charge{\begin{lateximage}[-chemfig-~\PackageDiagramAltText]}
8     {}{\LWR@patcherror{chemfig}{charge}}
9   \xpretocmd\Charge{\begin{lateximage}[-chemfig-~\PackageDiagramAltText]}
10    {}{\LWR@patcherror{chemfig}{Charge}}
11   \xapptocmd\charge_c{\end{lateximage}}
12    {}{\LWR@patcherror{chemfig}{charge_c}}
13 }{}
14
15 \@ifpackagelater{chemfig}{2019/04/18}%
16 {%
17 %
18   \LetLtxMacro\lwr@chemfig@origchemfig\chemfig
19
20   \renewcommand*{\chemfig}[2][]{%
21     \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
22       \lwr@chemfig@origchemfig[#1]{#2}%
23     \end{lateximage}%
24   }
25
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
34   \gpreto{\schemestart}{%
35     \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
36   }
37   \gappto{\CF_schemestop}{\end{lateximage}}
38
39 }% 2019/04/18 or newer
40 {%
41 %
42   \LetLtxMacro\lwr@chemfig@origchemfig\chemfig
43
44   \DeclareDocumentCommand\chemfig{s O{} O{} m}{%
```

```
45      \begin{ lateximage } [ -chemfig {~\PackageDiagramAltText} ] %
46      \IfBooleanTF {#1} {%
47          \LWR@chemfig@origchemfig* [ #2 ] [ #3 ] { #4 } %
48      }{%
49          \LWR@chemfig@origchemfig [ #2 ] [ #3 ] { #4 } %
50      }
51      \end{ lateximage } %
52  }
53
54 \LetLtxMacro{\LWR@chemfig@origCF@lewis@b}{\CF@lewis@b}
55
56 \def\CF@lewis@b#1#2{%
57 \begin{ lateximage } [ -chemfig {~\PackageDiagramAltText} ] %
58 \LWR@chemfig@origCF@lewis@b{#1}{#2} %
59 \end{ lateximage } %
60 }
61
62 \preto{\schemestart}{%
63     \begin{ lateximage } [ -chemfig {~\PackageDiagramAltText} ] %
64 }
65 \appto{\CF@schemestop}{\end{ lateximage } }
66
67 }% older than 2019/04/18
68
69 \catcode`\_=8%
70
71
72
73 \LetLtxMacro{\LWR@chemfig@origchemleft}{\chemleft}
74
75 \def\chemleft#1#2\chemright#3{%
76 \begin{ lateximage } [ -chemfig {~\PackageDiagramAltText} ] %
77 \LWR@chemfig@origchemleft#1#2\chemright#3 %
78 \end{ lateximage } %
79 }
80
81 \LetLtxMacro{\LWR@chemfig@origchemup}{\chemup}
82
83 \def\chemup#1#2\chemdown#3{%
84 \begin{ lateximage } [ -chemfig {~\PackageDiagramAltText} ] %
85 \LWR@chemfig@origchemup#1#2\chemdown#3 %
86 \end{ lateximage } %
87 }
```

---

**File 77 l warp-chemformula.sty**

§ 183      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@lateximagedepth}}{>}{0}%
6   {
7     \chemformula_ch:nn {#1} {#2}%
8   }% original
```

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$*{\% lwarp
13     \textbackslash{}ch\{\LWR@HTMLsanitize{\#2}\}\% alt text
14   }%
15   \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}% add'l hashing
16   }%
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@subsingle$*{\% lwarp
29    \textbackslash{}chcpd\{\LWR@HTMLsanitize{\#2}\}\%
30  }{%
31    \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}\%
32  }% original
33 \group_begin:
34   \tl_if_blank:nF {\#2}
35   {
36     \keys_set:nn {chemformula} {\#1}
37     \__chemformula_save_catcodes:
38     \__chemformula_sanitze:Nn
39       \l__chemformula_chemformula_tmpa_tl
40       {\#2}
41     \__chemformula_input_compound_no_check:NV
42       \l__chemformula_compound_tl
43       \l__chemformula_chemformula_tmpa_tl
44     \__chemformula_prepare_output:NV
45       \l__chemformula_compound_tl
46       \l__chemformula_catcodes_tl
47     \chemformula_write:V \l__chemformula_compound_tl
48   }
49 \group_end:
50 }
51 \endgroup
52 }
53 }% later than 2019/10/13
54 {% earlier than 2019/10/13
55 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
56 {
57   \begingroup%
58   \boolfalse{mathjax}%
59   \LWR@subsingle$*{\% 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{latextimage}[-chemformula- charrow]
86   \group_begin:
87     \__chemformula_draw_arrow:nnn {#1} {#2} {#3}
88   \group_end:
89   \end{latextimage}
90 }
```

\chname If standalone, appears in a regular `lateximage`, hashed according to contents.

```
91 \RenewDocumentCommand \chname { R(){}R(){} }
92 {
93   \begin{latextimage}*[%
94     \textbackslash chname(\LWR@HTMLsanitize{#1})(\LWR@HTMLsanitize{#2})
95   ]*%
96   \chemformula_chwritebelow:nn {#1} {#2}
97   \end{latextimage}
98 }
```

\chlewis Placed inline, hashed according to contents and options.

```
99 \RenewDocumentCommand \chlewis { O{}mm }
100 {
101   \begingroup%
102   \boolfalse{mathjax}%
103   \LWR@subsingle$*{\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
```

\chemformula\_input\_escape\_math

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_tma_int
143      \int_zero:N \l__chemformula_tmpb_int
144      \int_set:Nn \l__chemformula_tma_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          \ifdefstreq{##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          \ifdefstreq{##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 78 l warp-chemgreek.sty****§ 184 Package chemgreek**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemgreek chemgreek is patched for use by l warp.

**⚠ Greek symbols package selection** To use text-mode symbols, use packages `textalpha` or `textgreek`. Using the other packages supported by `chemgreek` will result in math-mode greek characters, which will result in SVG images being used. These images will be hashed.

**⚠ X E T A X , L u a L T E X** If using X E T A X or L u a L T E X , 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 79 l warp-chemmacros.sty****§ 185 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.

## § 185.1 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 `latexitimage` is used instead.

```
\begin{redoxreaction}{7mm}{7mm}
\OX{a,Na} $\rightarrow$ \OX{b,Na}\pch\redox(a,b){oxidation}
\end{redoxreaction}
```

## § 185.2 Code

### § 185.3 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 \@ifloaded{\c__chemmacros_module_extension_tl}{\c__chemmacros_module_prefix_tl.\#1}%
6 }
7
8 \ExplSyntaxOff
```

### § 185.4 New environments

`\makepolymerdelims` and redox reactions must be enclosed in a `latexitimage` 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 `latexitimage` with an appropriate `alt` tag.

Env `polymerdelims`

```
9 \DeclareDocumentEnvironment{polymerdelims}{}{%
10 {\begin{latexitimage}[-chemmacros- polymer]}{%
11 {\end{latexitimage}}}}
```

Env `redoxreaction`  $\{\langle space\ above\rangle\} \{\langle space\ below\rangle\}$

For HTML output, the above and below space is ignored, and a `lateximage` is used instead. For the print output version, see section 88.

```

12 \DeclareDocumentEnvironment{redoxreaction}{m m}
13 {\begin{lateximage}[-chemmacros- redoxreaction]}
14 {\end{lateximage}}
15 \ExplSyntaxOn

```

## § 185.5 Acid-base

```

16 \AtBeginDocument{
17 @ifchemmacrosmoduleloaded{acid-base} {
18 \PackageInfo{lwarf}{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@subsingle$*\{\textbackslash{}pKa{[]}\#1{[]}\}{chemmacros #1}%
63  \chemmacros_p:n
64  {
65      \Ka \ifblank {\#1} {}
66      { {} \c_math_subscript_token { \chemmacros_bold:n {\#1} } }
67  }
68 }
69 \endgroup
70 }
71
72 \RenewDocumentCommand \pKb {O{}}
73 {
74 \begingroup
75 \boolfalse{mathjax}
76 \LWR@subsingle$*\{\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@subsingle$*\{\textbackslash{}Ka\}{chemmacros}{%
91     \LWR@chemmacros@origKa%
92 }%
93 \endgroup
94 }
95
96 \LetLtxMacro \LWR@chemmacros@origKb \Kb
97 \renewcommand*{\Kb}{%
98 \begingroup
99 \boolfalse{mathjax}
100 \LWR@subsingle$*\{\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@subsingle$*\{\textbackslash{}Kw\}{chemmacros}{%
111     \LWR@chemmacros@origKw
112 }
113 \endgroup
114 }
115
```

```
116 }{}% \@ifchemmacrosmoduleloaded
117 }% AtBeginDocument
```

## § 185.6 Charges

```
118 \AtBeginDocument{
119 \@ifchemmacrosmoduleloaded{charges}%
120 \PackageInfo{l warp}{Patching~chemmacrosmodule~charges}%
121
122 \cs_gset_protected:Npn \fplus {
123     \begingroup
124     \boolfalse{mathjax}
125     \LWR@subsingledollar*\{\textbackslash fplus\}{chemmacrosm}
126     { \LWR@origensuredmath{\chemformula_fplus:} }
127     \endgroup
128 }
129 \cs_gset_protected:Npn \fminus {
130     \begingroup
131     \boolfalse{mathjax}
132     \LWR@subsingledollar*\{\textbackslash fminus\}{chemmacrosm}
133     { \LWR@origensuredmath{\chemformula_fminus:} }
134     \endgroup
135 }
136
137 }{}% \@ifchemmacrosmoduleloaded
138 }% AtBeginDocument
```

## § 185.7 Nomenclature

```
139 \AtBeginDocument{
140 \@ifchemmacrosmoduleloaded{nomenclature}%
141 \PackageInfo{l warp}{Patching~chemmacrosmodule~nomenclature}%
142
143 \cs_gset_protected:Npn \chemmacrosm_charge:n #1
144 {
145     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}
146     {\chemmacrosm_chemformula:n { {}^{#1} {}}}
147     {
148         \ifmmode
149             {\chemmacrosm_chemformula:n { {}^{#1} {}}}
150         \else
151             { \textsuperscript{\ensuremath{#1}} }
152         \fi
153     }
154 }
155
156
157 \LetLtxMacro{\LWR@chemmacrosm@origchemprime}{\chemprime}
158
159 \protected\def\chemprime { \HTMLUnicode{2032} }
160
161 \appto{\LWR@chemmacrosm@origchemprime}{%
162 \LetLtxMacro{\chemprime}{\LWR@chemmacrosm@origchemprime}%
163 }
```

```
164 \ChemCompatibilityFrom{5.8}
165 \cs_gset_protected:Npn \__chemmacros_cip:n #1
166 {
167     \tl_set:Nn \l__chemmacros_tmpa_tl {#1}
168     \int_step_inline:nnnn {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{latextimage}[\textbackslash{}Sconf{[]}\#1{[]}]*%
184     \chemmacros_sconf:n {#1}
185 \end{latextimage}
186 }
187
188 \RenewDocumentCommand \Rconf { O{R} } {
189 \begin{latextimage}[\textbackslash{}Rconf{[]}\#1{[]}]*%
190     \chemmacros_rconf:n {#1}
191 \end{latextimage}
192 }

193 \cs_gset_protected:Npn \chemmacros_hapto:n #1
194 {
195     \begingroup
196     \boolfalse{mathjax}
197     \LWR@subsingledollar*\textbackslash{}hapto\{#1\}\chemmacros{%
198         \chemmacros_coordination_symbol:nnnn
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@subsingledollar*\textbackslash{}dento\{#1\}\chemmacros{%
216         \chemmacros_coordination_symbol:nnnn
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

```

## § 185.8 Particles

```

244 \AtBeginDocument{
245 @ifchemmacrosmoduleloaded{particles}{%
246 \PackageInfo{lwarp}{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{latextimage}%
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{latextimage}%
270     }

```

```

271   }
272
273 \RenewChemNucleophile \Nuc {Nu}
274 \RenewChemNucleophile \ba {ba}
275
276 }{}% \@ifchemmacrosmoduleloaded
277 % AtBeginDocument

```

### § 185.9 Phases

```

278 \AtBeginDocument{
279 \@ifchemmacrosmoduleloaded{phases}){
280 \PackageInfo{lwarp}{Patching~chemmacros~module~phases}
281
282 \cs_undefine:N \chemmacros_phase:n
283 \cs_new_protected:Npn \chemmacros_phase:n #1
284 {

285   \mode_leave_vertical:

286   \bool_if:NTF \l__chemmacros_phases_sub_bool
287   {
288     \ifnumequal{\value{LWR@Lateximagedepth}}{0}
289     {
290       \textsubscript{ (#1) }
291     }
292     {
293       \chemformula_subscript:n { (#1) }
294     }
295   }
296   {
297     \skip_horizontal:N \l__chemmacros_phases_space_dim
298     \chemmacros_text:n { (#1) }
299   }
300 }
301
302 }{}% \@ifchemmacrosmoduleloaded
303 }% AtBeginDocument

```

### § 185.10 Mechanisms

```

304 \AtBeginDocument{
305 \@ifchemmacrosmoduleloaded{mechanisms}){
306 \PackageInfo{lwarp}{Patching~chemmacros~module~mechanisms}
307
308 \chemmacros_define_keys:nn {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

```

### § 185.11 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 }{}% \@ifchemmacrosmoduleloaded
438 }% AtBeginDocument

```

## § 185.12 Orbital

```

439 \AtBeginDocument{
440 \@ifchemmacrosmoduleloaded{orbital}{%
441 \PackageInfo{lwarp}{Patching~chemmacros~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         }%
462     \group_end:
463     \end{lateximage}
464 }
465 }{}% \@ifchemmacrosmoduleloaded
466 }% AtBeginDocument

```

## § 185.13 Reactions

```

\chemmacros_declare_reaction_env {<chem>} {<math>} {<args number>} {<argument list (#2){#3...}>}
467 \AtBeginDocument{%
468 \@ifchemmacrosmoduleloaded{reactions}{%
469 \PackageInfo{lwarp}{Patching~chemmacros~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}{%
477       \ThisAltText{-chemmacros-~reaction}%
478     }{%
479       \chemmacros_add_reaction_description:n {##1}%
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

```

#### § 185.14 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@subsingledollar*{ yes hash
515           \textbackslash{}ox*\{\LWR@HTMLsanitize{#3}\} alt
516       }{%
517         star \protect\LWR@HTMLsanitize{\detokenize\expandafter{#2}}%
518       }{%
519         \LWR@chemmacros@ox* {#2} {#3}% contents
520       }%
521     }%
522   {%
523     \LWR@subsingledollar*{ yes hash
524       \textbackslash{}ox*\{\LWR@HTMLsanitize{#3}\} alt

```

```

525      }{%
526          \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#2}}%
527      }{%
528          \LWR@chemmacros@ox {\#2} {\#3}% contents
529      }%
530      }
531      \endgroup
532  }
533
534 }{}% \@ifchemmacrosmoduleloaded
535 }% AtBeginDocument

```

### § 185.15 Scheme

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```

536 \AtBeginDocument{
537 \@ifchemmacrosmoduleloaded{scheme}{%
538 \PackageInfo{lwarp}{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

```

### § 185.16 Spectroscopy

```

548 \AtBeginDocument{
549 \@ifchemmacrosmoduleloaded{spectroscopy}{%
550 \PackageInfo{lwarp}{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     \textsuperscript{\#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  \textsuperscript{\#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 {^{\#1}}% 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{\textit{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       \mode_leave_vertical:
656       \bool_set_false:N \l_chemmacros_nmr_frequency_bool
657       \bool_set_false:N \l_chemmacros_nmr_solvent_bool
658       \tl_if_empty:NF {#3}
659       { \bool_set_true:N \l_chemmacros_nmr_frequency_bool }
660       \tl_if_empty:NF {#4}
661       { \bool_set_true:N \l_chemmacros_nmr_solvent_bool }
662       \bool_if:nT
663       {
664         \l_chemmacros_nmr_frequency_bool
665         ||
666         \l_chemmacros_nmr_solvent_bool
667       }
668       { \bool_set_true:N \l_chemmacros_nmr_delimiters_bool }
669       \bool_if:nT
670       {
671         \l_chemmacros_nmr_frequency_bool
672         &&
673         \l_chemmacros_nmr_solvent_bool
674       }
675       { \bool_set_true:N \l_chemmacros_nmr_comma_bool }
676       \tl_if_empty:NTF {#2}
677       {
678         \__chemmacros_nmr_nucleus:VV
679         \l_chemmacros_nmr_isotope_default_tl
```

```
680          \l__chemmacros_nmr_element_default_tl
681      }
682 { \__chemmacros_nmr_nucleus:w #2 \q_stop }
683 \mode_if_math:TF
684 {
685     \text
686     {
687         \group_begin:
688         \tl_use:N \l__chemmacros_nmr_format_tl
689 \LWR@textcurrentcolor{\LWR@textcurrentfont{%
690             \__chemmacros_nmr_base:VV
691             \g__chemmacros_nmr_isotope_tl
692             \g__chemmacros_nmr_element_tl
693             \bool_if:NT \l__chemmacros_nmr_delimiters_bool
694             { ~ ( ) }
695             \bool_if:NT \l__chemmacros_nmr_frequency_bool
696             { \__chemmacros_nmr_frequency:n {#3} }
697             \bool_if:NT \l__chemmacros_nmr_comma_bool
698             { , ~ }
699             \bool_if:NT \l__chemmacros_nmr_solvent_bool
700             { \chemmacros_chemformula:n {#4} }
701             \bool_if:NT \l__chemmacros_nmr_delimiters_bool
702             { ) }
703             \tl_if_blank:nT {#1} {::~}
704 }}% lwarp
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             \__chemmacros_nmr_base:VV
719             \g__chemmacros_nmr_isotope_tl
720             \g__chemmacros_nmr_element_tl
721             \bool_if:NT \l__chemmacros_nmr_delimiters_bool
722             {~{}}
723             \bool_if:NT \l__chemmacros_nmr_frequency_bool
724             { \__chemmacros_nmr_frequency:n {#3} }
725             \bool_if:NT \l__chemmacros_nmr_comma_bool
726             {,~}
727             \bool_if:NT \l__chemmacros_nmr_solvent_bool
728             {
729                 \bool_if:NTF \l__chemmacros_nmr_parse_bool
730 %                     { \chemformula_ch:nn { } {#4} }% original
731 %                     {\ch{#4}}% lwarp
732 %                     {#4}
733             }
```

```

734           \bool_if:NT \l__chemmacros_nmr_delimiters_bool
735           {})
736 }% lwarp
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{%
761             #2
762             \IfNoValueF {#3} { \sim ( #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 { \sim = } }
767 }
768
769 }{}% @ifchemmacrosmoduleloaded
770 }% AtBeginDocument

```

### § 185.17 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     \boolefalse{mathjax}
779     \chemmacros_set_keys:nn {thermodynamics} {#1}
780     \LWR@subsingle dollar*{%
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 80 l warp-chemnum.sty

## § 186 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 81 l warp-chkfloat.sty****§ 187 Package chkfloat**

Pkg chkfloat chkfloat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

---

**File 82 l warp-chngpage.sty****§ 188 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 83 l warp-cite.sty****§ 189 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{\@citess{#1}\kern-\labelsep\,}
3
4 \ifdefst{equal}{\@biblabel}{\LWRCT@biblabel}
5 {
6     \def\@biblabel#1{\@citess{#1}}
7 }{}
```

For the [super] option, `\textsuperscript` is used instead of math superscript:

```
8 \def\@citess#1{\textsuperscript{#1}}
9
10 \DeclareDocumentCommand\citeref{}{\relax}
```

---

#### File 84 **l warp-citeref.sty**

### § 190 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={\write\auxout{\string\citerefref{#1}{\theLWR@currentautosec}}}
3
4 \def\citerefref#1#2{%
5     \xdef\cpr@testa{\@nameuse{cpr@last@#1}}% letzte Zitatstelle
6     \xdef\cpr@testb{#2}% Seite dieser Zitatstelle
7     \ifx\cpr@testa\cpr@testb%
8         \relax% Konsekutive identische Seitenangaben weglassen
9     \else%
10        \@namexdef{cpr@last@#1}{#2}%
11        \@ifundefined{cpr@#1}%
12            {\@namexdef{cpr@#1}{\ref{\BaseJobname-autopage-#2}}}% l warp
13            {\@namexdef{cpr@#1}{\@nameuse{cpr@#1}, \ref{\BaseJobname-autopage-#2}}}% l warp
14    \fi
15 }
```

---

#### File 85 **l warp-CJK.sty**

### § 191 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 86 l warp-CJKutf8.sty****§ 192 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 87 l warp-cleveref.sty****§ 193 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 728 to redefine the message which is printed for page number references.

Table 14 on page 497 shows the data structure of the label/reference system as revised by l warp 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.

**⚠ multiple labels**

**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 {\langle kindofref\rangle} {\langle label\rangle}
```

\@templatelabel becomes the section number.

```

2 \def\LWR@orig@@@setcref#1#2{\cref@getlabel{#2}{\@templatelabel}#1{\@templatelabel}{}{}}
3
4 \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% before v0.21
5   \renewcommand*\@@@setcref}[2]{#1{\ref{#2}}}{}
6 }{
7   \ifdefequal{\@@@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 {<typeofref>} {<label>}, 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   \cref@getpageref{#2}{\@temppage}#1{\@temppage}{}{}%
44 }
```

```

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@@setcpagerefrange#1#2#3{%
63   \cref@getpageref{#2}{\@pagea}%
64   \cref@getpageref{#3}{\@pageb}%
65   #1{\@pagea}{\@pageb}{}{}{}%
66
67 \def\LWR@orig@@setcpagerefrange#1#2#3{%
68   \cpageref@getlabel{#2}{\@pagea}%
69   \cpageref@getlabel{#3}{\@pageb}%
70   #1{\@pagea}{\@pageb}{}{}{}%
71
72 \ifdefequal{\@@setcpagerefrange}{\LWR@orig@@setcpagerefrange}%
73   \renewcommand*{\@@setcpagerefrange}[3]{%
74     #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{}{}{}%  

75   }
76 }{
77   \ifdefequal{\@@setcpagerefrange}{\LWR@orig@@setcpagerefrange}%
78     \renewcommand*{\@@setcpagerefrange}[3]{%
79       #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{}{}{}%  

80     }
81   }
82   {
83     \PackageWarningNoLine{lwarp-cleveref}{%
84       Unknown version of cleveref.
85       \protect\cpagerefrange\space will fail.
86     }
87   }
88 }

```

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 `varioref` macros, so they are defined here.

```

99 \@ifpackageloaded{varioref}{
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 }{}% varioref

```

---

#### File 88 **l warp-clrdblp.g.sty**

#### § 194 Package **clrdblp**

Pkg `clrdblp` `clrdblp` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{clrdblp}[2018/04/21]

---

#### File 89 **l warp-cmdtrack.g.sty**

#### § 195 Package **cmdtrack**

Pkg `cmdtrack` `cmdtrack` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]

2 \newcommand{\untrack}{\relax}

---

#### File 90 **l warp-colonequals.g.sty**

#### § 196 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}{\unicodetext{x2236}}}
6 \CustomizeMathJax{\newcommand{\coloncolon}{\unicodetext{x2237}}}
7 \CustomizeMathJax{\newcommand{\colonequals}{\coloncolon=}}
8 \CustomizeMathJax{\newcommand{\coloncoloncolonequals}{\coloncolon=}}
9 \CustomizeMathJax{\newcommand{\equalscolon}{!=\ratio}}
10 \CustomizeMathJax{\newcommand{\equalscoloncolon}{!=\coloncolon}}
11 \CustomizeMathJax{\newcommand{\colonminus}{\ratio-}}
12 \CustomizeMathJax{\newcommand{\coloncolonminus}{\coloncolon-}}
13 \CustomizeMathJax{\newcommand{\minuscolon}{-\ratio}}
14 \CustomizeMathJax{\newcommand{\minuscoloncolon}{-\coloncolon}}
15 \CustomizeMathJax{\newcommand{\colonapprox}{\ratio\approx}}
16 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\coloncolon\approx}}
17 \CustomizeMathJax{\newcommand{\approxcolon}{\approx!=\ratio}}
18 \CustomizeMathJax{\newcommand{\approxcoloncolon}{\approx!=\coloncolon}}
19 \CustomizeMathJax{\newcommand{\colonsim}{\ratio\sim}}
20 \CustomizeMathJax{\newcommand{\coloncoloncolonsim}{\coloncolon\sim}}
21 \CustomizeMathJax{\newcommand{\simcolon}{\sim!=\ratio}}
22 \CustomizeMathJax{\newcommand{\simcoloncolon}{\sim!=\coloncolon}}
23 \end{warpMathJax}
```

File 91 **lwarp-color.sty**

§ 197 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 92 **lwarp-colortbl.sty**

§ 198 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 [⟨model⟩] {⟨color⟩} [⟨left overhang⟩] [⟨right overhang⟩]  
\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 [⟨model⟩] {⟨color⟩} [⟨left overhang⟩] [⟨right overhang⟩]  
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@arrayrulecolor{nexttoken}}[2][named]{%
28   \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
29   \LWR@getmynexttoken%
30 }
31
32 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolor{nexttoken}}}

```

\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@doublerulesepcolor{nexttoken}}[2][named]{\LWR@getmynexttoken}
37
38 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolor{nexttoken}}}

```

---

### File 93 **lwarf-continue.sty**

#### § 199 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 94 **lwarf-copyrightbox.sty**

#### § 200 Package **copyrightbox**

(Emulates or patches code by THOMAS FISCHER, IVES VAN DER FLAAS.)

Pkg **copyrightbox** **copyrightbox** is emulated for use by **lwarf**.

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 95 **l warp-crop.sty**

##### § 201 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 96 **l warp-ctable.sty**

##### § 202 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\@CTtaborfig \@dfltCTtaborfig
4   \let\@CTalign \@dfltCTalign
5   \let\@CTsideways \@dfltCTsideways
6   \let\@CTcontinued \empty
7   \let\@CTpos \@dfltCTpos
8   \let\@CTcaption \empty
9   \let\@CTcap \undefined
10  \let\@CTlabel \empty
11  \let\@CTbotcap \@dfltCTbotcap
12  \let\@CTstarred \@dfltCTstarred
13  \let\@CTsuper \@dfltCTsuper
14  \let\@CTnotespar \@dfltCTnotespar
15  \let\@CTdoinside \@dfltCTdoinside
16  \let\@CTbgopacity \@dfltCTbgopacity
17  \@CTframerule \@dfltCTframerule
18  \@CTcaptionskip \@dfltCTcaptionskip
19  \@CTframesep \@dfltCTframesep
20  \@CTwidth \@dfltCTwidth
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    {}
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    {}
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          {}
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          {}
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

```

lwarp'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% lwarp
78      \begin{BlockClass}[%                                lwarp
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}%           lwarp
88      \ifx\@CTbotcap\@CTfalse\@CTCaption\vskip\@CTcaptionskip\fi
89      \ifx\@CTbotcap\undefined%
90          \begin{sidecaption}[\@CTcap]{\@CTcaption}[\@CTlabel]
91      \fi
92      \@CTdoinside
93      \begin{tabularx}{\linewidth}{#2}%
94          \#4%
95      \end{tabularx}%
96      \def\@CTfootnotes{#3}%
97      \ifx#3\empty\else% append footnotes, if any
98          \begin{BlockClass}{tnotes}%
99              \#3
100             \end{BlockClass}%
101         }
102     \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 97 **l warp-cuted.sty**

#### § 203 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 98 **l warp-cutwin.sty**

#### § 204 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 99 **l warp-dblfloatfix.sty**

§ 205 Package **dblfloatfix**

Pkg dblfloatfix dblfloatfix is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{dblfloatfix}[2012/12/31]

---

File 100 **l warp-dblfnote.sty**

§ 206 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\DFNallowbreak{}

```

```
6 \def\DFNinhibitcbreak{}
7 \def\DFNtrysingle{}
8 \def\DFNalwaysdouble{}
9 \def\DFNruleboth{}
10 \def\DFNruleleft{}
```

---

**File 101 l warp-dcolumn.sty****§ 207 Package dcolumn**

Pkg dcolumn dcolumn is emulated by the l warp core.

```
1 \LWR@ProvidesPackageDrop{dcolumn}[2014/10/28]
```

---

**File 102 l warp-decimal.sty****§ 208 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 103 l warp-diagbox.sty****§ 209 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 {⟨E/W⟩} {⟨A⟩} {⟨E/W⟩} {⟨B⟩}
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@stoppars%
16 }
```

```
\LWR@diagboxNW {⟨A⟩} {⟨B⟩}
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 104 **l warp-dingbat.sty**

§ 210 Package **dingbat**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg dingbat dingbat is patched for use by l warp.

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 105 **l warp-DotArrow.sty**

§ 211 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 106 **l warp-dotlessi.sty**

§ 212 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 107 **l warp-dprogress.sty**

§ 213 Package **dprogress**

Pkg dprogress dprogress is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{dprogress}[2008/02/21]

---

File 108 **l warp-draftcopy.sty**

§ 214 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 109 **l warp-draftfigure.sty**

§ 215 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 110 **l warp-draftwatermark.sty**

§ 216 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 111 **l warp-drftcite.sty**

§ 217 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]#2{\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 112 **l warp-easy-todo.sty**

§ 218 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 113 **l warp-ebook.sty**

§ 219 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 114 **l warp-econometrics.sty**

§ 220 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@origRequirePackage{l warp-common-mathjax-letters}
2
3 \LWR@ProvidesPackagePass{econometrics}% no date specified in the original

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{\#1}}}
69 \CustomizeMathJax{\newcommand{\ap}[1]{^{\mathrm{\#1}}}}
70 \CustomizeMathJax{\renewcommand{\Re}{\mathrm{Re}}{\mathrm{\#1}}{\nolimits}}
71 \CustomizeMathJax{\renewcommand{\Im}{\mathrm{Im}}{\mathrm{\#1}}{\nolimits}}
72
73 \CustomizeMathJax{\newcommand{\deriv}[3][]{%
74   \frac{\mathrm{d}^{\mathrm{\#1}}}{\mathrm{d}^{\mathrm{\#2}}}%
75 } }
76 \CustomizeMathJax{\newcommand{\pderiv}[3][]{%
77   \frac{\partial^{\mathrm{\#1}}}{\partial^{\mathrm{\#2}}}%
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{int}}{\mathrm{\#1}}{\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}{\sim}}
104 \CustomizeMathJax{\newcommand{\adistr}{\stackrel{a}{\distr}}}
105 \CustomizeMathJax{\newcommand{\diff}{\Delta}}
106 \CustomizeMathJax{\newcommand{\fdiff}{\mathop{\mathrm{diff}}_{\mathrm{rf}}}}
107 \CustomizeMathJax{\newcommand{\bdiff}{\mathop{\mathrm{diff}}_{\mathrm{rb}}}}
108
109 \CustomizeMathJax{\newcommand{\eps}{\epsilon}}
110 \CustomizeMathJax{\newcommand{\epsi}{\varepsilon}}
111
112 \CustomizeMathJax{\newcommand{\longto}{\rightarrow}}
113 \CustomizeMathJax{\newcommand{\pto}{\stackrel{p}{\rightarrow}}}
114 \CustomizeMathJax{\newcommand{\dto}{\stackrel{d}{\rightarrow}}}
115 \CustomizeMathJax{\newcommand{\wto}{\stackrel{w}{\rightarrow}}}
116
117 \CustomizeMathJax{\newcommand{\Infmat}{\bm{\mathcal{I}}}}
118 \CustomizeMathJax{\newcommand{\Hesmat}{\bm{\mathcal{H}}}}
119 \CustomizeMathJax{\newcommand{\bcdot}{\bullet}}
120
121 \CustomizeMathJax{\newcommand{\vones}{\bm{\mathbf{i}}}}
122 \CustomizeMathJax{\newcommand{\vzeros}{\boldsymbol{0}}}
123 \CustomizeMathJax{\newcommand{\mZeros}{\mathbf{0}}}
124
125 \CustomizeMathJax{\newcommand{\e}{\mathbf{eu}}}
126 \CustomizeMathJax{\newcommand{\mply}{\cdots}}
127 \CustomizeMathJax{\newcommand{\rW}{\mathrm{W}}}
128 \end{warpMathJax}

```

---

### File 115 **lwarf-ed.sty**

§ 221 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\edstubURI\empty\else\LWR@href{\edstubURI}{\#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 116 **l warp-ellipsis.sty**

### § 222 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 117 **l warp-embrac.sty**

### § 223 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 118 **l warp-emptypage.sty**

#### § 224 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 119 **l warp-endfloat.sty**

#### § 225 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\efloatatheading[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 120 **lwarf-endheads.sty**

§ 226 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{\changenotesname}[1]{}
5 \newcommand{\changenotesheader}[1]{}
6 \newcommand{\changenotescontentsname}[1]{}
7 \newcommand{\changechapternotesline}[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}{\notesbychaptertrue}

```

---

**File 121 l warp-endnotes.sty**

§ 227      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** If using MATHJAX, see section 8.5.4 regarding the use of `\endnotemark` and `\endnotetext`.  
**numbering**

**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@htmlspan{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@synconenotenumber{\LWRendnote}{\theendnote}}
16 \appto{\LWR@syncnotenames}{\LWR@synconenotename{\LWRendnote}{\endnotename}}
17 \CustomizeMathJax{\def{\LWRendnote{1}}}
18 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{\{}^{\mathrm{#1}}\}}
19 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{\{}^{\mathrm{#1}}\}}
20 \end{warpMathJax}
```

---

**File 122 l warp-engtlc.sty**

§ 228      Package **engtlc**

*(Emulates or patches code by CLAUDIO FIANDRINO.)*

Pkg engtlc engtlc is patched for use by l warp. 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]{\mathrm{#1}}}
16 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\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{\kbits}{\unit{Kib/s}}}
97 \CustomizeMathJax{\newcommand{\Mbits}{\unit{Mib/s}}}
98 \CustomizeMathJax{\newcommand{\Bytes}{\unit{B/s}}}
99 \CustomizeMathJax{\newcommand{\kBytes}{\unit{KiB/s}}}
100 \CustomizeMathJax{\newcommand{\MBbytes}{\unit{MiB/s}}}
101 \CustomizeMathJax{\newcommand{\GBbytes}{\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{\varianzaramore}{\frac{N_0}{2}}}
112 %
113 \CustomizeMathJax{\newcommand{\etsymbolbracearg}[2]{%
114     #1\mathopen{}\left\lbrace#2\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]{\left.\right|^{#1}}}
121 \CustomizeMathJax{\newcommand{\versore}{\hat{}}}
122 \CustomizeMathJax{\newcommand{\vettore}{\overrightarrow{}}}
123 \CustomizeMathJax{\newcommand{\coseno}{\cos\left(2\pi#1\right)}}
124 \CustomizeMathJax{\newcommand{\seno}{\sin\left(2\pi#1\right)}}
125 \CustomizeMathJax{\newcommand{\energia}{\mathcal{E}}}
126 \CustomizeMathJax{\newcommand{\moduloexp}[2]{\left.\right|^{\left.\right.^{\left.\right.^{#2}}}}}
127 \CustomizeMathJax{\newcommand{\modulo}{\left.\right|}}
128 \CustomizeMathJax{\newcommand{\indB}{\mathopen{}\left.\right.^{\mathrm{dB}}\mathclose{}}}
129 \CustomizeMathJax{\newcommand{\mathopen{}\left.\right.^{\mathrm{dB}}\mathclose{}}{\mathopen{}\left.\right.^{\mathrm{dB}}\mathclose{}}}
130 \CustomizeMathJax{\newcommand{\for}[2]{\left.\right.^{\mathrm{for}}\left.\right.^{#2}}}
131 \CustomizeMathJax{\newcommand{\massimo}{\max}}
132 \CustomizeMathJax{\newcommand{\minimo}{\min}}
133 \CustomizeMathJax{\newcommand{\valc}{3\cdot 10^8}}
134 \CustomizeMathJax{\newcommand{\loga}[2]{\log_{#1}#2}}
135 \CustomizeMathJax{\newcommand{\analitic}{\mathring{}}}
136 \CustomizeMathJax{\newcommand{\diff}{\mathop{\mathopen{}\left.\right.^{}}\mathopen{}\left.\right.^{\mathrm{d}}\mathclose{}}}
137 \CustomizeMathJax{\newcommand{\intinf}[1]{\int_{-\infty}^{+\infty}#1}}
138 \CustomizeMathJax{\newcommand{\deltain}[1]{\delta\left(\right.#1\right)}}
139 \CustomizeMathJax{\newcommand{\iu}{\mathrm{j}}}
140 \CustomizeMathJax{\newcommand{\ex}[1]{\mathrm{e}^{#1}}}
141 %
142 \CustomizeMathJax{\newcommand{\gammatens}{\mathbf{\Gamma}}}
143 \CustomizeMathJax{\newcommand{\gammacorr}{\mathbf{I}}}
144 \CustomizeMathJax{\newcommand{\gammatensin}[1]{\mathbf{\Gamma}^{#1}}}
145 \CustomizeMathJax{\newcommand{\gammacorrin}[1]{\mathbf{I}^{#1}}}
146 \CustomizeMathJax{\newcommand{\gammmain}{\mathbf{\Gamma}^{#1}}}
147 \CustomizeMathJax{\newcommand{\gammak}{\mathbf{k}}}
148 %
149 \CustomizeMathJax{\newcommand{\lbvt}{\lambda_0}}
```

```
150 \CustomizeMathJax{\newcommand{\lbg}{\lambda_g}}
151 \CustomizeMathJax{\newcommand{\lbgt}{\lambda_{g_0}}}
152 %
153 \CustomizeMathJax{\newcommand{\potin}[1][P_{\mathrm{#1}}]}
154 \CustomizeMathJax{\newcommand{\potdisp}[1][P_{\mathrm{#1}}]}
155 \CustomizeMathJax{\newcommand{\potDC}[1][P_{\mathrm{#1}}]}
156 \CustomizeMathJax{\newcommand{\potCC}[1][P_{\mathrm{#1}}]}
157 \CustomizeMathJax{\newcommand{\potirr}[1][P_{\mathrm{#1}}]}
158 \CustomizeMathJax{\newcommand{\potdiss}[1][P_{\mathrm{#1}}]}
159 \CustomizeMathJax{\newcommand{\potinc}[1][P_{\mathrm{#1}}]}
160 %
161 \CustomizeMathJax{\newcommand{\z}[1][Z_{\mathrm{#1}}]}
162 \CustomizeMathJax{\newcommand{\znorm}[1][z_{\mathrm{#1}}]}
163 \CustomizeMathJax{\newcommand{\y}[1][Y_{\mathrm{#1}}]}
164 \CustomizeMathJax{\newcommand{\ynorm}[1][y_{\mathrm{#1}}]}
165 \CustomizeMathJax{\newcommand{\zinf}[1][Z_{\mathrm{#1}}]}
166 \CustomizeMathJax{\newcommand{\zinfn}[1][zinf_{\mathrm{#1}}]}
167 \CustomizeMathJax{\newcommand{\yinf}[1][Y_{\mathrm{#1}}]}
168 \CustomizeMathJax{\newcommand{\yinfn}[1][yinf_{\mathrm{#1}}]}
169 \CustomizeMathJax{\newcommand{\zvt}{Z_0}}
170 \CustomizeMathJax{\newcommand{\yvt}{Y_0}}
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][\#1(t)]}
178 \CustomizeMathJax{\newcommand{\signf}[1][\#1(f)]}
179 \CustomizeMathJax{\newcommand{\signn}[1][\#1(n)]}
180 \CustomizeMathJax{\newcommand{\signz}[1][\#1(z)]}
181 %
182 \CustomizeMathJax{\newcommand{\prob}[1][\mathcal{P}\left(\#1\right)]}
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}{\text{\textbackslash}, \text{\textbackslash}, \text{\textbackslash}}}
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\analytic}
206 \CustomizeMathJax{\let\infint\intinf}
207 \CustomizeMathJax{\let\deltaimp\deltaain}
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 123 **l warp-enumerate.sty**

#### § 229 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 **l warp** and thus must no longer be dropped.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enumerate}[2015/07/23]

---

### File 124 **l warp-enumitem.sty**

#### § 230 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]

**for HTML output:** 2 \begin{warpHTML}

---

```
\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.

```
3 \let\LWR@enumitem@orignewlist\newlist
4
5 \renewcommand*\newlist[3]{%
6   \LWR@enumitem@orignewlist{#1}{#2}{#3}%
7   \AtBeginEnvironment{#1}{\@nameuse{\LWR@#2start}}%
8   \AtEndEnvironment{#1}{\@nameuse{\LWR@#2end}}%
9 }
10
11 \def\DrawEnumitemLabel{}

12 \end{warpHTML}
```

---

#### File 125 **lwarp-epigraph.sty**

### § 231 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}

15 \DeclareDocumentCommand{\LWR@HTML@epigraph}{m m}
16 {%
17   \begin{LWR@BlockClassWP}{\LWR@print@mbox{text-align:right}}{}{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}}{}{epigraph}}
25     {\endLWR@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 126 **lwarf-epsfig.sty**

#### § 232 Package **epsfig**

Pkg **epsfig** **epsfig** is emulated for use by **lwarf**.

 Only the L<sup>A</sup>T<sub>E</sub>X2e syntax is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{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{\epsfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
16
17 \newcommand{\psfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
```

---

#### File 127 **lwarf-epstopdf.sty**

#### § 233 Package **epstopdf**

Pkg **epstopdf** Previous versions of **lwarf** 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}[2016/05/15]

### File 128 `l warp-epstopdf-base.sty`

## § 234 Package **epstopdf-base**

Pkg epstopdf-base

**⚠ convert to .svg** 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}[2016/05/15]

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\LWR@tempone{\#3}%
4   \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
5   \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
6   \xdef\LWR@parsedfilename{\LWR@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\LWR@restoreorigformatting{%
21 \DeclareGraphicsExtensions{%
22   .eps,.EPS,.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
23 }%
24 }
```

---

**File 129 l warp-eqlist.sty****§ 235 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{\eqlistaauto}[1]{}%
12 \newcommand{\eqlistnoauto}{}%
```

---

**File 130 l warp-eqparbox.sty****§ 236 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     \minipagefullwidth%
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@eqsetminwidthhto}[2]{}%
38 \newcommand*{\LWR@HTML@eqsetmaxwidthhto}[2]{}

```

---

### File 131 **lwarf-errata.sty**

§ 237      Package **errata**

*(Emulates or patches code by MICHAEL KOHLHASE.)*

Pkg **errata** **errata** is patched for use by **lwarf**.

This is for v0.3 of **errata**. A newer version of **errata** with more features is under development, at which time the **lwarf** 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}\textsuperscript{\@thefnmark}}
35   {}
36   {\LWR@patcherror{erratum}{eDelete}}
37
38 \xpatchcmd{\erratum}
39   {$r^{\@thefnmark}$}
40 %   {\inlinemathother_r^{\@thefnmark}\inlinemathnormal}
41   {\textsubscript{r}\textsuperscript{\@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 132 **lwarp-eso-pic.sty**

§ 238 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 133 **lwarp-etoc.sty**

§ 239      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 warpprint 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\etocthelinkname \empty
8 \let\etocthelinknumber \empty
9 \let\etocthelinkpage \empty
10 \let\etocthelink \empty % 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\etoctoclineleaders
48     {\hbox{\normalfont\normalsize\hb@xt@2ex {\hss.\hss}}}
49 \def\etocabbrrevpagename {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\etoctoplrule{\hrule}
66 \def\etocleftrule{\vrule}
```

```
67 \def\etocrightrule{\vrule}
68 \def\etocbottomrule{\hrule}
69 \def\etoctoplrulecolorcmd{\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\etocreportstyle\etocbookstyle
88 \let\etocreportstylenomarks\etocbookstylenomarks
89 \def\etocmemoirtoctotocfmt #1#2{}
90 \def\etocmemoirstyle{}
91 \def\etocscartclstyle{}
92 \let\etocscrbookstyle\etocscartclstyle
93 \let\etocscrreprtstyle\etocscartclstyle
94 \def\etocstandarddisplaystyle{\etocarticlestyle}
95 \newcommand*\etocmarkboth[1]{}
96 \newcommand*\etocmarkbothonuc[1]{}
97 \newcommand\etoctocstyle[3][section]{}
98 \newcommand\etoctocstylewithmarks[4][section]{}
99 \newcommand\etoc tocstylewithmarksnuoc[4][section]{}
100 \def\etocignoretoctocdepth{}
101 \def\etocsettocdepth[1]{}
102 \def\etocdepthtag #1{\Etoc@depthtag }
103 \def\Etoc@depthtag #1{}
104 \def\etocignoredepthtags {}
105 \def\etocbeydepthtags {}
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\etoclines {}
114 \let\etocaftertochook \empty
115 \let\etocbeforetitlehook \empty
116 \appto\tableofcontents{\def\tableofcontents{}}
```

---

**File 134 l warp-eurosym.sty****§ 240 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\officialemuro{\HTMLentity{euro}}
3 \let\geneuro\officialemuro
4 \let\geneuronarrow\officialemuro
5 \let\geneurowide\officialemuro
6 \let\euromuro\officialemuro
7 \renewrobustcmd\europbars{}
8 \renewrobustcmd\europbarsnarrow{}
9 \renewrobustcmd\europbarswide{}
```

---

**File 135 l warp-everypage.sty****§ 241 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 136 l warp-everyshi.sty****§ 242 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 137 **l warp-extarrows.sty**

§ 243 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 138 **l warp-extremarks.sty**

§ 244 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 139 **l warp-fancybox.sty**

§ 245 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 `\latextimage`, 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** \Verbatim, \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**

- ⚠ sectioning or displaymath**

```
\subsection[Subsection Name]{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbtim+.}
```

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}%
10 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
11 \unvbox\LWR@footnotebox%
```

Remember the footnote number for \ref:

```
12 \protected@edef\@currentlabel{%
```

```

13      \csname p@footnote\endcsname\@thefnmark%
14  }% @currentlabel

```

Use HTML superscripts in the footnote even inside a `\textrimage`:

```

15  \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%

```

Use paragraph tags if in a tabular data cell or a `\textrimage`:

```

16  \ifthenelse{%
17      \boolean{LWR@doingstartpars} \AND%
18      \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
19  }%
20  {}%
21  {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%

```

Append the footnote to the list:

```

22  \makefntext{}%

```

The footnote text will follow after `\V@@@footnotetext` has completed.

```

23  \bgroup%
24  \aftergroup{\V@@@footnotetext}%
25  \ignorespaces%
26 }%
27 }% AfterEndPreamble
28 \renewcommand*{\@shadowbox}[1]{%
29 \ifbool{FormatWP}{%
30 {\InlineClass[border:1px solid black]{shadowbox}{#1}}%
31 {\InlineClass{shadowbox}{#1}}%
32 }%
33
34 \renewcommand*{\@doublebox}[1]{%
35 \ifbool{FormatWP}{%
36 {\InlineClass[border:1px double black]{doublebox}{#1}}%
37 {\InlineClass{doublebox}{#1}}%
38 }%
39
40 \renewcommand*{\@ovalbox}[2]{%
41 \ifbool{FormatWP}{%
42 {\InlineClass[border:1px solid black; border-radius:1ex]{ovalbox}{#2}}%
43 }%
44 \ifthenelse{\isequivalentto{#1}{\thinlines}}{%
45 {\InlineClass{ovalbox}{#2}}%
46 {\InlineClass{Ovalbox}{#2}}%
47 }%
48 }

```

Convert minipages, parboxes, and lists into linear text using the `\LWR@nestspan` environment:

```

49 \let\LWR@origSbox\Sbox
50
51 \def\Sbox{\LWR@origSbox\lwr@nestspan}
52

```

```

53
54 \let\LWR@origendSbox\endSbox
55
56 \def\endSbox{\endLWR@nestspan\LWR@origendSbox}

```

`Beqnarray` is adapted for `MATHJAX` or enclosed inside a `lateximage`:

```

57 \RenewEnviron{Beqnarray}{%
58 {\LWR@eqnarrayfactor}%
59 %
60 \csgpreto{Beqnarray*}{\boolfalse{\LWR@numbereqnarray}}}

```

`\GenericCaption` is enclosed in an `HTML` block:

```

61 \renewcommand{\GenericCaption}[1]{%
62 \LWR@figcaption%
63 \LWR@isolate{#1}%
64 \endLWR@figcaption%
65 }

```

`Btrivlist` is enclosed in an `HTML` block. This is a tabular, and does not use `\item`.

```

\ttrivlist {\langle l/c/r\rangle [\langle t/c/b\rangle]
66 \RenewDocumentEnvironment{Btrivlist}{m o}
67 {%
68     \LWR@stoppars%
69     \begin{BlockClass}{Btrivlist}%
70     \tabular{#1}%
71 }
72 {%
73     \endtabular%
74     \end{BlockClass}%
75     \LWR@startpars%
76 }

```

`Btrivlist` is also neutralized when used inside a span:

```

77 \AtBeginEnvironment{\LWR@nestspan}{%
78 \RenewDocumentEnvironment{Btrivlist}{m o}{}{}%
79 }

```

`lwarp's handling of \item is patched to accept fancybox's optional arguments:`

```

80 \let\LWRFB@origitemizeitem\LWR@itemizeitem
81 \let\LWRFB@origdescitem\LWR@descitem
82
83 \RenewDocumentCommand{\LWR@itemizeitem}{d()o}{%
84     \IfValueTF{#2}{%
85         \LWRFB@origitemizeitem[#2]%
86     }{%
87         \LWRFB@origitemizeitem%
88     }%
}

```

```

89 }
90
91 \RenewDocumentCommand{\LWR@descitem}{d()o}{%
92     \IfValueTF{#2}{%
93         \LWRFB@origdescitem[#2]\sim%
94     }{%
95         \LWRFB@origdescitem%
96     }%
97 }

98 \RenewDocumentCommand{\LWR@nestspanitem}{d()}{%
99 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
100 \LWR@origitem%
101 }

```

The various boxed lists become regular lists:

```

102 \renewenvironment{Bitemize}[1][]{{\begin{itemize}}}{\end{itemize}}
103 \renewenvironment{Benumerate}[1][]{{\begin{enumerate}}}{\end{enumerate}}
104 \renewenvironment{Bdescription}[1][]{{\begin{description}}}{\end{description}}

```

\boxput simply prints one then the other argument, side-by-side instead of above and behind:

```

105 \RenewDocumentCommand{\boxput}{s d() m m}{%
106 \IfBooleanTF{#1}{#3\quad\#4\quad\#4\quad\#3}{%
107 }

```

Neutralized commands:

```

108 \RenewDocumentCommand{\fancyput}{s d() m}{}
109 \RenewDocumentCommand{\thisfancyput}{s d() m}{}
110
111 \RenewDocumentCommand{\fancypage}{m m}{}
112 \RenewDocumentCommand{\thisfancypage}{m m}{}
113
114 \def\LandScape#1{}
115 \def\endLandScape{}
116 \def\@Landscape#1#2#3{}
117 \def\endLandscape{}

```

Low-level patches for `UseVerbatim` and friends:

```

118 \let\LWRFB@UseVerbatim\UseVerbatim
119 \renewcommand*\UseVerbatim[1]{%
120 \LWR@atbeginverbatim{3}{Verbatim}%
121 \LWRFB@UseVerbatim{#1}%
122 \LWR@afterendverbatim{.5}%
123 }
124
125 \let\LWRFB@LUseVerbatim\LUseVerbatim
126

```

```
127 \renewcommand*\LUseVerbatim}[1]{%
128 \LWR@atbeginverbatim{3}{\LVerbatim}%
129 \noindent%
130 \LWRFB@LUseVerbatim{#1}%
131 \LWR@afterendverbatim{.5}%
132 }%
133 %
134 \def\@BUseVerbatim[#1]#2{%
135 \LWR@atbeginverbatim{3}{\BVerbatim}%
136 \LWRFB@UseVerbatim{#2}%
137 \LWR@afterendverbatim{.5}%
138 }
```

---

File 140 **l warp-fancyhdr.sty**

§ 246      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}[2019/01/31]

2 \newcommand*\fancyhead}[2][]{%
3 \newcommand*\fancyfoot}[2][]{%
4 \newcommand*\fancyhf}[2][]{%
5 \newcommand*\fancypagestyle}[2]{}%
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 \newcommand*\headrule}{}%
15 \newcommand*\footrule}{}%
16 \newlength{\headwidth}%
17 \newcommand*\fancyheadoffset}[2][]{%
18 \newcommand*\fancyfootoffset}[2][]{%
19 \newcommand*\fancyhffoffset}[2][]{%
20 \newcommand*\iffloatpage}[2]{#2}%
21 \newcommand*\ifffloatpage}[2]{#2}%
22 \newcommand*\iffbotfloat}[2]{#2}%
23 \newcommand*\ifffootnote}[2]{#2}
```

---

**File 141 l warp-fancyref.sty****§ 247 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 \ifdef\streq{\fancyrefhook}{\LWRfref@parenfancyrefhook}
5 {}{
6     \renewcommand*{\fancyrefhook}[1]{#1}%
7 }
```

---

**File 142 l warp-fancytabs.sty****§ 248 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 143 **l warp-fancyvrb.sty**

§ 249 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** If using fancybox or fancyvrb with \VerbatimFootnotes, and using footnotes in a sectioning command or display math, use \footnotemark and \footnotetext:

⚠ **\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.

```
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\@footnotetext% l warp
11 }
```

**\V@footnotetext** Patches in a subset of l warp's \LWR@footnotetext to the fancyvrb version of \V@footnotetext.

```
12 \def\V@footnotetext{%
13 \LWR@traceinfo{\V@footnotetext}%
```

```
14 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
15 \unvbox\LWR@footnotebox%
```

Remember the footnote number for \ref:

```
16 \protected@edef@\currentlabel{%
17   \csname p@footnote\endcsname\@thefnmark%
18 }% @currentlabel
```

Use HTML superscripts in the footnote even inside a \teximage:

```
19 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a \teximage:

```
20 \ifthenelse{%
21   \boolean{\LWR@doingstartpars} \AND%
22   \cnttest{\value{\LWR@lateximagedepth}}{=}{0}%
23 }%
24 {}%
25 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
```

Append the footnote mark to the list:

```
26 \@makefntext{}
```

The footnote text will follow after \V@@@footnotetext has completed.

```
27 \bgroup%
28 \aftergroup{\V@@@footnotetext}%
29 \ignorespaces%
30 }%
```

  

```
31 \preto\FVB@Verbatim{\LWR@forcenewpage}
32 \preto\FLVerbatim{\LWR@forcenewpage}
33 % \preto\FVB@BVerbatim{\LWR@forcenewpage}% Fails, so done below.
```

Simplified to remove PDF formatting:

```
34 \def\FV@BeginListFrame@Single{%
35   \FV@SingleFrameLine{\z@}%
36 }
37
38 \def\FV@EndListFrame@Single{%
39   \FV@SingleFrameLine{\@ne}%
40 }
41
42 \def\FV@BeginListFrame@Lines{%
43   \FV@SingleFrameLine{\z@}%
44 }
45
46 \def\FV@EndListFrame@Lines{%
47   \FV@SingleFrameLine{\@ne}%
48 }
49
50 \renewcommand*\FV@SingleFrameSep{}
```

Adds HTML formatting:

```

51 \def\fv@BUseVerbatim#1{%
52     \LWR@atbeginverbatim{#1}{verbatim}%
53     \FV@BVerbatimBegin#1\FV@BVerbatimEnd%
54     \LWR@afterendverbatim{#1}%
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="fancyvrblabel" % extra space
67             style="color: \LWR@origpound\LWR@tempcolor"%
68         }%
69         \LWR@print@textrm{\FV@LabelBegin}%
70         \LWR@htmltagc{/div}\LWR@orignewline%
71     \fi%
72 \fi%
73 \LWR@atbeginverbatim{#1}{verbatim}%
74 }%
75 }%
76 %
77 \newcommand*{\LWR@fvendnone}{%
78 \LWR@traceinfo{fvendnone}%
79 % \hbox to\z@{%
80 \LWR@afterendverbatim{#1}%
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="fancyvrblabel" % extra space
87             style="color: \LWR@origpound\LWR@tempcolor"%
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@fvstartsingle%
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}
186
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 to\z@{%
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 %       \ifcscvoid{\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 }

```

Env **BVerbatim**

```

247 \AtBeginEnvironment{BVerbatim}
248 {%
249 \LWR@forcenewpage% instead of \preto
250 \LWR@atbeginverbatim{#1}{bverbatim}%
251 }
252
253 \AfterEndEnvironment{BVerbatim}
254 {%
255 \LWR@afterendverbatim{#1}%
256 }

```

End of the modifications to make at the end of the preamble:

```
257 } % \AfterEndPreamble
```

#### File 144 **l warp-fbox.sty**

§ 250 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*\WR@fboxpkg@border[2]{%
5   \appto\WR@tempone{%
6     border-#1: % space
7     \LWR@printlength{\LWR@atleastonept} % space
8     solid \LWR@origpound\WR@tempcolor ;\LWR@indentHTML
9   }%
10  \ifblank{#2}{\appto\WR@tempone{%
11    padding-#1: \LWR@printlength{#2} ;\LWR@indentHTML
12  }%
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@lrrpadding}[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 }
```

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@lrrpadding{left}%
37   \LWR@fboxpkg@lrrpadding{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     \InlineClass[\LWR@tempone]{fboxpkg}{%
61       #1%
62     }%
63   }%
64 \color@endgroup
65 \boolfalse{LWR@fboxpkg@ispar}%
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{%
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\LWRorigfbox\fbox}
80 \CustomizeMathJax{\newcommand{\LWRfboxpghtwo}[2][]{\LWRorigfbox{#2}}}
81 \CustomizeMathJax{\renewcommand{\fbox}{\ifstar{\LWRfboxpghtwo}{\LWRfboxpghtwo}}}
82 \CustomizeMathJax{\newcommand{\fparbox}{\fbox}}
```

#### File 145 **lwarp-fewerfloatpages.sty**

#### § 251 Package **fewerfloatpages**

Pkg `fewerfloatpages` `fewerfloatpages` is ignored.

**for HTML output:** 1 `\LWR@ProvidesPackageDrop{fewerfloatpages}[2020/02/14]`

```
2 \newcommand\floatpagekeepfraction{\textfraction}
3 \newcounter{floatpagedeferrlimit}
```

```
4 \newcounter{floatpagekeeplimit}
```

---

**File 146 l warp-figcaps.sty**

§ 252      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 147 l warp-figsize.sty**

§ 253      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 148 l warp-fitbox.sty**

§ 254 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 149 l warp-fix2col.sty**

§ 255 Package **fix2col**

Pkg fix2col fix2col is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fix2col}[2015/11/13]

---

**File 150 l warp-fixme.sty**

§ 256 Package **fixme**

(Emulates or patches code by DIDIER VERRA.)

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 lwarp's version of \@wrindex, ignoring the fixme package's target option:

2 \let\@wrindex\LWR@wrindex

Float-related macros required by lwarp:

```
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     {@fxtextstd{#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 }
```

File 151 **lwarp-fixmetodonotes.sty**

## § 257 Package fixmetodonotes

*(Emulates or patches code by GIOELE BARABUCCI.)*

Pkg fixmetodonotes fixmetodonotes is patched for use by lwarpc.

```
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 152 **lwarp-flafter.sty**

§ 258 Package **flafter**

Pkg flafter flafter is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{flafter}[2018/01/08]  
2 \providecommand\fl@trace[1]{}

File 153 **l warp-flippdf.sty**

§ 259 Package **flippdf**

Pkg flippdf flippdf is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]

---

```
2 \newcommand\FlipPDF{}
3 \newcommand\UnFlipPDF{}
```

---

File 154 **l warp-float.sty**

§ 260 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]

\listof See section 76.2 for the \listof command.

\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 }
```

---

### File 155 **l warp-floatflt.sty**

§ 261 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@marginfoat}{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      {marginblock}%
12  }{%
13      \setlength{\LWR@templengthone}{#3}%
14      \LWR@BlockClassWP{%
15          float:right; %
16          width:\LWR@printlength{\LWR@templengthone}; % extra space
17          margin:10pt%
18      }{%
19          width:\LWR@printlength{\LWR@templengthone}%
20      }%
21      {marginblock}%
22  }%
23  \renewcommand*{\@capttype}{#2}%
24 }
25 {%
26  \endLWR@BlockClassWP%
27  \end{LWR@setvirtualpage}%
28 }

```

**Env** `floatingfigure`  $[\langle placement \rangle] \{\langle width \rangle\}$

```

29 \DeclareDocumentEnvironment{floatingfigure}{o m}
30  {\begin{KFLTfloatflt@marginfloat}{figure}{#2}}
31  {\end{KFLTfloatflt@marginfloat}}

```

**Env** `floatingtable`  $[\langle placement \rangle]$

```

32 \DeclareDocumentEnvironment{floatingtable}{o}
33  {\begin{KFLTfloatflt@marginfloat}{table}{}}
34  {\end{KFLTfloatflt@marginfloat}}

```

### File 156 **lwarp-floatpag.sty**

## § 262 Package **floatpag**

(Emulates or patches code by VYTAS STATULEVIČIUS AND SIGITAS TOLUŠIS.)

**Pkg** `floatpag` **floatpag** is ignored.

**for HTML output:** Discard all options for **lwarp-floatpag**:

```

1 \LWR@ProvidesPackageDrop{floatpag}[2012/05/29]

2 \newcommand*{\floatpagestyle}[1]{}
3 \newcommand*{\rotfloatpagestyle}[1]{}
4 \newcommand*{\thisfloatpagestyle}[1]{}

```

---

File 157 **l warp-floatrow.sty**

§ 263 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 capttype⟩} [⟨3 width⟩] [⟨4 height⟩] [⟨5 vert pos⟩] {⟨6 caption⟩} {⟨7 object⟩}

Only parameters for capttype, 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 +m +m}{%
```

```
10 \ifbool{LWR@subcaptionloaded}%
11 {%
  \subcaption
```

For `subcaption`:

```
12 \ifbool{LWR@insubfloatrow}%
13 {%
  \subcaption in a subfloatrow
```

`subfigure` and `subtable` environments take width as an argument.

```
14 \IfValueTF{#3}%
15 {%
  \nameuse{sub#2}{#3}%
  \nameuse{sub#2}{\linewidth}%
}%
17 {%
  subcaption in a subfloatrow%
}%
18 {%
  subcaption not in subfloatrow%
```

`figure` and `table` environments do not take a width argument.

```
19 \nameuse{#2}%
20 }%
21 #6%
22 %
23 #7
```

End the environments:

```
24 \ifbool{LWR@insubfloatrow}%
25 {%
  \nameuse{endsub#2}%
  \nameuse{end#2}%
}%
27 {%
  subcaption%
}%
28 {%
  assume subfig%
```

For `subfig`:

```
29 \ifbool{LWR@insubfloatrow}%
30 {%
  subfig in a subfloatrow%
```

`\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 }%
36 {%
  subfig in a subfloatrow%
}%
37 {%
  subfig package, but not a subfig%
```

`figure` and `table` are environments:

```
37 \nameuse{#2}%
38 #6%
39 %
40 #7%
41 \nameuse{end#2}%
42 }%
43 {%
  subfig package, but not a subfig%
}%
44 {%
  assume subfig%
```

Not used:

```

45 \newcommand*{\nocapbeside}{}%
46 \newcommand*{\capbeside}{}%
47 \newcommand*{\caption}{}%
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 {⟨1 command⟩} {⟨2 captype⟩} [⟨3 preamble⟩] [⟨4 default width⟩]

Preamble and default width are ignored.

```

57 \NewDocumentCommand{\newfloatcommand}{m m o o}{%
58 @namedef{#1}{%
59 \floatbox{#2}{%
60 }%
61 }%

```

\renewfloatcommand {⟨1 command⟩} {⟨2 captype⟩} [⟨3 preamble⟩] [⟨4 default width⟩]

Preamble and default width are ignored.

```

62 \NewDocumentCommand{\renewfloatcommand}{m m o o}{%
63 @namedef{#1}{%
64 \floatbox{#2}{%
65 }%
66 }%

```

\ffigbox [⟨width⟩] [⟨height⟩] [⟨vposn⟩] {⟨caption commands⟩} {⟨contents⟩}

```

67 \newfloatcommand{ffigbox}{figure}[\nocapbeside]{}%

```

\ttabbox [⟨width⟩] [⟨height⟩] [⟨vposn⟩] {⟨caption commands⟩} {⟨contents⟩}

```

68 \newfloatcommand{ttabbox}{table}[\caption][\FBwidth]{}%

```

\fcapside [⟨width⟩] [⟨height⟩] [⟨vposn⟩] {⟨caption commands⟩} {⟨contents⟩}

```

69 \newfloatcommand{fcapside}{figure}[\capbeside]{}%

```

Env floatrow [⟨numfloats⟩]

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*\LWR@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     \boolearnfalse{LWR@insubfloatrow}%
148 }
```

---

**File 158 l warp-fltrace.sty****§ 264 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 159 l warp-flushend.sty****§ 265 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*\{\flushcols}{}
5 \newcommand*\{\raggedcols}{}
6 \newcommand*\{\atColsBreak}[1]{}
7 \newcommand*\{\atColsEnd}[1]{}
8 \newcommand*\{\showcolsrule}{}
```

---

**File 160 l warp-fnbreak.sty****§ 266 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 161 l warp-fncychap.sty****§ 267 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 162 l warp-fnlineno.sty****§ 268 Package fnlineno**

Pkg fnlineno fnlineno is ignored.

for HTML output 1 \LWR@ProvidesPackageDrop{fnlineno}[2011/01/07]

---

**File 163 l warp-fnpara.sty****§ 269 Package fnpara**

Pkg fnpara fnpara is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnpara}

---

**File 164 l warp-fnpos.sty****§ 270 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 165 l warp-fontawesome.sty****§ 271 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 pdfLATEX, *poppler* may issue a syntax warning regarding parsing a ligature component. XeLATEX or LuaLATEX 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 pdfLATEX, the alt tag includes the icon (symbol) number. For XeLATEX and LuaLATEX, the alt tag is generic.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontawesome}[2016/05/15]

```
2 \LetLtxMacro{\LWR@orig@symbol}{\symbol}
3
4 \ifxetexorluatex
5
6 \newfontfamily{\LWR@orig@FA}{FontAwesome}
7
8 \newcommand*{\LWR@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}{\LWR@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 166 l warp–fontawesome5.sty****§ 272 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:n{%
4     \LWR@findcurrenttextcolor
5     \cs_if_exist:cTF{c__fontawesome_slot_#2_tl}{%
6         \begin{lateximage}*[#2][fontawesome5#1SZ\LWR@font@size{}CL\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{lateximage}
13    }{%
14        \msg_error:nnxx{fontawesome5}{icon-not-found}{#2}{#1}
15    }
16 }
17 \ExplSyntaxOff
```

---

**File 167 l warp–fontaxes.sty****§ 273 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}{}{\% duplicated by nfssext-cfr
3     \newcommand{\LWR@HTML@swshape}{}%
4     \LWR@formatted{swshape}
5
```

---

```

6   \newcommand{\LWR@HTML@textsw}[1]{#1}
7   \LWR@formatted{textsw}
8
9   \FilenameNullify{%
10    \LetLtxMacro\swshape\empty%
11    \LetLtxMacro\textsw\firstofone%
12  }
13 }
```

---

File 168 **l warp–fontenc .sty**

§ 274 Package **fontenc**

Pkg fontenc If using pdfLATEX, 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 169 **l warp–footmisc .sty**

§ 275 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}\rule{0pt}{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@edef\thefnmark{\thempfn}%
25     \footnotemark%
26   }%
27 }
28 \def\xmpfootnotemark[#1]{%
29   \begingroup%
30   \csname c@\mpfn\endcsname #1\relax%
31   \unrestored@protected@edef\thefnmark{\thempfn}%
32   \endgroup%
33   \footnotemark%
34 }
```

---

#### File 170 **lwarp-footnote.sty**

### § 276 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 lwarp
6 }
7
8 % \let\fn@endnote\color@endgroup% *** conflicts with lwarp
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@htmllagc{\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 171 **l warp-footnotebackref.sty**

#### § 277 Package **footnotebackref**

Pkg **footnotebackref** **footnotebackref** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{footnotebackref}[2012/07/01]

---

### File 172 **l warp-footnotehyper.sty**

#### § 278 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 173 l warp-footnoterange.sty****§ 279 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 174 l warp-footnpag.sty****§ 280 Package **footnpag****

Pkg footnpag footnpag is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{footnpag}

---

**File 175 l warp-foreign.sty****§ 281 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\foreignabbrfont{\emph{}}

---

**File 176 l warp-forest.sty****§ 282 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

`\begin{ 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{lwarp-forest}{%
12      \protect\Forest* is not supported}%
13      {Lwarp 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    }%
21  }%
22 }
```

---

### File 177 **lwarp-fouridx.sty**

§ 283      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}{}_{#3}{}^{#4}{}_{#5}%
6   }%
7 }
8 \end{warpMathJax}
```

---

### File 178 **lwarp-framed.sty**

§ 284      Package **framed**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg **framed** **framed** is supported and patched by **lwarp**.

**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}{\BODY}
61 }

\CustomFBox {\langle toptitle\rangle} {\langle bottitle\rangle} {\langle thicknessstop\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 }%
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 }%
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 {\frame cmd no split} {\frame cmd split}  
95 \renewcommand*\{\fb@put@frame}[2]{%  
96 \relax%  
97 \@tempboxa%  
98 }
```

---

File 179 **l warp-ftcap.sty**

§ 285 Package **ftcap**

Pkg **ftcap** **ftcap** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ftcap}

---

File 180 **l warp-ftnright.sty**

§ 286 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 181 **l warp-fullminipage.sty**

§ 287 Package **fullminipage**

Pkg **fullminipage** **fullminipage** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]

```
2 \newenvironment{fullminipage}[1][]{\{}{\}}
```

---

File 182 **l warp-fullpage.sty**

§ 288 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 183 l warp-fullwidth.sty****§ 289 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 184 l warp-fwlw.sty****§ 290 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 185 l warp-gensymb.sty****§ 291 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}}}}}
5 \CustomizeMathJax{\newcommand{\perthousand}{\text{\textnormal{‰}}}}
6 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
7 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\mu}}}
8 \end{warpMathJax}

```

---

File 186 **l warp-gentombow.sty**

§ 292 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 187 **l warp-geometry.sty**

§ 293 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:** Discard all options for **l warp-geometry**:

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 188 **l warp-ghsystem.sty**

#### § 294 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 189 **l warp-gindex.sty**

#### § 295 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 lwarf 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, lwarf 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 190 **lwarf-gloss.sty**

§ 296      Package **gloss**

(Emulates or patches code by JOSE LUIS DÍAZ, JAVIER BEZOS.)

Pkg gloss gloss is patched for use by lwarf.

To process the HTML glossary:

bibtex <projectname>\_html.gls

**for HTML output:** 1 \LWR@ProvidesPackagePass{gloss}[2002/07/26]

\BaseJobname 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{\BaseJobname-autopage-#2}}}%
```

---

File 191 **lwarp-glossaries.sty**

## § 297 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**

**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.

 **makeglossaries** not found

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  \ifdef\empty\@@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}% Moved after the previous line.
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 \ifdefstreq{\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 \ifdefstreq{\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 \ifdefstreq{\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 \ifdefstreq{\glsnumbersgroupname}{\LWR@comp@glsnumbersgroupname}{
44     \translatelet{\LWR@translatetemp}{Numbers (glossaries)}
45     \edef{\glsnumbersgroupname}{\LWR@translatetemp}
46 }{}
```

---

**File 192 l warp-gmeometric.sty****§ 298 Package gmeometric**

Pkg gmeometric gmeometric is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{gmeometric}[2008/11/22]  
2 \RequirePackageWithOptions{geometry}

---

**File 193 l warp-graphics.sty****§ 299 Package graphics**

(Emulates or patches code by D. P. CARLISLE.)

Pkg graphics graphics is emulated.

**for HTML output:** 1 \LWR@ProvidesPackagePass{graphics}[2017/06/25]

### § 299.1 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
```

### § 299.2 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=xyx` 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   }}
```

---

```

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}{}
```

### § 299.3 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.

```
111 \newcommand*{\LWR@rotstyle}[2]{%  
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 }
```

### § 299.4 \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 \teximage.

```
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 \@ifpackagelloaded{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      {%
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              \IfValueTF{#2}%
195              {%
196                  \global\sbox{\LWR@imagesizebox}{%
197                      \LWR@originincludegraphics[#2][#4]%
198                  }%
199              }{%
200                  \global\sbox{\LWR@imagesizebox}{%
201                      \LWR@originincludegraphics[#4]%
202                  }%
203              }%
204          }%
205      }% not starred
206      \endgroup%
207      \settowidth{\LWR@igwidth}{\usebox{\LWR@imagesizebox}}%
208      \global\renewcommand*{\LWR@igwidthstyle}{%
209          width:\LWR@printlength{\LWR@igwidth}%
210      }%
211      \settoheight{\LWR@igheight}{\usebox{\LWR@imagesizebox}}%
212      \global\renewcommand*{\LWR@igheightstyle}{%
213          height:\LWR@printlength{\LWR@igheight}%
214      }%
215  }{}% FormatWP
216 }
```

\LWR@ig@htmtltag For the HTML reference, add the graphicspath, filename, extension, alt tag, style, and

class.

```

217 \newcommand*\LWR@ig@htmltag{%
218     img\LWR@indentHTML%
219     src="%"
220     \detokenize\expandafter{\LWR@parsedfilename}%
221     "\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}{1} \OR
228         \NOT\equal{\LWR@igyscale}{1}
229     }%
230     {%
231         style="\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}{1}\OR%
250             \NOT\equal{\LWR@igyscale}{1}}{%
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}{1}}{%
261             {opacity:\LWR@opacity;\LWR@indentHTML}%
262         }%
263         "\LWR@indentHTML%
264     }%

```

Set the class and alt tag:

```

265     class="\LWR@igclass"\LWR@indentHTML%
266     alt="\AltTextOpen\LWR@igalt\AltTextClose" \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   \Ginclusion@graphics{\detokenize\expandafter{\LWR@tempone}}%
300   \endgroup%
301   \filename@parse{\LWR@parsedfilename}%
302   \LWR@traceinfo{LWR@parsedfilename is \LWR@parsedfilename}%
303 % \LWR@sanitize{\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   {%
308     \LWR@traceinfo{LWR@includegraphicsb: about to LWR@htmltag}%
309     \LWR@htmltag{\LWR@ig@htmltag}%
310   }%
311   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
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

```

## § 299.5 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="\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}"\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="\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     "\LWR@newline
380 }\LWR@newline%
```

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
```

---

File 194 **l warp-graphicx.sty**

§ 300 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 `lateximage`, 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}[2017/06/01]

---

File 195 **l warp-grffile.sty**

§ 301 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`.

⚠ **matching PDF and SVG**

`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 196 **l warp-grid.sty**

§ 302 Package **grid**

Pkg `grid` `grid` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{grid}[2009/06/16]

2 \newenvironment\*{gridenv}{}{}

---

File 197 **l warp-grid-system.sty**

§ 303 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 198 **l warp-gridset.sty**

### § 304 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 199 **l warp-hang.sty**

### § 305 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=%
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             "%
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 200 l warp-hanging.sty****§ 306 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{\nqlq}{`}
24 \newcommand{\nhrq}{'}
```

---

**File 201 `lwarp-hepunits.sty`**

§ 307      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}{\micro\metre}}
7 \CustomizeMathJax{\newcommand{\mrad}{\milli\radian}}
8 \fi
9
10 \CustomizeMathJax{\newcommand{\gauss}{\mathrm{G}}}
11
12 \CustomizeMathJax{\newcommand{\invcmsq}{\centi\metre\tothe{-2}}}
13 \CustomizeMathJax{\newcommand{\invcmsqpersecond}{\invcmsq\second\tothe{-1}}}
14 \CustomizeMathJax{\newcommand{\invcmsqpersec}{\invcmsqpersecond}}
15
16 %% (Inverse) cross-sections
17 \CustomizeMathJax{\newcommand{\invbarn}{\barn\tothe{-1}}}
18
19 \ifx\@HEPopt@noprefixcmds\@empty
20 \CustomizeMathJax{\newcommand{\millibarn}{\milli\barn}}
21 \CustomizeMathJax{\newcommand{\microbarn}{\micro\barn}}
22 \CustomizeMathJax{\newcommand{\nanobarn}{\nano\barn}}
23 \CustomizeMathJax{\newcommand{\picobarn}{\pico\barn}}
24 \CustomizeMathJax{\newcommand{\femtobarn}{\femto\barn}}
25 \CustomizeMathJax{\newcommand{\attobarn}{\atto\barn}}
26 \CustomizeMathJax{\newcommand{\zeptobarn}{\zepto\barn}}
27 \CustomizeMathJax{\newcommand{\yoctobarn}{\yocto\barn}}
28 \CustomizeMathJax{\newcommand{\invnanobarn}{\nano\invbarn}}
29 \CustomizeMathJax{\newcommand{\invpicobarn}{\pico\invbarn}}
30 \CustomizeMathJax{\newcommand{\invfemtobarn}{\femto\invbarn}}
31 \CustomizeMathJax{\newcommand{\invattobarn}{\atto\invbarn}}
32 \CustomizeMathJax{\newcommand{\invzeptobarn}{\zepto\invbarn}}
33 \CustomizeMathJax{\newcommand{\invyoctobarn}{\yocto\invbarn}}
34 \CustomizeMathJax{\newcommand{\invnb}{\invnanobarn}}
35 \CustomizeMathJax{\newcommand{\invpb}{\invpicobarn}}
36 \CustomizeMathJax{\newcommand{\invfb}{\invfemtobarn}}
37 \CustomizeMathJax{\newcommand{\invab}{\invattobarn}}
38 \CustomizeMathJax{\newcommand{\invzb}{\invzeptobarn}}
39 \CustomizeMathJax{\newcommand{\invyb}{\invyoctobarn}}
40 \fi
41
42 \CustomizeMathJax{\newcommand{\electronvoltc}{\electronvolt\per\mathit{c}}}
```

---

```

43 \CustomizeMathJax{\newcommand{\electronvoltcsq}{\electronvolt\per\mathit{c}\squared}}
44 \CustomizeMathJax{\let\evc\electronvoltc}
45 \CustomizeMathJax{\let\evcsq\electronvoltcsq}
46
47 \ifx\@HEPopt@noprefixcmds\empty
48 \CustomizeMathJax{\newcommand{\meV}{\milli\,eV}}
49 \CustomizeMathJax{\newcommand{\keV}{\kilo\,eV}}
50 \CustomizeMathJax{\newcommand{\MeV}{\mega\,eV}}
51 \CustomizeMathJax{\newcommand{\GeV}{\giga\,eV}}
52 \CustomizeMathJax{\newcommand{\TeV}{\tera\,eV}}
53 \CustomizeMathJax{\newcommand{\meVc}{\milli\,eVc}}
54 \CustomizeMathJax{\newcommand{\keVc}{\kilo\,eVc}}
55 \CustomizeMathJax{\newcommand{\MeVc}{\mega\,eVc}}
56 \CustomizeMathJax{\newcommand{\GeVc}{\giga\,eVc}}
57 \CustomizeMathJax{\newcommand{\TeVc}{\tera\,eVc}}
58 \CustomizeMathJax{\newcommand{\meVcsq}{\milli\,eVcsq}}
59 \CustomizeMathJax{\newcommand{\keVcsq}{\kilo\,eVcsq}}
60 \CustomizeMathJax{\newcommand{\MeVcsq}{\mega\,eVcsq}}
61 \CustomizeMathJax{\newcommand{\GeVcsq}{\giga\,eVcsq}}
62 \CustomizeMathJax{\newcommand{\TeVcsq}{\tera\,eVcsq}}
63 \fi
64 \end{warpMathJax}

```

---

## File 202 **l warp-hhline.sty**

### § 308 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 203 l warp-hhtensor.sty****§ 309 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@underline
9     \CustomizeMathJax{\newcommand{\vec}[1]{\text{\textnormal{\textbf{#1}}}}}
10    \CustomizeMathJax{\newcommand{\matr}[1]{\text{\textnormal{\textbf{#1}}}}}
11    \CustomizeMathJax{\newcommand{\tens}[2]{\text{\textnormal{\textbf{#1}}}}}
12      \underset{
13        \raise{.5ex}{\underset{\#2}{\sim}}
14      }{\#1}
15    }
16  \else
17    \CustomizeMathJax{\newcommand{\matr}[1]{\vec{\vec{#1}}}}
18    \CustomizeMathJax{\newcommand{\tens}[2]{\underset{
19      \underset{\#2}{\sim}
20    }{\#1}}}
21  }
22 }
23 \fi
24 \fi
25 \CustomizeMathJax{\newcommand{\dcdot}{\mathrel{\mkern 0.0mu \cdot}}}
26 \CustomizeMathJax{\newcommand{\trans}{{}^{\mathrm{T}}}}
27 \end{warpMathJax}
```

---

**File 204 l warp-hypbmsec.sty****§ 310 Package hypbmsec**

Pkg hypbmsec **hypbmsec** is emulated by the **l warp** core.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypbmsec}[2016/05/16]

---

File 205 **l warp-hypcap.sty**

§ 311 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*\hypcapref[1]{}  
5 \newcommand*\capstartfalse{}  
6 \newcommand*\capstartrue{}
```

---

File 206 **l warp-hypdestopt.sty**

§ 312 Package **hypdestopt**

Pkg hypdestopt **hypdestopt** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypdestopt}[2016/05/21]

---

File 207 **l warp-hypernat.sty**

§ 313 Package **hypernat**

Pkg hypernat **hypernat** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypernat}[2001/07/09]

---

File 208 **l warp-hyperref.sty**

§ 314 Package **hyperref**

(Emulates or patches code by SEBASTIAN RAHTZ, HEIKO OBERDIEK, THE LATEX3 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.\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
9 \DeclareOption*{}
```

```

10 \% \ProcessOptions\relax
11 \let\ds@\emptyset% from the original \ProcessOptions
12 \edef\@curroptions{}% l warp modification to \ProcessOptions
13 \@process@ptions\relax% from the original \ProcessOptions
```

```

14 \LetLtxMacro\href\LWR@href
15 \LetLtxMacro\nolinkurl\LWR@nolinkurl
16 \LetLtxMacro\url\LWR@url
17 \LetLtxMacro\phantomsection\LWR@phantomsection
```

```

18 \newcommand*\hypersetup[1]{}
19 \newcommand*\hyperbaseurl[1]{}
```

\hyperimage {<URL>} {<alt text>}

Insert an image with alt text:

```

20 \NewDocumentCommand{\LWR@hyperimageb}{m +m}{%
21   \LWR@ensuredoingapar%
22   \def\LWR@templink{\#1}%
23   @onelevel@sanitize\LWR@templink%
24   \LWR@htmltag{img src="\LWR@templink" alt="#2" class="hyperimage"}%
25   \LWR@ensuredoingapar%
26   \endgroup%
27 }
28
29 \newrobustcmd*\hyperimage{%
30   \begingroup%
31   \LWR@linkcatcodes%
32   \LWR@hyperimageb%
33 }
34
```

\hyperdef {<1: category>} {<2: name>} {<3: text>}

Creates an HTML anchor to category.name with the given text.

```

35 \NewDocumentCommand{\LWR@hyperdefb}{m m +m}{%
36   \LWR@ensuredoingapar%
37   \LWR@label@createtag{\#1.\#2}%
38   #3%
39   \endgroup%
40 }
41
42 \newcommand*\hyperdef{%
43   \begingroup%
44   \LWR@linkcatcodes%
45   \LWR@hyperdefb%
```

```
46 }
47
```

\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.

```
48 \newcommand{\LWR@hyperreffinish}[1]{%
49   \begingroup%
50   \RenewDocumentCommand{\ref}{s m}{\LWR@print@ref{##2}}%
51   #1%
52   \endgroup%
53   \LWR@htmltag{/a}%
54 }
55
56 \newcommand*{\LWR@hyperrefbb}[3]{%
57   \LWR@htmltag{%
58     a href="%"
59       \detokenize\expandafter{\#1}\LWR@hashmark%
60       \detokenize\expandafter{\#2}.\detokenize\expandafter{\#3}%
61     "%"
62     \LWR@addlinktitle%
63   }%
64   \endgroup%
65   \LWR@hyperreffinish%
66 }
67
68 \newrobustcmd*{\LWR@hyperrefb}{%
69   \begingroup%
70   \LWR@linkcatcodes%
71   \LWR@hyperrefbb%
72 }
```

\LWR@hyperrefc [⟨label⟩] {⟨text⟩}

Creates text as an **HTML** link to the **LATEX** label.

```
73
74 \NewDocumentCommand{\LWR@hyperrefcb}{O{label}}{%
75   \LWR@starref{#1}%
76   \endgroup%
77   \LWR@hyperreffinish%
78 }
79
80 \newcommand*{\LWR@hyperrefc}{%
81   \begingroup%
82   \LWR@linkcatcodes%
83   \LWR@hyperrefcb%
84 }
```

\hyperref {⟨1: URL⟩} {⟨2: category⟩} {⟨3: name⟩} {⟨4: text⟩} — or —  
[⟨1: label⟩] {⟨2: text⟩}

```
85 \DeclareRobustCommand*{\hyperref}{%
```

```

86      \LWR@ensuredoingapar%
87      \@ifnextchar[\LWR@hyperrefc\LWR@hyperrefb%
88 }

```

\hypertarget {⟨name⟩} {⟨text⟩}

Creates an anchor to name with the given text.

```

89 \NewDocumentCommand{\hypertargetb}{m +m}{%
90     \label{LWR-ht-#1}%
91     #2%
92     \endgroup%
93 }
94
95 \newcommand*{\hypertarget}{%
96     \begingroup%
97     \LWR@linkcatcodes%
98     \LWR@hypertargetb%
99 }

```

\hyperlink {⟨name⟩} {⟨text⟩}

Creates a link to the anchor created by hypertarget, with the given link text.

Declared because also defined by memoir.

```

100 \DeclareDocumentCommand{\hyperlinkb}{m}{%
101     \LWR@hyperrefcb[LWR-ht-#1]%
102 }
103
104 \DeclareDocumentCommand{\hyperlink}{}
105     {\LWR@ensuredoingapar%
106     \begingroup%
107     \LWR@linkcatcodes%
108     \LWR@hyperlinkb%
109 }

```

\autoref \* {⟨label⟩}

For HTML, \cleveref is used instead.

```

110 \NewDocumentCommand{\autoref}{s m}{%
111     \IfBooleanTF{#1}{\ref{#2}}{\cref{#2}}%
112 }

```

\autopageref {⟨label⟩}

For HTML, \cleveref is used instead.

```

113 \NewDocumentCommand{\autopageref}{s m}{%
114     \IfBooleanTF{#1}{\cpageref{#2}}{\cref{#2}}%
115 }

```

\pdfstringdef {⟨macroname⟩} {⟨TEXstring⟩}

```

116 \newcommand{\pdfstringdef}[2]{}

```

```
\pdfbookmark  [⟨level⟩] {⟨text⟩} {⟨name⟩}
117 \newcommand{\pdfbookmark}[3][]{}

\currentpdfbookmark {⟨text⟩} {⟨name⟩}
118 \newcommand{\currentpdfbookmark}[2][]{}

\subpdfbookmark {⟨text⟩} {⟨name⟩}
119 \newcommand{\subpdfbookmark}[2][]{}

\belowpdfbookmark {⟨text⟩} {⟨name⟩}
120 \newcommand{\belowpdfbookmark}[2][]{}

\texorpdfstring {⟨TEXstring⟩} {⟨PDFstring⟩}
121 \newcommand{\texorpdfstring}[2]{\#1}

{⟨commands⟩}
122 \newcommand{\pdfstringdefDisableCommands}[1]{}}

\hypercalcbp {⟨dimen⟩} From \hyperref.
123 \def\hypercalcbp#1{%
124   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
125 }%

\Acrobatmenu {⟨menuoption⟩} {⟨text⟩}
126 \newcommand{\Acrobatmenu}[2][]{}

\TextField [⟨parameters⟩] {⟨label⟩}
127 \DeclareRobustCommand{\TextField}[2][]{}

\CheckBox [⟨parameters⟩] {⟨label⟩}
128 \DeclareRobustCommand{\CheckBox}[2][]{}

\ChoiceMenu [⟨parameters⟩] {⟨label⟩} {⟨choices⟩}
129 \DeclareRobustCommand{\ChoiceMenu}[3][]{}

\PushButton [⟨parameters⟩] {⟨label⟩}
130 \DeclareRobustCommand{\PushButton}[2][]{}
```

```
\Submit    [⟨parameters⟩] {⟨label⟩}
131 \DeclareRobustCommand{\Submit}[2][]{}

\Reset    [⟨parameters⟩] {⟨label⟩}
132 \DeclareRobustCommand{\Reset}[2][]{}

\Gauge    [⟨parameters⟩] {⟨label⟩}
133 \DeclareRobustCommand{\Gauge}[2][]{}

\LayoutTextField   {⟨label⟩} {⟨field⟩}
134 \newcommand*{\LayoutTextField}[2] {}

\LayoutChoiceField {⟨label⟩} {⟨field⟩}
135 \newcommand*{\LayoutChoiceField}[2] {}

\LayoutCheckField {⟨label⟩} {⟨field⟩}
136 \newcommand*{\LayoutCheckField}[2] {}

\MakeRadioField   {⟨width⟩} {⟨height⟩}
137 \newcommand*{\MakeRadioField}[2] {}

\MakeCheckField   {⟨width⟩} {⟨height⟩}
138 \newcommand*{\MakeCheckField}[2] {}

\MakeTextField    {⟨width⟩} {⟨height⟩}
139 \newcommand*{\MakeTextField}[2] {}

\MakeChoiceField  {⟨width⟩} {⟨height⟩}
140 \newcommand*{\MakeChoiceField}[2] {}

\MakeFieldButton  {⟨text⟩}
141 \newcommand{\MakeFieldButton}[1] {}
```

---

File 209 **l warp-hyperxmp.sty**

§ 315 Package **hyperxmp**

Pkg hyperxmp hyperxmp is ignored.

**for HTML output:** Discard all options for `l warp-hyperxmp`:

```
1 \LWR@ProvidesPackageDrop{hyperxmp}[2018/11/27]
```

---

### File 210 **l warp-hyphenat.sty**

#### § 316 Package **hyphenat**

Pkg `hyphenat` `hyphenat` is emulated during `HTML` output, while the print-mode version is used inside a `lateXimage`.

**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@origdohyp}{dohyp}
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{\dohyp}{.}
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{dohyp}{\LWRHYNAT@origdohyp}%
30   \LetLtxMacro{colonhyp}{\LWRHYNAT@origcolonhyp}%
31   \LetLtxMacro{hyp}{\LWRHYNAT@orighyp}%
32 }
```

---

### File 211 **l warp-idxlayout.sty**

#### § 317 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 212 l warp-ifoddpage.sty

#### § 318 Package ifoddpage

(Emulates or patches code by MARTIN SCHARRER.)

Pkg ifoddpage ifoddpage is emulated.

for HTML output Discard all options for l warp-ifoddpage:

```

1 \LWR@ProvidesPackageDrop{ifoddpage}[2016/04/23]

2 \newif\ifoddpage
3
4 \newif\ifoddpageoroneside
5
6 \DeclareRobustCommand{\checkoddpage}{\oddpagetrue\oddpageoronesidetrue}
7
8 \def\oddpage@page{1}
9
10 \def\@ifoddpage{%
11   \expandafter\@firstoftwo
```

---

```

12 }
13
14 \def\@ifoddpageoroneside{%
15     \expandafter\@firstoftwo
16 }

```

---

### File 213 **l warp-imakeidx.sty**

#### § 319 Package **imakeidx**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg imakeidx imakeidx is patched for use by l warp.

**letter headings** When using *makeindex*, to match the print and HTML output's display of index letter headings, specify the *l warp.ist* style:

```
\makeindex[options={-s l warp.ist}]
```

(For HTML the *l warp.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 *l warpmk* 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   \ifstreq{\#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 *lwarp* version is used. (Only one style at a time is possible.)

For *xindy*, multiple modules may be specified, and the *lwarp* 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 lwarp 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 lwarp 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@rindexsplit@\undefined
135 \let\imki@putindexsplit@\undefined
136 \else
137 \let\imki@startidx\imki@startidxsplit
138 \AtBeginDocument{\let@\wrindex\imki@rindexsplit}
139 \let\imki@putindex\imki@putindexsplit
140 \let\imki@rindexentry\imki@rindexentrysplit
141 \let\imki@startidxunique@\undefined
142 \let\imki@rindexunique@\undefined
143 \let\imki@putindexunique@\undefined
144 \fi
```

File 214 **lwarf-index.sty**

§ 320 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}%           lwarf
23     \label{LWRindex-\arabic{LWR@autoindex}}%    lwarf
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 215 l warp-inputtrc.sty

§ 321 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 lateximage.

```

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  \@@input#1%                                l warp
10 \expandafter\IT@pop@indent\IT@indent  \@nil% l warp
11 \expandafter\IT@pop@file \IT@filestack\@nil% l warp
12 \IT@maybe@returnmessage%% v0.2           l warp
13 }

```

---

File 216 **l warp-intopdf.sty**

§ 322 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 217 **l warp-jurabib.sty**

§ 323 Package **jurabib**

(Emulates or patches code by JENS BERGER.)

Pkg jurabib jurabib is patched for use by l warp.

**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}%
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          &
21          \quad\%    l warp
22 %         \ifthenelse{\equal{#2}{}{}}{\jb@barchnameformat{#2}}%
23 %         \end{tabular}
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 218 **l warp-karnaugh-map.sty**

§ 324      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 `lwarp` 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 `lwarp` 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@mapsizey@=\@karnaughmap@var@mapsizel@=221
23      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
24        \&          0 \&          1 \& \phantom{0} \\
25        0 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \&           \\
26        1 \& |(000010)| \phantom{0} \& |(000011)| \phantom{0} \&           \\
27        \phantom{0} \&           \&           \&           \\
28      }%
29    \fi
30    \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizel@=241
31      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
32        \&          0 \&          1 \& \phantom{00} \\
33        00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \&           \\
34        01 \& |(000010)| \phantom{0} \& |(000011)| \phantom{0} \&           \\
35        11 \& |(000110)| \phantom{0} \& |(000111)| \phantom{0} \&           \\
36        10 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \&           \\
37        \phantom{00} \&           \&           \&           \\
38      }%
39    \fi
40    \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizel@=421
41      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
42        \&          00 \&          01 \&          11 \&          10 \& \phantom{000} \\
43        0 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000011)|
44        1 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000111)|
45        \phantom{000} \&           \&           \&           \&           \\
46      }%
47    \fi
48    \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizel@=441
49      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
50        \&          00 \&          01 \&          11 \&          10 \& \phantom{0000} \\

```

```

51          00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(00001
52          01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(00011
53          11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(00111
54          10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(00101
55          \phantom{00} \& \& \& \& \&
56          }%
57      \fi
58  \ifnum\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizex@=442
59      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
60          \& 00 \& 01 \& 11 \& 10 \& \phantom{0}
61          00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(00001
62          01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(00011
63          11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(00111
64          10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(00101
65          \phantom{00} \& \& \& \& \&
66          }%
67      \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
68  \fi
69  \ifnum\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizex@=444
70      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
71          \& 00 \& 01 \& 11 \& 10 \& \phantom{0}
72          00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(00001
73          01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(00011
74          11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(00111
75          10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(00101
76          \phantom{00} \& \& \& \& \&
77          00 \& |(100000)| \phantom{0} \& |(100001)| \phantom{0} \& |(100011)| \phantom{0} \& |(10001
78          01 \& |(100100)| \phantom{0} \& |(100101)| \phantom{0} \& |(100111)| \phantom{0} \& |(10011
79          11 \& |(101100)| \phantom{0} \& |(101101)| \phantom{0} \& |(101111)| \phantom{0} \& |(10111
80          10 \& |(101000)| \phantom{0} \& |(101001)| \phantom{0} \& |(101011)| \phantom{0} \& |(10101
81          \phantom{00} \& \& \& \& \&
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 (\@karnaughmap@var@mapsizex@\space x \@karnaughma
93 %     }%
94 %     Existing templates have the following dimensions: 2x2x1, 2x4x1, 4x2x1, 4x4x1, 4x4x2, and 4x4x4.
95 %   }%
96 %   \fi original
97 %}{% lwarp
98 \begin{tikzpicture}
99   % grid
100  % for all dimensions
101  \draw[color=black, ultra thin] (0,0) grid (\@karnaughmap@var@mapsizex@,\@karnaughmap@var@mapsizey@);
102  % when there are 2 sub maps
103  \ifnum\@karnaughmap@var@mapsizex@=2
104    \draw[color=black, ultra thin] (5,0) grid (9,4);
105  \fi

```

```

106    % when there are 4 sub maps
107    \ifnum\@karnaughmap@var@mapsizex@=4
108        \draw[color=black, ultra thin] (5,0) grid (9,4);
109        \draw[color=black, ultra thin] (0,-5) grid (4,-1);
110        \draw[color=black, ultra thin] (5,-5) grid (9,-1);
111    \fi
112    % labels
113    % for all dimensions
114    \node[above] at (\@karnaughmap@var@mapsizex@*0.5,\@karnaughmap@var@mapsizey@+0.9) {\small{\#5}};
115        \node[left] at (-0.9,\@karnaughmap@var@mapsizey@*0.5) {\small{\#6}};
116    % when there are 2 sub maps
117    \ifnum\@karnaughmap@var@mapsizex@=2
118        \node[above] at (7,4.9) {\small{\#5}};
119        % extra sub maps labels
120        \node[below] at (2,-0.1) {\small{\#7$=0\$}};
121        \node[below] at (7,-0.1) {\small{\#7$=1\$}};
122    \fi
123    % when there are 4 sub maps
124    \ifnum\@karnaughmap@var@mapsizex@=4
125        \node[above] at (7,4.9) {\small{\#5}};
126        \node[left] at (-0.9,-3) {\small{\#6}};
127        % extra sub maps labels
128        \node[below] at (2,-0.1) {\small{\#7$=00\$}};
129        \node[below] at (7,-0.1) {\small{\#7$=01\$}};
130        \node[below] at (2,-5.1) {\small{\#7$=10\$}};
131        \node[below] at (7,-5.1) {\small{\#7$=11\$}};
132    \fi
133    % data
134    \matrix[
135        matrix of nodes,
136        ampersand replacement=&,
137        column sep={1cm,between origins},
138        row sep={1cm,between origins},
139    ] at (\@karnaughmap@var@mapsizex@*0.5+\@karnaughmap@local@maprealignmentx@,\@karnaughmap@var@mapsizex@*0.5+\@karnaughmap@local@matrixtemplate@%
140        \@karnaughmap@local@matrixtemplate@%
141    };
142 }{
143     \end{tikzpicture}
144 \endgroup
145 }

```

---

File 219 **lwarf-keyfloat.sty**

§ 325      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 **lwarf**, **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}{}{
4     \PackageError{lwarp-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@keyfloatsmipage\relax
29 \end\KFLT@LWR@hook@keyfloatsmipage\relax
30 \newenvironment*\KFLT@LWR@hook@keyfloatsmipage}[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@inkeysubfloats}%
46    }%
47  {%

```

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 {%
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@imagedwidth]{#1}}%
65 }%
66 {%
67   \ifthenelse{\dimtest{\KFLT@w}>}{0pt}%
68   {%
69     \ifthenelse{\dimtest{\KFLT@h}>}{0pt}%
70     {%
71       \KFLT@frame{\includegraphics%
72       [scale=\KFLT@s,
73       width=\KFLT@imagedwidth,height=\KFLT@h]{#1}}%
74     }%
75     {%
76       \KFLT@frame{\includegraphics%
77       [scale=\KFLT@s,width=\KFLT@imagedwidth]{#1}}%
78     }%
79   }%
80   {%
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 }%
91 {%
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   \minipagefullwidth%
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   \ifcsempty{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 {%
157
158     \newcommand*\LWR@KFLT@setnamealign[1]{%
159         \def\LWR@KFLT@textalign{justify}%
160         \ifstreq{\#1}{\centering}%
161             {\def\LWR@KFLT@textalign{center}}%
162             {}%
163         \ifstreq{\#1}{\raggedleft}%
164             {\def\LWR@KFLT@textalign{right}}%
165             {}%
166         \ifstreq{\#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     {marginblock}%
199     \renewcommand*\@capttype{#2}%
200     \minipage{\LWR@usersmarginparwidth}%
201     \setlength{\marginparwidth}{.95\LWR@usersmarginparwidth}%
202 }
203 {%
204     \endminipage%
205     \endLWR@BlockClassWP%
206 }

207 \DeclareDocumentEnvironment{marginfigure}{o}
208     {\begin{KFLT@marginfloat}{figure}}
209     {\end{KFLT@marginfloat}}
210
211 \DeclareDocumentEnvironment{margintable}{o}
212     {\begin{KFLT@marginfloat}{table}}
213     {\end{KFLT@marginfloat}}

```

```

Env keywrap  {<width>} {<keyfloat>}

214 \DeclareDocumentEnvironment{keywrap}{m +m}
215 {%
216     \begin{LWR@setvirtualpage}*
217     \setlength{\LWR@templengthone}{#1}%
218     \begin{LWR@BlockClassWP}%
219         %
220         float:right; width:\LWR@printlength{\LWR@templengthone}; % extra space
221         margin:10pt%
222     }%
223     {}%

```

```
224      {marginblock}%
225      \setlength{\linewidth}{.95\LWR@templengthone}%
226      \booltrue{KFLT@keywrap}%
227      #2%
228      \end{LWR@BlockClassWP}%
229      \end{LWR@setvirtualpage}%
230 }
231 {}

232 }% AtBeginDocument
```

---

**File 220 l warp-layaureo.sty****§ 326 Package layaureo**

Pkg layaureo layaureo is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

---

**File 221 l warp-layout.sty****§ 327 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 222 l warp-layouts.sty****§ 328 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   \drawMarginParstrue
8 \newif\ifdrawParameters
```

```
9  \drawparameterstrue
10 \newif\iflistaspara
11  \listasparatru
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{\setparametertextfont}[1]{}
24 \newcommand{\setvaluesetsize}[1]{}
25 \newcommand{\setLayoutscale}[1]{}
26 \newcommand{\setuplayouts}{}
27 \newcommand{\printinunitsof}[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 223 **lwarf-leading.sty**

§ 329      Package **leading**

Pkg **leading** **leading** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{leading}[2008/12/11]

2 \newcommand\leading[1]{}

---

File 224 **lwarf-leftidx.sty**

§ 330      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}\#1#2#3}}  
 4 \CustomizeMathJax{\newcommand{\ltrans}[1]{\leftidx{\mathrm{t}}{\!#1}{}}}}  
 5 \end{warpMathJax}

---

**File 225 l warp-letterspace.sty****§ 331 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 226 l warp-lettrine.sty****§ 332 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 227 **l warp-lineno.sty**

§ 333      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@pagewiselinenumber
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\quotelinumbersep
76
77 \quotelinumbersep=\linenumbersep
78 \let\quotelinumberfont\linenumberfont
79
80 \def\linenumberfont{\normalfont\tiny\sffamily}
81
82
83 \linenumberwidth=10pt
84 \linenumbersep=10pt
85
86 \def\thelinenumbers{}
```

```

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 228 **lwarp-lips.sty**

§ 334 Package **lips**

(Emulates or patches code by MATT SWIFT.)

Pkg lips **lips** is emulated.

```

1 \% \LWR@ProvidesPackageDrop{lips}
2 \PackageInfo{lwarp}{Using the lwarp version of package ‘lips’.}%
3 \ProvidesPackage{lwarp-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 229 **lwarf-listings.sty**

§ 335      Package **listings**

*(Emulates or patches code by CARSTEN HEINZ, BROOKS MOSES, JOBST HOFFMANN.)*

Pkg **listings** **listings** is supported with some limitations. Text formatting is not yet supported.

**for HTML output:**    1 \begin{warpHTML}

                  2 \LWR@ProvidesPackagePass{listings}[2018/09/02]

Force flexible columns. Fixed columns inserts spaces in the PDF output.

                  3 \lst@column@flexible

Patches to embed listings inside pre tags:

```

4 \let\LWR@origlst@Init\lst@Init
5 \let\LWR@origlst@DeInit\lst@DeInit
6
7 \let\LWR@origlst@EveryPar\lst@EveryPar
8
9 \renewcommand{\l@lstlisting}[2]{\hypertocfloat{1}{\lstlisting}{\l@lstlisting}{#1}{#2}}

```

\lstset {*<options>*}

Use the **listings** literate option to replace HTML entities:

```

10 \def\lstset@#1{\endgroup%
11 % \ifx\@empty#1%
12 % \else%
13 % \setkeys{lst}{%
14 % #1%
15 % ,literate=%
16 % {<}{\HTMLentity{lt}}{4}%
17 % {>}{\HTMLentity{gt}}{4}%
18 % {\&}{\HTMLentity{amp}}{5}%
19 %
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}%
25 \renewcommand*{\@capttype}{lstlisting}%
26 \let\lst@aboveskip\z@\let\lst@belowskip\z@%
27 \gdef\lst@boxpos{t}%
28 \let\lst@frame@\empty
29   \let\lst@frametshape@\empty
30   \let\lst@framershape@\empty
31   \let\lst@framebshape@\empty
32   \let\lst@framelshape@\empty
33 \lstframe@\lst@frameround ffff\relax%
34 \lst@multicols@\empty%
35 \LWR@origlst@Init{#1}\relax%

```

Avoids extra horizontal space:

```

36 \def\lst@framelr{}%
37 \LWR@traceinfo{finished origlst@Init}%
38 \lst@ifdisplaystyle%

```

Creating a display.

Disable line numbers, produce the `<pre>`, then reenable line numbers.

```

39   \LWR@traceinfo{About to create verbatim.}%
40   \let\lsthk@EveryPar\relax%
41   \LWR@forcenewpage%
42   \LWR@atbeginverbatim{1.5}{programlisting}%
43
44   \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
45 \else%

```

Inline, so open a `<span>`:

```

46   \ifbool{\LWR@verbtags}{\LWR@htmltag{span class="inlineprogramlisting"}{}%}
47 \fi%
48 }
49

```

`\lst@DeInit`      Done at the end of a listing.

```

50 \renewcommand*{\lst@DeInit}{}%
51 \lst@ifdisplaystyle%

```

Creating a display.

Disable line numbers, produce the `</pre>`, then reenable line numbers:

```

52 \let\lsthk@EveryPar\relax%
53 \LWR@afterendverbatim{0}%
54 \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
55 \else%

```

Inline, so create the closing `</span>`:

```

56 \ifbool{\LWR@verbtags}{\noindent\LWR@htmltag{/span}}{}%
57 \fi%

```

Final `listings` deinit:

```
58 \LWR@origlst@DeInit%
59 }
```

\lst@MakeCaption {*t/b*}

This is called BOTH at the top and at the bottom of each listing.

Patched for lwarp.

```
60
61 \def\lst@MakeCaption#1{%
62 \LWR@traceinfo{MAKING CAPTION at #1}%
63   \lst@ifdisplaystyle
64 \LWR@traceinfo{making a listings display caption}%
65   \ifx #1t%
66     \ifx\lst@@caption\@empty\expandafter\lst@HRefStepCounter \else
67       \expandafter\refstepcounter
68     \fi {\lstlisting}%
69 \LWR@traceinfo{About to assign label: !\lst@label!}%
70 %   \ifx\lst@label\@empty\else
71 % \label{\lst@label}\fi
72 \LWR@traceinfo{Finished assigning the label.}%
73   \let\lst@arg\lst@intname \lst@ReplaceIn\lst@arg\lst@filenamerpl
74   \global\let\lst@name\lst@arg \global\let\lstname\lst@name
75   \lst@ifnolol\else
76     \ifx\lst@caption\@empty
77       \ifx\lst@caption\@empty
78         \ifx\lst@intname\@empty \else \def\lst@temp{ }%
79           \ifx\lst@intname\lst@temp \else
```

This code places a contents entry for a non-float. This would have to be modified for lwarp:

```
80 \LWR@traceinfo{addcontents lst@name: -\lst@name-}%
81 %           \addcontentsline{lol}{\lstlisting}{\lst@name}
82   \fi\fi
83   \fi
84 \else
```

This would have to be modified for lwarp:

```
85 \LWR@traceinfo{addcontents lst@@caption: -\lst@@caption-}%
86           \addcontentsline{lol}{\lstlisting}%
87 {\protect\numberline{\thelstlisting}%
88 {\protect\ignorespaces \LWR@isolate{\lst@@caption} \protect\relax}%
89   \fi
90   \fi
91   \fi
92   \ifx\lst@caption\@empty\else
93 \LWR@traceinfo{lst@caption not empty-}%
94   \lst@IfSubstring #1\lst@captionpos
95   {\begingroup
96 \LWR@traceinfo{at the selected position}%

```

These space and box commands are not needed for HTML output:

```
97 %           \let@\vskip\vskip
98 %           \def\vskip{\afterassignment\lst@vskip \tempskipa}%
99 %           \def\lst@vskip{\nobreak\@vskip\tempskipa\nobreak}%
```

```

100 %          \par\@parboxrestore\normalsize\normalfont % \noindent (AS)
101 %          \ifx #1\allowbreak \fi
102          \ifx\lst@title\empty

```

New lwarf code to create a caption:

```

103          \LWR@stoppars%
104          \lst@makecaption\fnum@lstlisting{\ignorespaces \lst@caption}
105          \else

```

New lwarf code to create a title:

```

106 %          \lst@maketitle\lst@title % (AS)
107 \LWR@traceinfo{Making title: \lst@title}%
108 \begin{BlockClass}{lstlistingtitle}%
109 \lst@maketitle\lst@title%          lwarf
110 \end{BlockClass}%
111          \fi
112 \LWR@traceinfo{About to assign label: !\lst@label!}%
113          \ifx\lst@label\empty\else
114 \leavevmode% gets rid of bad space factor error
115 \GetTitleStringExpand{\lst@caption}%
116 \edef\LWR@lntemp{\GetTitleStringResult}%
117 \edef@\currentlabelname{\detokenize\expandafter{\LWR@lntemp}}%
118 \label{\lst@label}\fi
119 \LWR@traceinfo{Finished assigning the label.}%

```

Not needed for lwarf:

```

120 %          \ifx #1b\allowbreak \fi
121          \endgroup}{}%
122          \fi
123 \LWR@traceinfo{end of making a listings display caption}%
124          \else
125 \LWR@traceinfo{INLINE}%
126          \fi
127 \LWR@traceinfo{DONE WITH CAPTION at #1}%
128 }
129
130 \renewcommand{\lst@maketitle}[1]{%
131          \LWR@isolate{#1}%
132 }%
133

```

**line numbers** Patched to keep left line numbers outside of the left margin, and place right line numbers in a field \VerbatimHTMLWidth wide.

```

134 \lst@Key{numbers}{none}{%
135          \let\lst@PlaceNumber\empty
136          \lstKV@SwitchCases{#1}%
137          {none:\\%
138          left:\def\lst@PlaceNumber{%

```

For now, lwarf places left line numbers inline. Ideally the entire line would be moved to the right, but conflicts with list indenting occurs.

```

139 %          \LWR@origllap{%

```

---

```

140           \LWR@orignormalfont%
141           \lst@numberstyle{\thelstnumber}\kern\lst@numbersep%
142 %         }
143 }\\%
144   right:\def\lst@PlaceNumber{\LWR@origrlap{\LWR@orignormalfont
145           \kern 6in \kern\lst@numbersep%
146           \lst@numberstyle{\thelstnumber}}}
147 }{\PackageError{lwarp-listings}{Numbers #1 unknown}@ehc}

148 \end{warpHTML}

```

---

File 230 **lwarp-listliketab.sty**

§ 336 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 231 **lwarp-lltjext.sty**

§ 337 Package **lltjext**

(Emulates or patches code by THE LUATEX-JA PROJECT TEAM.)

Pkg **lltjext** **lltjext** is patched for use by **lwarp**.

**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 232 **lwarp-longtable.sty**

## § 338 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 }
```

---

```

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
42       \protect\endfirsthead\space\MessageBreak
43       \space phrase as-is, 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: Add a final footer for HTML at the end of the table\MessageBreak
48       \space inside a \protect\warpHTMLonly\space macro.
49       This can be\MessageBreak
50       \space a copy of an \protect\endfoot\space or
51           \protect\endfirstfoot\space phrase,\MessageBreak
52       \space but without the actual \protect\endfoot\space
53           or \protect\endfirstfoot\MessageBreak
54       \space macros. If using threeparttable, add\MessageBreak
55       \space \protect\insertTableNotes\space here,
56           optionally with\MessageBreak
57           \space \protect\UseMinipageWidths\space in front.\MessageBreak
58   See the Lwarp documentation regarding longtables\MessageBreak
59   and threeparttable}
60   {See the Lwarp documentation regading longtables and threeparttablex.}
61 }

```

Error if more than one of \endhead or \endfirsthead is outside of warpprintonly.

```

62 \newcommand*{\LWR@longtable@maybeheaderror}{%
63 \ifbool{LWR@longtable@havehead}%
64   {\LWR@longtable@headerror}%
65   {%
66     \booltrue{LWR@longtable@havehead}%
67     \LWR@tabularendofline% throws away options //dim] and //*
68   }%
69 }

```

Error if more than one of these is outside of warpprint.

```

70 \def\endhead{\LWR@Longtable@maybeheaderror}
71 \def\endfirsthead{\LWR@longtable@maybeheaderror}

```

---

Error if ANY of these is outside of `\warpprint`.

```

72 \def\endfoot{\LWR@longtable@headerror}
73 \def\endlastfoot{\LWR@longtable@headerror}

74 \providecommand*\LWR@HTML@tabularnewline{\LWR@tabularendofline}
75 \LWR@formatted{tabularnewline}

76 \newcommand{\setlongtables}{}% Obsolete command, does nothing.
77 \newlength{\LTleft}
78 \newlength{\LTright}
79 \newlength{\LTpre}
80 \newlength{\LTpost}
81 \newlength{\LTcapwidth}

82 \LetLtxMacro{\LWR@origkill}{\kill}
83 \renewcommand*\kill{\LWR@tabularendofline}
84 \appto{\LWR@restoreorigformatting}{%
85 \LetLtxMacro{\kill}{\LWR@origkill}%
86 }

```

---

### File 233 **l warp-lscape.sty**

#### § 339 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 234 **l warp-ltablex.sty**

#### § 340 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 235 l warp-ltcaption.sty****§ 341 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 236 l warp-ltxgrid.sty****§ 342 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*{\replacestuff}[2]{}{}
```

---

File 237 **l warp-ltxtable.sty**

§ 343 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 {<width>} {<file>}  
3 \newcommand*{\LTXtable}[2]{%  
4   \input{#2}%  
5 }
```

---

File 238 **l warp-lua-check-hyphen.sty**

§ 344 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 239 **l warp-lua-visual-debug.sty**

§ 345 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 240 **l warp-luacolor.sty**

§ 346 Package **luacolor**

Pkg luacolor luacolor is ignored.

**for HTML output:** 1 `\LWR@ProvidesPackageDrop{luacolor}[2016/05/16]`

---

```
2 \newcommand{\luacolorProcessBox}[1]{}
```

---

File 241 **l warp-luamplib.sty**

§ 347 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 242 **l warp-luatexko.sty**

§ 348 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 243 **l warp-luatodonotes.sty**

§ 349 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}{\ldo}{#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 244 **l warp-lyluatex.sty**

§ 350 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 **l warpmk html**, use **l warpmk limages** to convert the Lilypond images for HTML.

**css** 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.  
**css** 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     \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 245 **lwarp-magaz.sty**

#### § 351 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@textcolor{%
6             \LWR@textfont{%
7                 #1%
8             }%
9         }%
10    }%
11    \endgroup%
12 }
13
14 \providecommand\FirstLineFont{\scshape}
```

---

**File 246 l warp-makeidx.sty**

§ 352      Package **makeidx**

*(Emulates or patches code by LATEX PROJECT TEAM.)*

Pkg **makeidx** **makeidx** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{makeidx}[2014/09/29]

\@wrindex is redefined \AtBeginDocument by the **l warp** core.

\printindex

```
2 \preto\printindex{%
3   \LWR@maybe@orignewpage%
4   \LWR@startpars%
5 }
```

---

**File 247 l warp-manyfoot.sty**

§ 353      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 **l warp** uses many counters, and there is a difference in how counters numbered 256 and up are handled in pdfLATEX. 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 XELATEX or LuaLATEX instead of pdfLATEX.

**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     }% not "default"
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     \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 minuses, 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 248 **l warp-marginal.sty**

§ 354 Package **marginal**

Pkg marginal marginal is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{marginal}

2 \newcommand*\showlostmarginals{}%
3 \newcommand*\enlargefreelist{}%
4 \newcommand*\onesidemarginals{}%

```

---

File 249 **l warp-marginfit.sty**

§ 355 Package **marginfit**

Pkg marginfit marginfit is ignored.

**for HTML output:** Discard all options for l warp-marginfit:

```

1 \LWR@ProvidesPackageDrop{marginfit}[2018/06/08]

```

---

**File 250 l warp-marginfix.sty****§ 356 Package marginfix**

(Emulates or patches code by STEPHEN HICKS.)

Pkg marginfix marginfix is ignored.

**for HTML output:** Discard all options for l warp-marginfix:

```
1 \LWR@ProvidesPackageDrop{marginfix}[2013/09/08]

2 \newcommand*{\marginskip}[1]{}
3 \newcommand*{\clearmargin}{}
4 \newcommand*{\softclearmargin}{}
5 \newcommand*{\extendmargin}[1]{}
6 \newcommand*{\mparshift}[1]{}
7 \newdimen\marginheightadjustment
8 \newdimen\marginposadjustment
9 \newcommand*{\blockmargin}[1][]{}
10 \newcommand*{\unblockmargin}[1][]{}
11 \newcommand*{\marginphantom}[2][]{}
```

---

**File 251 l warp-marginnote.sty****§ 357 Package marginnote**

(Emulates or patches code by MARKUS KOHM.)

Pkg marginnote marginnote is emulated.

**for HTML output:** Discard all options for l warp-marginnote:

```
1 \LWR@ProvidesPackageDrop{marginnote}[2018/08/09]

2 \NewDocumentCommand{\marginnote}{+o +m o}{\marginpar{\#2}{}}

3 \newcommand*{\marginnotefleftadjust}{}
4 \newcommand*{\marginnoterightadjust}{}
5 \newcommand*{\marginnotetextwidth}{}
6 \let\marginnotetextwidth\textwidth
7 \newcommand*{\marginnotevadjust}{}
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][]{\qquad\small\textrm{#1}}\LWRmarginnote}
16 \CustomizeMathJax{\newcommand{\marginnote}[2][]{\qquad\small\textrm{#2}}\LWRmarginnote}
17 \end{warpMathJax}
```

---

### File 252 l warp-marvosym.sty

#### § 358 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 253 l warp-mathalpha.sty

#### § 359 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 254 **l warp-mathcomp.sty**

§ 360 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}{\mathrm{C}}}
5 \CustomizeMathJax{\newcommand{\tcmu}{\mathrm{\mu}}}
6 \CustomizeMathJax{\newcommand{\tcpertousand}{\mathrm{\perthousand}}}
7 \CustomizeMathJax{\newcommand{\cpertousand}{\mathrm{\perthousand}}}
8 \CustomizeMathJax{\newcommand{\cdegree}{\mathrm{^\circ C}}}
9 \CustomizeMathJax{\newcommand{\cdigitoldstyle}[1]{\mathrm{\oldstyle{#1}}}}
10 \end{warpMathJax}

```

---

File 255 **l warp-mathdesign.sty**

§ 361 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. The explicit macros for upright and italic greek letters do 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@origRequirePackage{l warp-common-mathjax-letters}
 2 \LWR@origRequirePackage{l warp-common-mathjax-overlaysymbols}
 3
 4 \LWR@ProvidesPackagePass{mathdesign}[2013/08/29]

For MATHJAX:

```

5 \begin{warpMathJax}
6 \LWR@infoprocessingmathjax{mathdesign}
7
8 % upright
9 \LWR@mathjax@addgreek@l@up{}{up}

```

```

10 \LWR@mathjax@addgreek@u@up*{}{up}
11
12
13 % italicized
14 \LWR@mathjax@addgreek@l@it{}{it}
15 \LWR@mathjax@addgreek@u@it*{}{it}
16
17 % adapt to mathdesign inconsistency:
18 \CustomizeMathJax{\let\digammaup\Digammaup}
19 \CustomizeMathJax{\renewcommand{\digammaait}{\mathit{\digammaup}}}
20
21 % extra symbols
22 \CustomizeMathJax{\newcommand{\smallin}{\unicode{x220A}}}
23 \CustomizeMathJax{\newcommand{\smallowns}{\unicode{x220D}}}
24 \CustomizeMathJax{\newcommand{\notsmallin}{\LWRoverlaysymbols{/}{\unicode{x220A}}}}
25 \CustomizeMathJax{\newcommand{\notsmallowns}{\LWRoverlaysymbols{/}{\unicode{x220D}}}}
26 \CustomizeMathJax{\newcommand{\rightangle}{\unicode{x221F}}}
27
28 % integrals
29 \CustomizeMathJax{\newcommand{\intclockwise}{\unicode{x2231}}}
30 \CustomizeMathJax{\newcommand{\ointclockwise}{\unicode{x2232}}}
31 \CustomizeMathJax{\newcommand{\ointcclockwise}{\unicode{x2233}}}
32 \CustomizeMathJax{\newcommand{\oint}{\unicode{x222F}}}
33 \CustomizeMathJax{\newcommand{\oiint}{\unicode{x2230}}}
34
35 % math and text mode
36 \CustomizeMathJax{\newcommand{\ddag}{\unicode{x2021}}}
37 \CustomizeMathJax{\newcommand{\P}{\unicode{x00B6}}}
38 \CustomizeMathJax{\newcommand{\copyright}{\unicode{x00A9}}}
39 \CustomizeMathJax{\newcommand{\dag}{\unicode{x2020}}}
40 \CustomizeMathJax{\newcommand{\pounds}{\unicode{x00A3}}}
41
42 % extra symbols
43 \CustomizeMathJax{\newcommand{\iddots}{\unicode{x22F0}}}
44 \CustomizeMathJax{\newcommand{\utimes}{\overline{\times}}}
45 \CustomizeMathJax{\newcommand{\dtimes}{\underline{\times}}}
46 \CustomizeMathJax{\newcommand{\udtimes}{\overline{\underline{\times}}}}
47 \CustomizeMathJax{\newcommand{\leftwave}{\left\langle}}
48 \CustomizeMathJax{\newcommand{\rightwave}{\right\rangle}}
49
50 \end{warpMathJax}

```

File 256 **lwarp-mathdots.sty**§ 362 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}{\unicode{x22F0}}}
4 \end{warpMathJax}
```

---

File 257 **lwarp-mathfixs.sty**

§ 363 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]{\{}^{\#1}\!/\!\{\}_{\#2}\}}
5 \CustomizeMathJax{\newcommand{\ProvideMathFix}[1]\{}}
6 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
7 \CustomizeMathJax{\newcommand{\.}{\,,\}}
8 \end{warpMathJax}
```

---

File 258 **lwarp-mathpazo.sty**

§ 364 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 explicit macros for upright greek letters do work correctly. SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
 2
 3 \LWR@ProvidesPackagePass{mathpazo}[2020/03/25]

For MATHJAX:

```

4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathpazo}
6
7 \LWR@mathjax@addgreek@u@up*{up}\{}
8
9 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
10 \end{warpMathJax}
```

---

**File 259 l warp-mathptmx.sty****§ 365 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 explicit macros for upright greek letters do work correctly. SVG math should appear the same as the printed output.

**for HTML output:**

```
1 \LWR@origRequirePackage{l warp-common-mathjax-letters}
2
3 \LWR@ProvidesPackagePass{mathptmx}[2020/03/25]
```

For MATHJAX:

```
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathptmx}
6
7 \LWR@mathjax@addgreek@u@up*{up}{}
8 \end{warpMathJax}
```

---

**File 260 l warp-mathtools.sty****§ 366 Package mathtools**

(Emulates or patches code by MORTEN HØGHLØM, 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 \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 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 lwarp uses cleveref, which is not compatible with showonlyrefs.

```
4 \renewcommand*\MT_showonlyrefs_true:{%
5   \PackageWarningNoLine{lwarp}
6   {%
7     Mathtools \space showonlyrefs \space conflicts \space
8     with \space cleveref, \MessageBreak
9     which \space is \space used \space by \space lwarp, \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 lwarp.

```
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]{\underbrace{\#3}_{\#1}}}
56 \CustomizeMathJax{\newcommand{\LWRunderbrace}[2][]{\LWRdounderbrace{\#2}}}
57 \CustomizeMathJax{\newcommand{\underbrace}[1][]{\LWRunderbrace}}
58 \CustomizeMathJax{\newcommand{\LWRdooverbrace}[3]{\overbrace{\#3}_{\#1}}}
59 \CustomizeMathJax{\newcommand{\LWRoverbrace}[2][]{\LWRdooverbrace{\#2}}}
60 \CustomizeMathJax{\newcommand{\overbrace}[1][]{\LWRoverbrace}}
61
62 \CustomizeMathJax{\newcommand{\LaTeXunderbrace}[1]{\underbrace{\#1}}}
63 \CustomizeMathJax{\newcommand{\LaTeXoverbrace}[1]{\overbrace{\#1}}}
64
65 \CustomizeMathJax{\newenvironment{matrix*}[1][]{\begin{matrix}}{\end{matrix}}}
66 \CustomizeMathJax{\newenvironment{pmatrix*}[1][]{\begin{pmatrix}}{\end{pmatrix}}}
67 \CustomizeMathJax{\newenvironment{bmatrix*}[1][]{\begin{bmatrix}}{\end{bmatrix}}}
68 \CustomizeMathJax{\newenvironment{Bmatrix*}[1][]{\begin{Bmatrix}}{\end{Bmatrix}}}
69 \CustomizeMathJax{\newenvironment{vmatrix*}[1][]{\begin{vmatrix}}{\end{vmatrix}}}
70 \CustomizeMathJax{\newenvironment{Vmatrix*}[1][]{\begin{Vmatrix}}{\end{Vmatrix}}}
71 \CustomizeMathJax{\newenvironment{smallmatrix*}[1][]{\begin{matrix}}{\end{matrix}}}
72 \CustomizeMathJax{\newenvironment{psmallmatrix*}[1][]{\begin{pmatrix}}{\end{pmatrix}}}
73 \CustomizeMathJax{\newenvironment{bsmallmatrix*}[1][]{\begin{bmatrix}}{\end{bmatrix}}}
74 \CustomizeMathJax{\newenvironment{Bsmallmatrix*}[1][]{\begin{Bmatrix}}{\end{Bmatrix}}}
75 \CustomizeMathJax{\newenvironment{vsmallmatrix*}[1][]{\begin{vmatrix}}{\end{vmatrix}}}
76 \CustomizeMathJax{\newenvironment{Vsmallmatrix*}[1][]{\begin{Vmatrix}}{\end{Vmatrix}}}
77 \CustomizeMathJax{\newenvironment{psmallmatrix}[1][]{\begin{pmatrix}}{\end{pmatrix}}}
78 \CustomizeMathJax{\newenvironment{bsmallmatrix}[1][]{\begin{bmatrix}}{\end{bmatrix}}}
```

```
79 \CustomizeMathJax{\newenvironment{Bsmallmatrix}[1][]{\begin{Bmatrix}}{\end{Bmatrix}}}
80 \CustomizeMathJax{\newenvironment{vsmallmatrix}[1][]{\begin{vmatrix}}{\end{vmatrix}}}
81 \CustomizeMathJax{\newenvironment{Vsmallmatrix}[1][]{\begin{Vmatrix}}{\end{Vmatrix}}}
82
83
84 \CustomizeMathJax{\newcommand{\LWRmultlined}[1][]{\begin{multline*}}}
85 \CustomizeMathJax{\newenvironment{multlined}[1][]{\LWRmultlined}{\end{multline*}}}
86
87 \CustomizeMathJax{\let\LRorigshoveleft\shoveleft}
88 \CustomizeMathJax{\renewcommand{\shoveleft}[1][]{\LRorigshoveleft}}
89 \CustomizeMathJax{\let\LRorigshoveright\shoveright}
90 \CustomizeMathJax{\renewcommand{\shoveright}[1][]{\LRorigshoveright}}
91
92 \CustomizeMathJax{\newenvironment{dcases}{\begin{cases}}{\end{cases}}}
93 \CustomizeMathJax{\newenvironment{dcases*}{\begin{cases}}{\end{cases}}}
94 \CustomizeMathJax{\newenvironment{rcases}{\begin{cases}}{\end{cases}}}
95 \CustomizeMathJax{\newenvironment{rcases*}{\begin{cases}}{\end{cases}}}
96 \CustomizeMathJax{\newenvironment{drcases}{\begin{cases}}{\end{cases}}}
97 \CustomizeMathJax{\newenvironment{drcases*}{\begin{cases}}{\end{cases}}}
98 \CustomizeMathJax{\newenvironment{cases*}{\begin{cases}}{\end{cases}}}
99
100 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1]{}}
101
102 \CustomizeMathJax{\% special parsing to handle '&' in argument
103     \def\LWRboxed#1##3##1##2{\fbox{##1}\&\fbox{##2}}
104     \newcommand{\boxed}[1]{\LWRboxed{##1}##3##1##2}
105 }
106
107 \CustomizeMathJax{\newcommand{\LWRABLines}[1][\Updownarrow]{##1 \notag \\}% star/nostar the same
108     \newcommand{\ArrowBetweenLines}{\ifstar\LWRABLines\LWRABLines}
109 }
110
111 \CustomizeMathJax{\newcommand{\shortintertext}[1]{\text{#1}\notag \\}}
112 \CustomizeMathJax{\newcommand{\vdotswithin}[1]{\hspace{.5em}\vdots}}
113
114 \CustomizeMathJax{\newcommand{\LWRshortvdotswithinstar}[1]{\vdots \hspace{.5em} & \\}}
115 \CustomizeMathJax{\%
116     \newcommand{\shortvdotswithin}{%
117         \ifstar\LWRshortvdotswithinstar\LWRshortvdotswithinnostar}%
118 }
119
120 \CustomizeMathJax{\newcommand{\MTFlushSpaceAbove}{}}
121 \CustomizeMathJax{\newcommand{\MTFlushSpaceBelow}{\\}}
122
123 \LetLtxMacro{\LWR@mathtools@orig}{\DeclarePairedDelimiter{\DeclarePairedDelimiter}}
124 \renewcommand{\DeclarePairedDelimiter}[3]{%
125     \LWR@mathtools@orig{\DeclarePairedDelimiter{##1}{##2}{##3}}%
126 % starred:
127     \appto{\LWR@customizedMathJax}{\LWRbackslash{}}
128     \appto{\LWR@customizedMathJax}{%
129         \LWRbackslash{}newcommand{\LWRbackslash{}macrotocname{##1}}{\LWRsubstar}%
130     }
131 }
```

```
130      }%
131      \appto{\LWR@customizedMathJax{[2]}[]}{%
132      \appto{\LWR@customizedMathJax{\{\{\}}}{%
133      \LWR@subcustomizedmathjax{\#1\left#2##2\#1\right#3}{%
134      \appto{\LWR@customizedMathJax{\}\}}}{%
135      \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}}{%
136 % not starred:
137      \appto{\LWR@customizedMathJax{\LWRbackslash()}{%
138      \appto{\LWR@customizedMathJax{\%}{%
139      \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{\#1}\LWRsubstar\}}}{%
140      }{%
141      \appto{\LWR@customizedMathJax{[2]}[]}{%
142      \appto{\LWR@customizedMathJax{\{\{\}}}{%
143      \LWR@subcustomizedmathjax{\#1\#2##2\#1\#3}{%
144      \appto{\LWR@customizedMathJax{\}\}}}{%
145      \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}}{%
146 % user macro:
147      \appto{\LWR@customizedMathJax{\LWRbackslash()}{%
148      \appto{\LWR@customizedMathJax{\%}{%
149      \LWRbackslash{}newcommand{\LWRbackslash{}\macrotocname{\#1}\}}}{%
150      \{\LWRbackslash{}ifstar{%
151          \LWRbackslash{}\macrotocname{\#1}\LWRsubstar{%
152          \LWRbackslash{}\macrotocname{\#1}\LWRsubstar{%
153          }{%
154          }{%
155          \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}}{%
156      }{%
157 @onlypreamble\DeclarePairedDelimiter
158
159 % (DeclarePairedDelimiterX is already defined to use \DeclarePairedDelimiterXPP.)
160
161 \LetLtxMacro{\LWR@mathtools@orig}{\DeclarePairedDelimiterXPP\DeclarePairedDelimiterXPP}
162 \DeclareDocumentCommand{\DeclarePairedDelimiterXPP}{m O{1} m m m m}{%
163     \LWR@mathtools@orig\macrotocname{\#1}[\#2][\#3][\#4][\#5][\#6][\#7]{%
164 % subsubstar, second opt arg
165     \appto{\LWR@customizedMathJax{\LWRbackslash()}{%
166     \appto{\LWR@customizedMathJax{\%}{%
167     \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{\#1}\LWRsubsubstar\}}}{%
168     }{%
169     \appto{\LWR@customizedMathJax{[2]}%}{%
170     \appto{\LWR@customizedMathJax{\{\{\}}\left}{%
171     \LWR@subcustomizedmathjax{\#3\#4\#7}{%
172     \appto{\LWR@customizedMathJax{\right}}{%
173     \LWR@subcustomizedmathjax{\#5\#6}{%
174     \appto{\LWR@customizedMathJax{\}\}}}{%
175     \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}}{%
176 % substar, first opt arg
177     \appto{\LWR@customizedMathJax{\LWRbackslash()}{%
178     \appto{\LWR@customizedMathJax{\%}{%
179     \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{\#1}\LWRsubstar\}[1][]{%
180     }{%
181     \appto{\LWR@customizedMathJax{\%}{%
182         \{%
183         \LWRbackslash{}def{\LWRbackslash{}delimsize{\#1\}}{%
184         \LWRbackslash\macrotocname{\#1}\LWRsubsubstar{}}
```

```
185      \}%
186      }%
187      \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}%
188 % subsubnstar, second opt arg
189      \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
190      \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
191          \LWRbackslash{}newcommand{\LWRbackslash\macro{#1}\LWRsubsubnstar\}}%
192      }%
193      \appto{\LWR@customizedMathJax{[#2]}}{%
194      \appto{\LWR@customizedMathJax{\{\{\LWRbackslash\}delimsize\}}}{%
195          \LWR@subcustomizedmathjax{#3#4#7}%
196      \appto{\LWR@customizedMathJax{\LWRbackslash\}delimsize\}}{%
197          \LWR@subcustomizedmathjax{#5#6}%
198      \appto{\LWR@customizedMathJax{\{\}}\}}%
199      \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}%
200 % subnstar, first opt arg
201      \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
202      \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
203          \LWRbackslash{}newcommand{\LWRbackslash\macro{#1}\LWRsubnstar\}[1][]\}}%
204      }%
205      \appto{\LWR@customizedMathJax{\{%
206          \{%
207              \LWRbackslash\def{\LWRbackslash\}delimsize{\#1\}}%
208              \LWRbackslash\macro{#1}\LWRsubsubnstar
209          \}}%
210      }%
211      \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}%
212 % user macro:
213      \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
214      \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
215          \LWRbackslash{}newcommand{\%%
216              \LWRbackslash\macro{#1}\%
217          \}}%
218          \{\LWRbackslash\ifstar%
219              \LWRbackslash\macro{#1}\LWRsubstar%
220              \LWRbackslash\macro{#1}\LWRsubnstar%
221          \}%
222      }%
223      \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}%
224 }
225 @onlypreamble\DeclareParedDelimiterXPP
226 @onlypreamble\DeclareParedDelimiterX
227
228 \CustomizeMathJax{\newcommand{\lparen}{()}}
229 \CustomizeMathJax{\newcommand{\rparen}{()}}
230 \CustomizeMathJax{\newcommand{\ordinarycolon}{::}}
231 \CustomizeMathJax{\newcommand{\vcentcolon}{\mathrel{\mathop{\ordinarycolon}}}}
232
233 \CustomizeMathJax{\newcommand{\dblcolon}{\vcentcolon\vcentcolon}}
234 \CustomizeMathJax{\newcommand{\coloneqq}{\vcentcolon=}}
235 \CustomizeMathJax{\newcommand{\Coloneqq}{\dblcolon=}}
236 \CustomizeMathJax{\newcommand{\coloneq}{\vcentcolon{-}}}
237 \CustomizeMathJax{\newcommand{\Coloneq}{\dblcolon{-}}}
238
```

```

239 \CustomizeMathJax{\newcommand\eqqcolon{=\vcentcolon}}
240 \CustomizeMathJax{\newcommand\Eqqcolon{=\dblcolon}}
241 \CustomizeMathJax{\newcommand\eqcolon{\mathrel{-}\vcentcolon}}
242 \CustomizeMathJax{\newcommand\Eqcolon{\mathrel{-}\dblcolon}}
243
244 \CustomizeMathJax{\newcommand\colonapprox{\vcentcolon\approx}}
245 \CustomizeMathJax{\newcommand\Colonapprox{\dblcolon\approx}}
246 \CustomizeMathJax{\newcommand\colonsim{\vcentcolon\sim}}
247 \CustomizeMathJax{\newcommand\Colonsim{\dblcolon\sim}}
248

249 \CustomizeMathJax{\newcommand{\nuparrow}{\mathrel{\cancel{\uparrow}}}}
250 \CustomizeMathJax{\newcommand{\ndownarrow}{\mathrel{\cancel{\downarrow}}}}
251 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\Large\times}\limits}}
252
253 \CustomizeMathJax{\newcommand{\prescript}[3]{{}^{\#1}{}_{\#2}\#3}}
254
255
256 \CustomizeMathJax{\newenvironment{lgathered}{\begin{gathered}}{\end{gathered}}}
257 \CustomizeMathJax{\newenvironment{rgathered}{\begin{gathered}}{\end{gathered}}}
258
259 \LetLtxMacro{\LWR@mathtools@orig}{\newgathered\newgathered}
260 \renewcommand{\newgathered}[4]{%
261   \LWR@mathtools@orig{\newgathered{\#1}{\#2}{\#3}{\#4}}%
262   \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
263     \LWR@subcustomizedmathjax{%
264       \newenvironment{\#1}{\begin{gathered}}{\end{gathered}}}}%
265 }%
266   \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
267 }
268 \onlypreamble{\newgathered}
269
270 \CustomizeMathJax{\newcommand{\splitfrac}[2]{{}^{\#1}{}_{\#2}}}
271 \CustomizeMathJax{\let\splitdfrac\splitfrac}
272 \end{warpMathJax}

```

### File 261 **l warp-mcaption.sty**

§ 367      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{\margincapssep}
```

---

File 262 **l warp-mdframed.sty**

§ 368 Package **mdframed**

(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)

Pkg **mdframed** **mdframed** is loaded with options forced to `framemethod=none`.

§ 368.1 **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.

## § 368.2 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}
```

## § 368.3 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
```

## § 368.4 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 }
```

## § 368.5 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 }
```

## § 368.6 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@htmlltagc{div class=%
51 mdframed%
52 \ifdefstring{\LWR@mdthisenv}{mdframed}{}{\LWR@mdthisenv}%
53 " \LWR@orignewline
54 style=" \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 "}
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*\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 }

```

## § 368.7 Mdframed environment

```

83 \renewenvironment{mdframed}[1][]{%
84   \color@begingroup%
85   \mdfsetup{userdefinedwidth=\linewidth,#1}%
86   \mdf@startcode%
87   \mdf@preenvsetting%
88   \ifdefempty{\mdf@frametitle}{%
89     {\let\mdf@frametitlesave\mdf@frametitle%
90      \let\mdf@frametitle\mdf@frametitle%
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     }%
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@reserved{%
126 \aftergroup\endmdf@trivlist%
127 \color@endgroup%
128 \mdf@endcode%
129 }

\mdf@footnoteoutput
130 \renewrobustcmd*\mdf@footnoteoutput{%
131     \LWR@printpendingmpfootnotes%
132 }

```

### § 368.8 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 \ifbool{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 ]{mdframedtitle}%

Print the title inside the <div>:

149 \mdf@frametitlefont{\LWR@textcurrentfont{\#1}}%

Close the <div>:

```
150 \end{BlockClass}%
151 \LWR@traceinfo{\LWR@mdframedtitleenv 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     \LWR@traceinfo{\LWR@mdframedsubtitlecommon start}%
156 }
```

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 { \nameuse{\LWR@origmdf#1title}{\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}}%
178 { \nameuse{\LWR@origmdf#1title}{\#2}{\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}}%

```

Close the <div>:

```

179 \end{BlockClass}%
180 \LWR@traceinfo{\LWR@mdframedsubtitlecommon end}%
181 }

```

\LWR@mdfsubtitle [⟨options⟩] {⟨title⟩}

```

182 \newcommand*{\LWR@mdfsubtitle}{%
183 \LWR@mdfsubtitlecommon{sub}%
184 }
185 \let\mdfsubtitle\LWR@mdfsubtitle

```

\LWR@mdfsubsubtitle [⟨options⟩] {⟨title⟩}

```

186 \newcommand*{\LWR@mdfsubsubtitle}{%
187 \LWR@mdfsubtitlecommon{subsub}%
188 }
189 \let\mdfsubsubtitle\LWR@mdfsubsubtitle

```

### § 368.9 New environments

\LWR@mdthisenv Stores the environment of the frame about to be created:

```
190 \newcommand*{\LWR@mdthisenv}{mdframed}
```

\newmdenv [⟨options⟩] {⟨env-name⟩}

Modified from the original to remember the environment.

```

191 \renewrobustcmd*\newmdenv[2][]{%
192 \newenvironment{#2}%
193 {%
194 \mdfsetup{#1}%
195 \renewcommand*{\LWR@mdthisenv}{md#2}%
196 \begin{mdframed}%
197 }%
198 {\end{mdframed}}%
199 }

```

\surroundwithmdframed [⟨options⟩] {⟨environment⟩}

Modified from the original to remember the environment.

```
200 \renewrobustcmd*\surroundwithmdframed[2][]{%
```

```

201 \BeforeBeginEnvironment{#2}{%
202 \renewcommand*\LWR@mdthisenv{md#2}%
203 \begin{mdframed}[#1]%
204 \AfterEndEnvironment{#2}{\end{mdframed}}%
205 }

```

\mdtheorem [⟨mdframed-options⟩] {⟨envname⟩} [⟨numberedlike⟩] {⟨caption⟩} [⟨within⟩]  
 Modified from the original to remember the environment.

```

206 \DeclareDocumentCommand{\mdtheorem}{ O{} m o m o }{%
207   \Ifcsdef{#2}{%
208     {\LWR@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{\LWR@theoremseparator%
222               \LWR@thespace%
223               \LWR@titlefont%
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{\LWR@theoremseparator%
247                 \LWR@thespace%
248                 \LWR@titlefont%
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}}% l warp
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}}% l warp
280              \mdf@thm@caption{\#2}{\#4}{\csname the\#2\endcsname}{\#1}}%
281          }%
282          \begin{mdframed}[\#1,frametitle={\strut\#4\ \csname the\#2\endcsname%
283                                         \@temptitle}]]}%
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}}% l warp
291          \BeforeBeginEnvironment{\#2*}{\renewcommand*{\LWR@mdthisenv}{md\#2}}% l warp
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 263 **l warp-media9.sty**

#### § 369 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.

`\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/...`

-  & 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}{}%
```

Each **addr**esource can generate a multimedia object.

```
10 \define@key{\LWR@medianine}{addr}{%
11   \expandafter\lwr@multimedia\expandafter[\LWR@medianine@options]%
12   {\LWR@medianine@postertext}%
13   {#1}%
14 }
```

Each **flashvars** source 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   \endgroup%
48 }
49
50 \newrobustcmd*{\includemedia}{%
51   \begingroup%
52   \LWR@linkmediacatcodes%
53   \LWR@includemediab%
54 }

\mediabutton  [⟨options⟩] {⟨text⟩}
Ignored.
55 \newcommand*{\mediabutton}[2][]{}

---


```

#### File 264 **l warp-memhfixc.sty**

§ 370 Package **memhfixc**

Pkg memhfixc memhfixc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{memhfixc}[2013/05/30]

---

#### File 265 **l warp-metalogo.sty**

§ 371 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 266 **l warp-metalogox.sty**

§ 372 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 267 **l warp-mhchem.sty**

§ 373 Package **mhchem**

*(Emulates or patches code by MARTIN HENSEL.)*

Pkg **mhchem** **mhchem** is patched for use by **l warp**.

**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:

$\text{\ce{C6H5-CHO}}$

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, l warp converts standalone mhchem expressions into SVG math images.

**⚠ nested math**

When producing HTML output without the MATHJAX mhchem extension, l warp 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 lateximage 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@fakebold}{%
6   {\def\LWR@tempone{Y}}{%
7   {\def\LWR@tempone{N}}{%
8 \begin{lateximage}*[\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{lateximage}%
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 lateximage 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 \ifboolex{\LWR@xfakebold}{%
38   {\def\LWR@tempone{Y}}%
39   {\def\LWR@tempone{N}}%
40 \begin{lateximage}*[\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{lateximage}%
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 lateximage:

```

64 \appto\LWR@restoreorigformatting{%
65 \LetLtxMacro\ce\LWR@mhchem@origce%
66 \LetLtxMacro\cesplit\LWR@mhchem@origcesplit%
67 }
68
69 \begin{warpHTML}
70 \CustomizeMathJax{\require{mhchem}}
71 \end{warpHTML}
```

#### File 268 **l warp-microtype.sty**

### § 374 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 269 **l warp-midfloat.sty**

§ 375 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][]{\begingroup\def\par{\ignorespaces}}
```

```
3 \newskip\stripsep
```

---

File 270 **l warp-midpage.sty**

§ 376 Package **midpage**

Pkg midpage midpage is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{midpage}[2009/09/03]

```
2 \newenvironment{midpage}
```

```
3 {\begin{BlockClass}[\vphantom{A}]
```

```
4     \LWR@print@mbox{margin-top:6ex} ; \LWR@print@mbox{margin-bottom:6ex}%
```

```
5 ]{midpage}}
```

```
6 {\end{BlockClass}}
```

---

File 271 **l warp-minibox.sty**

§ 377 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 272 l warp-minitoc.sty

§ 378 Package **minitoc**

Pkg minitoc minitoc is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{minitoc}[2018/07/12]

mtcoff disables minitoc.

```
2 \usepackage{mtcoff}
```

---

File 273 **l warp-mismath.sty**

§ 379 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 HTML output:** 1 \LWR@ProvidesPackagePass{mismath}[2019/12/27]

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 `\lateximage` restores the original definition of the `math` environment.

```
9 {%
10   \renewenvironment{mathcols}{%
11     \begin{latexitimage}
12     \begin{math}
13     \begin{aligned}\displaystyle
14   }{%
15     \end{aligned}%
16     \end{math}
17     \end{latexitimage}
18   }
19 }% svg
```

```
20
21 \renewcommand{\changecol}{%
22   \end{aligned} \quad
23   \begin{aligned}\displaystyle
24 \}
25
26 \begin{warpMathJax}
27 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}
28 \CustomizeMathJax{\newcommand{\mathrm{e}}{\mathrm{e}}}
29 \CustomizeMathJax{\newcommand{\mathrm{i}}{\mathrm{i}}}
30 \CustomizeMathJax{\newcommand{\mathrm{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{\vphantom{h}}\mathrm{#1}}}
36 \CustomizeMathJax{\newcommand{\hvec}[1]{\vec{\vphantom{t}}\mathrm{#1}}}
37 \CustomizeMathJax{%
38   \newcommand{\norm}[1]{\left\| \vphantom{#1} \right. \left. \vphantom{#1} \right\| \mathrm{#1}}
39 }
40 \CustomizeMathJax{\newcommand{\mathrm{d}}{\mathrm{d}}}
41
42 \CustomizeMathJax{\newcommand{\mathrm{P}}{\operatorname{\mathrm{probastyle}}{P}}}
43 \CustomizeMathJax{\newcommand{\mathrm{E}}{\operatorname{\mathrm{probastyle}}{E}}}
44 \CustomizeMathJax{\newcommand{\mathrm{V}}{\operatorname{\mathrm{probastyle}}{V}}}
45 \CustomizeMathJax{\newcommand{\mathrm{Par}}{\text{\scriptsize \texttt{\textbackslash unicode{x00B6}}}}}
46
47 \CustomizeMathJax{\DeclareMathOperator{\mathrm{adj}}{\mathrm{adj}}}
48 \CustomizeMathJax{\DeclareMathOperator{\mathrm{Aut}}{\mathrm{Aut}}}
49 \CustomizeMathJax{\DeclareMathOperator{\mathrm{Conv}}{\mathrm{Conv}}}
50 \CustomizeMathJax{\DeclareMathOperator{\mathrm{cov}}{\mathrm{cov}}}
51 \CustomizeMathJax{\DeclareMathOperator{\mathrm{Cov}}{\mathrm{Cov}}}
52 \CustomizeMathJax{\newcommand{\mathrm{curl}}{\operatorname{\mathrm{vect}}{\mathrm{curl}}}}
53 \CustomizeMathJax{\DeclareMathOperator{\mathrm{divg}}{\mathrm{div}}}
54 \CustomizeMathJax{\DeclareMathOperator{\mathrm{End}}{\mathrm{End}}}
55
56 \CustomizeMathJax{\DeclareMathOperator{\mathrm{erf}}{\mathrm{erf}}}
57 \CustomizeMathJax{\newcommand{\mathrm{grad}}{\operatorname{\mathrm{vect}}{\mathrm{grad}}}}
58 \CustomizeMathJax{\DeclareMathOperator{\mathrm{id}}{\mathrm{id}}}
59 \CustomizeMathJax{\DeclareMathOperator{\mathrm{Id}}{\mathrm{Id}}}
60 \CustomizeMathJax{\DeclareMathOperator{\mathrm{im}}{\mathrm{im}}}
61 \CustomizeMathJax{\let\oldIm\mathrm{Im}}
62 \CustomizeMathJax{\renewcommand{\mathrm{Im}}{\operatorname{\mathrm{Im}}}}
63 \CustomizeMathJax{\DeclareMathOperator{\mathrm{lb}}{\mathrm{lb}}}
64 \CustomizeMathJax{\DeclareMathOperator{\mathrm{lcm}}{\mathrm{lcm}}}
65
66 \CustomizeMathJax{\DeclareMathOperator{\mathrm{rank}}{\mathrm{rank}}}
67 \CustomizeMathJax{\let\oldRe\mathrm{Re}}
68 \CustomizeMathJax{\renewcommand{\mathrm{Re}}{\operatorname{\mathrm{Re}}}}
69 \CustomizeMathJax{\newcommand{\mathrm{rot}}{\operatorname{\mathrm{vect}}{\mathrm{rot}}}}
70 \CustomizeMathJax{\DeclareMathOperator{\mathrm{sgn}}{\mathrm{sgn}}}
71 \CustomizeMathJax{\DeclareMathOperator{\mathrm{spa}}{\mathrm{span}}}
72 \CustomizeMathJax{\DeclareMathOperator{\mathrm{tr}}{\mathrm{tr}}}
73 \CustomizeMathJax{\DeclareMathOperator{\mathrm{Var}}{\mathrm{Var}}}
74 \CustomizeMathJax{\DeclareMathOperator{\mathrm{Zu}}{\mathrm{Z}}}
```

```

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{=}{\mathrel{\mathop:}=}}}
107 \CustomizeMathJax{\newcommand{\unbr}{\underbrace}}
108 \CustomizeMathJax{\newcommand{\iif}{\text{if and only if }}}
109
110 \CustomizeMathJax{\newcommand{\mul}{\mathord{\times}}}
111 \CustomizeMathJax{\newcommand{\then}{\rightarrow \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}\quad\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{\vect{#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 274 **lwarpmleftright.sty**

### § 380 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}{}}
6 \CustomizeMathJax{\newcommand{\mleftrightrestore}{}}
7 \end{warpMathJax}
```

---

**File 275 l warp-morefloats.sty****§ 381 Package morefloats**

Pkg morefloats morefloats is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{morefloats}[2015/07/22]

---

**File 276 l warp-moreverb.sty****§ 382 Package moreverb**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

Pkg moreverb moreverb is supported with some patches.

**for HTML output:** 1 \begin{warpHTML}

2 \LWR@ProvidesPackagePass{moreverb}[2008/06/03]  
  
3 \BeforeBeginEnvironment{verbatimtab}{%  
4 \LWR@forcenewpage  
5 \LWR@atbeginverbatim{3}{Verbatim}%  
6 }  
7 \AfterEndEnvironment{verbatimtab}{%  
8 \LWR@afterendverbatim{1}%  
9 }  
10  
11  
12 \LetLtxMacro{\LWRMV@orig@verbatimtabininput}{\verbatimtabininput}  
13  
14 \renewcommand{\@verbatimtabininput}[2][]{%  
15 \LWR@forcenewpage  
16 \LWR@atbeginverbatim{3}{Verbatim}%  
17 \LWRMV@orig@verbatimtabininput[#1]{#2}%  
18 \LWR@afterendverbatim{1}%  
19 }  
20  
21 \BeforeBeginEnvironment{listing}{%  
22 \LWR@forcenewpage  
23 \LWR@atbeginverbatim{3}{programlisting}%  
24 }  
25  
26 \AfterEndEnvironment{listing}{%  
27 \LWR@afterendverbatim{1}%  
28 }  
29  
30 \BeforeBeginEnvironment{listingcont}{%

```
31 \LWR@forcenewpage
32 \LWR@atbeginverbatim{3}{programlisting}%
33 }
34
35 \AfterEndEnvironment{listingcont}{%
36 \LWR@afterendverbatim{1}%
37 }

38 \LetLtxMacro{\LWRMV@@listinginput}{\listinginput}
39
40 \renewcommand{\@listinginput}[3][]{%
41 \LWR@forcenewpage
42 \LWR@atbeginverbatim{3}{programlisting}%
43 \LWRMV@@listinginput[#1]{#2}{#3}%
44 \LWR@afterendverbatim{1}%
45 }
46
47
48 \renewenvironment*{boxedverbatim}{%
49 {
50 \LWR@forcenewpage
51 \LWR@atbeginverbatim{3}{boxedverbatim}%
52 \verbatim%
53 }
54 {
55 \endverbatim%
56 \LWR@afterendverbatim{1}%
57 }

58 \end{warpHTML}
```

---

**File 277 lwarp-movie15.sty****§ 383 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 `YOUTUBETM` 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{\hyperlink{movie}}[3][]{}
```

---

File 278 **l warp-mparhack.sty**

§ 384 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 279 **l warp-multibib.sty**

§ 385 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}{\@suffix}{\@suffix_html}{}{\LWR@patcherror{multibib}{newcites}}
```

---

File 280 **l warp-multicap.sty**

§ 386 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 281 **l warp-multicol.sty**

§ 387 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 multicols heading is placed inside a <div> of class **multicolshading**.

The content is placed inside a <div> of class **multicols**.

2 \begin{warpHTML}

Env **multicols** \* {\<numcols>} [{\<heading>}]  
3 \NewDocumentEnvironment{multicols}{s m o}

HTML <div> class to contain everything:

4 {  
5 \LWR@forcenewpage  
6 \BlockClass{multicols}

Optional HTML <div> class for the heading:

7 \IfValueT{\#3}{\begin{BlockClass}{multicolshading}\#3\end{BlockClass}}%

Change \linewidth to compensate for expected size:

8 \setlength{\linewidth}{\linewidth/#2}

Locally force any minipages to be fullwidth:

9 \booltrue{\LWR@forceminipagefullwidth}  
10 }

When done with the environment, close the <div>:

11 \endBlockClass

Emulated null functions which are not used in HTML:

12 \newcommand\*{\columnbreak}{}  
13 \newcommand\*{\RLmulticolcolumns}{}  
14 \newcommand\*{\LRmulticolcolumns}{}  
15  
16 \newlength{\premulticols}  
17 \newlength{\postmulticols}  
18 \newlength{\multicolsep}

---

```

19 \newlength{\multicolbaselineskip}
20 \newlength{\multicoltolerance}
21 \newlength{\multicolpretolerance}
22 \newcommand*\{columnseprulecolor}{\normalcolor}
23 \newcounter{columnbadness}
24 \newcounter{finalcolumnbadness}
25 \newcounter{collectmore}
26 \newcounter{unbalance}
27 \newlength{\multicolovershoot}
28 \newlength{\multicolundershoot}

29 \NewDocumentCommand{\docolaction}{s o m m}{%
30     \IfValueTF{#2}{#2}{#3}%
31 }

32 \end{warpHTML}

```

---

File 282 **l warp-multicolrule.sty**

§ 388 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 283 **l warp-multimedia.sty**

§ 389 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 \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 `YOUTUBETM` video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{multimedia}[2012/05/02]

2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \LetLtxMacro{\movie}{\LWR@multimedia}
5 \LetLtxMacro{\sound}{\LWR@multimedia}
6
7 \newcommand{\hyperlinkmovie}[3][]{}

```

---

#### File 284 **lwarp-multiobjective.sty**

### § 390 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}{\prec}}
4 \CustomizeMathJax{\newcommand{\negdom}{\not\prec}}
5 \CustomizeMathJax{\newcommand{\weakdom}{\preccurlyeq}}
6 \CustomizeMathJax{\newcommand{\negweakdom}{\not\preccurlyeq}}
7 \CustomizeMathJax{\newcommand{\strictdom}{\prec\!\!\!\prec}}
8 \CustomizeMathJax{\newcommand{\negstrictdom}{\not\prec\!\!\!\prec}}
9 \CustomizeMathJax{\newcommand{\multepsilondom}{\preccurlyeq_{\epsilon\cdot}}}
10 \CustomizeMathJax{\newcommand{\addiepsilondom}{\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{\{\mathrm{arg}\}}\limits^{\mathrm{max}}}}
28 \CustomizeMathJax{\def\argmin{\mathop{\{\mathrm{arg}\}}\limits^{\mathrm{min}}}
29 }%
30 \end{warpMathJax}

```

File 285 **lwarp-multirow.sty**

§ 391 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 **lateximage**.

**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 391.2 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,

⚠ **skipped cells**

- ⚠ **empty cells** `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

```
... & \multicolumn{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 `lateximage`, `\LWR@restoreorigformatting` restores the original print-mode versions.

See section [73.25](#) 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}[2018/08/03]
```

`\LWR@multirowborder` Set to `left` or `right` to create a thick border for the cell, for use by `bigdelim`:

```
3 \newcommand{\LWR@multirowborder}{}%
```

### § 391.1 Multirow

```
\multirow [⟨vpos⟩] {⟨numrows⟩} [⟨bigstruts⟩] {⟨width⟩} [⟨fixup⟩] {⟨text⟩}
4 \NewDocumentCommand{\LWR@HTML@multirow}{O{c} m o m o +m}%
5 {%
6 \LWR@traceinfo{*** LWR@HTML@multirow #1 #2 #4}%
7 \booltrue{\LWR@usedmultirow}%
8 \LWR@maybenewtablerow%
9 \LWR@tabularleftedge%
```

Print the start of a new table data cell:

```
10 \LWR@htmltag{td rowspan="#2" %
```

A class adds the column spec and the rule:

```
11 class="td%"
```

Append this column's spec:

```
12 \LWR@getexpparray{\LWR@tablecolspec}{\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.

```

13 \LWR@addcmidruletrim%
14 \LWR@addleftmostbartag%
15 \LWR@printbartag{\arabic{LWR@tableLaTeXcolindex}}%
16 "%

17 \LWR@tdstartstyles%
```

The vertical alignment, if given:

```

18 \ifstrequal{\#1}{c}{\LWR@tdaddstyle{\LWR@print@mbox{vertical-align:middle}}{}%}
19 \ifstrequal{\#1}{b}{\LWR@tdaddstyle{\LWR@print@mbox{vertical-align:bottom}}{}%}
20 \ifstrequal{\#1}{t}{\LWR@tdaddstyle{\LWR@print@mbox{vertical-align:top}}{}%}
```

The left/right border, if given:

```

21 \ifdefvoid{\LWR@multirowborder}{}{%
22   \LWR@tdaddstyle{%
23     \LWR@print@mbox{border-\LWR@multirowborder:} 2px dotted black ; %
24     \LWR@print@mbox{padding-\LWR@multirowborder:} 2px%
25 }%}
```

Additional style elements:

```

26 \LWR@addcmidrulewidth%
27 \LWR@addcdashline%
28 \LWR@addtabularrulecolors%
29 \LWR@tdendstyles%
30 }%
```

The column's < spec:

```
31 \LWR@getexparray{\LWR@colbeforespec}{\arabic{LWR@tableLaTeXcolindex}}%
```

While printing the text, redefine \\ to generate a new line

```

32 \begingroup\LetLtxMacro{\\\}{\LWR@endofline}\#6\endgroup%
33 \LWR@stoppars%
34 \boolfalse{\LWR@intabularmetadata}%
35 \renewcommand{\LWR@multirowborder}{}%
36 \LWR@traceinfo{*** \LWR@HTML@multirow done}%
37 }%
38
39 \LWR@formatted{multirow}
```

### § 391.2 Combined multicolumn and multirow

```
\multicolumnrow {\langle 1:cols \rangle} {\langle 2:halign \rangle} [\langle 3:vpos \rangle] {\langle 4:numrows \rangle} [\langle 5:bigstruts \rangle] {\langle 6:width \rangle} [\langle 7:fixup \rangle]
{\langle 8:text \rangle}
```

\@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`.

```
40 \AtBeginDocument{
41
42 \NewExpandableDocumentCommand{\LWR@HTML@multicolumnrow}{m m O{} m O{} m O{} +m}{%
43 \booltrue{\LWR@usedmultirow}}%
```

Figure out how many extra HTML columns to add for @ and ! columns:

```
44 \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.

```
45 \LetLtxMacro{\\"{\LWR@endofline}}%
46 \LWR@domulticolumn[#3][#4]{#1}{\arabic{\LWR@tabhtmlcoltotal}}{#2}{#8}%
47 \LetLtxMacro{\\"{\LWR@tabularendofline}}%
```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
48 \defaddtocounter{\LWR@tableLaTeXcolindex}{#1}%
49 \defaddtocounter{\LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
50 \booltrue{\LWR@skipatbang}%
51 }
52
53 \LWR@expandableformatted{multicolumnrow}
54
55 }% \AtBeginDocument
```

For MATHJAX. Only the text is used. All other parameters are ignored.

```
56 \begin{warpMathJax}
57 % \multirow[vpos]{num}[bigstruts][width][vmove]{text}
58 \CustomizeMathJax{\newcommand{\LWRsubmultirow}[2][]{\#2}}
59 \CustomizeMathJax{\newcommand{\LWRmultirow}[2][]{\LWRsubmultirow}}
60 \CustomizeMathJax{\newcommand{\multirow}[2][]{\LWRmultirow}}
61 %
62 \CustomizeMathJax{\newcommand{\mrowcell}{}}
```

---

```

63 \CustomizeMathJax{\newcommand{\mcolrowcell}{}}
64 \CustomizeMathJax{\newcommand{\STneed}[1]{}}
65 \end{warpMathJax}

```

---

File 286 **lwarf-multitoc.sty**

§ 392 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 287 **lwarf-musicography.sty**

§ 393 Package **musicography**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg **musicography** **musicography** is patched for use by **lwarf**.

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@meterO}{}{\HTMLunicode{25EF}}
76
77 \LWR@formatted{meterO}
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}{}
128   {\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 288 **l warp-nameauth.sty**

#### § 394 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 289 **l warp-nameref.sty**

§ 395      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 290 **l warp-natbib.sty**

§ 396      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 \ifdef\streq{\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 }
```

---

**File 291 l warp-nccfancyhdr.sty**

§ 397      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}{}  
27  
28 \NewDocumentCommand{\newpagestyle}{m o m}{}  
29  
30 \newcommand*\{\iffloatpage}[2]{#2}  
31 \newcommand*\{\ifftopfloat}[2]{#2}  
32 \newcommand*\{\ifffbotfloat}[2]{#2}
```

---

**File 292 l warp-nccfoots.sty**

§ 398      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}{\text{\footnotesize{[1]}}}{\text{\footnotesize{#1}}}}
4 \CustomizeMathJax{\newcommand{\Footnote}{\text{\footnotesize{[2]}}}{\Footnotemark{\text{\footnotesize{#1}}}}}
5 \end{warpMathJax}
```

File 293 **lwarp-nccmath.sty**

§ 399 Package **nccmath**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg nccmath nccmath is patched for use by lwrap, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nccmath}[2006/01/20]

```

1 \let\LWR@origeqnarray\eqnarray
2 \let\LWR@origendeqnarray\endeqnarray
3
4
5 \csletcs{\LWR@origeqnarraystar}{\eqnarray*}
6 \csletcs{\LWR@origendeqnarraystar}{\endeqnarray*}
7
8 \RenewEnviron{\eqnarray}
9 {%
10
11     \LWR@eqnarrayfactor
12
13 }
14
15 \RenewEnviron{\eqnarray*}
16 {%
17
18     \begingroup
19     \csletcs{\LWR@origeqnarray}{\LWR@origeqnarraystar}
20     \csletcs{\LWR@origendeqnarray}{\LWR@origendeqnarraystar}
21     \boolfalse{\LWR@numbereqnarray}
22     \LWR@eqnarrayfactor
23     \endgroup
24
25 }
26
27 \def\eqs{%
28     \@ifstar{\LWR@nccmath@eqsstar\LWR@nccmath@eqs%}
29 }
30 \newcommand*{\LWR@nccmath@eqsstar}[2][]{{\begin{eqnarray*}#2\end{eqnarray*}}}
31 \newcommand*{\LWR@nccmath@eqs}[2][]{{\begin{eqnarray}#2\end{eqnarray}}}
32
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  $\backslash*$ , so the unstarred version is used here.

```

39 \CustomizeMathJax{\newcommand{\LWRnrrnostar}[1][0.5ex]{\backslash[#1]}}
40 \CustomizeMathJax{\newcommand{\nr}{\ifstar{\LWRnrrnostar}{\LWRnrrnostar}}}
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][]{\}}

```

$\backslash eq$ ,  $\backslash eqs$ ,  $\backslash eqalign$  are created by L<sup>A</sup>T<sub>E</sub>X, not MATHJAX.

```
52 \end{warpMathJax}
```

---

#### File 294 **l warp-needspace.sty**

#### § 400 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 295 **l warp-newpxmath.sty**

#### § 401 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. The explicit 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-newpmtxmath}
```

---

### File 296 **l warp-newtxmath.sty**

#### § 402 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 that bold italic Latin letters are not defined for MATHJAX if the option is not selected.

The explicit 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{l warp-common-mathjax-newpmtxmath}
```

---

### File 297 **l warp-newtxsf.sty**

#### § 403 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. The explicit 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-newpmtxmath}
```

File 298 **l warp-nextpage.sty**

§ 404 Package **nextpage**

*(Emulates or patches code by PETER WILSON.)*

Pkg nextpage nextpage is ignored.

**for HTML output:** Discard all options for `lwrap-nextpage`.

1 \LWR@ProvidesPackageDrop{nextpage}[2009/09/03]

```
2 \DeclareDocumentCommand{\cleartoevenpage}{o}{}  
3 \DeclareDocumentCommand{\movetoevenpage}{o}{}  
4 \DeclareDocumentCommand{\cleartooddpage}{o}{}  
5 \DeclareDocumentCommand{\movetooddpage}{o}{}  
6 \end{document}
```

File 299 **lwarp-nfssext-cfr.sty**

§ 405 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: J:\WR@ProvidesPackagePass\pdfs\ext-cfr\「2017/03/28」

Macros which are present in the `\warp` core are commented out here.

```
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@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{pststyle}  
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{embosstyle}
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{newidth}
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\pstye\@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\qtstyle{\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@texts}{#1}
```

```
183 % \newrobustcmd{\LWR@HTML@textsi}[1]{#1}
184 \newrobustcmd{\LWR@HTML@textdf}[1]{#1}
185
186 \ifdef{\LWR@HTML@swshape}{}{% duplicated by fontaxes
187     \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
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@texttt}[1]{\InlineClass{texttt}{#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@textsb}[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{textsw}
240 \LWR@formatted{textti}
241 \LWR@formatted{textlt}
242 \LWR@formatted{textof}
243 \LWR@formatted{textalt}
244 \LWR@formatted{textreg}
245 \LWR@formatted{emboss}
246 \LWR@formatted{textorn}
247 \LWR@formatted{textqt}
248 \LWR@formatted{textsh}
249 \LWR@formatted{texttm}
250 \LWR@formatted{texttv}
251 \LWR@formatted{textl}
252 \LWR@formatted{texto}
253 \LWR@formatted{textp}
254 \LWR@formatted{textt}
255 \LWR@formatted{textpl}
256 \LWR@formatted{textpo}
257 \LWR@formatted{texttl}
258 \LWR@formatted{textto}
259 \LWR@formatted{textol}
260 \LWR@formatted{textwash}
261 \LWR@formatted{textu}
262 \LWR@formatted{textscu}
263 \LWR@formatted{textui}
264 \LWR@formatted{textri}
265 \LWR@formatted{textnw}
266 \LWR@formatted{textcd}
267 \LWR@formatted{textec}
268 \LWR@formatted{textuc}
269 \LWR@formatted{texttet}
270 \LWR@formatted{textep}
271 \LWR@formatted{textex}
272 \LWR@formatted{textux}
273 \LWR@formatted{textrw}
274 \LWR@formatted{textmb}
275 \LWR@formatted{textdb}
276 \LWR@formatted{textsb}
277 % \LWR@formatted{texteb}
278 \LWR@formatted{textub}
279 % \LWR@formatted{textlg}
280 \LWR@formatted{textel}
281 \LWR@formatted{textul}
282

283 \FilenameNullify{%
284   \LetLtxMacro{textln}{\firstofone}
285   \LetLtxMacro{textos}{\firstofone}
286   \LetLtxMacro{textin}{\firstofone}
287   \LetLtxMacro{textsu}{\firstofone}
288 %   \LetLtxMacro{textsi}{\firstofone}
289   \LetLtxMacro{textdf}{\firstofone}
290   \LetLtxMacro{textsw}{\firstofone}
291   \LetLtxMacro{textti}{\firstofone}
```

```
292  \LetLtxMacro\textlt{@firstofone%}
293  \LetLtxMacro\textof{@firstofone%}
294  \LetLtxMacro\textalt{@firstofone%}
295  \LetLtxMacro\textreg{@firstofone%}
296  \LetLtxMacro\emboss{@firstofone%}
297  \LetLtxMacro\textorn{@firstofone%}
298  \LetLtxMacro\textqt{@firstofone%}
299  \LetLtxMacro\textsh{@firstofone%}
300  \LetLtxMacro\texttm{@firstofone%}
301  \LetLtxMacro\texttv{@firstofone%}
302  \LetLtxMacro\textl{@firstofone%}
303  \LetLtxMacro\texto{@firstofone%}
304  \LetLtxMacro\textp{@firstofone%}
305  \LetLtxMacro\textt{@firstofone%}
306  \LetLtxMacro\textpl{@firstofone%}
307  \LetLtxMacro\textpo{@firstofone%}
308  \LetLtxMacro\texttl{@firstofone%}
309  \LetLtxMacro\textto{@firstofone%}
310  \LetLtxMacro\textol{@firstofone%}
311  \LetLtxMacro\textswash{@firstofone%}
312  \LetLtxMacro\textu{@firstofone%}
313  \LetLtxMacro\textscu{@firstofone%}
314  \LetLtxMacro\textui{@firstofone%}
315  \LetLtxMacro\textri{@firstofone%}
316  \LetLtxMacro\textnw{@firstofone%}
317  \LetLtxMacro\textcd{@firstofone%}
318  \LetLtxMacro\textec{@firstofone%}
319  \LetLtxMacro\textuc{@firstofone%}
320  \LetLtxMacro\textet{@firstofone%}
321  \LetLtxMacro\textep{@firstofone%}
322  \LetLtxMacro\textex{@firstofone%}
323  \LetLtxMacro\textux{@firstofone%}
324  \LetLtxMacro\textrw{@firstofone%}
325  \LetLtxMacro\textmb{@firstofone%}
326  \LetLtxMacro\textdb{@firstofone%}
327  \LetLtxMacro\textsb{@firstofone%}
328 % \LetLtxMacro\texteb{@firstofone%}
329  \LetLtxMacro\textub{@firstofone%}
330 % \LetLtxMacro\textlg{@firstofone%}
331  \LetLtxMacro\textel{@firstofone%}
332  \LetLtxMacro\textul{@firstofone%}
333 }
334
335 \providecommand*\{\\zeroslash}{\\}
336 \newrobustcmd*\{\LWR@HTML@zeroslash}{\\}
337 \LWR@formatted{zeroslash}
```

---

File 300 **lwarf-nicefrac.sty**

§ 406      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][]{#2/#3}}
25 \end{warpMathJax}

```

### File 301 l warp-niceframe.sty

#### § 407 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 302 **lwarp-noitcrl.sty**

#### § 408 Package **noitcrl**

(Emulates or patches code by PAUL EBERMANN.)

Pkg noitcrl noitcrl is used as-is for SVG and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{noitcrl}[2006/04/11]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\noitUnderline}[1]{\underline{#1}!}}
4 \end{warpMathJax}
```

---

### File 303 **lwarp-nolbreaks.sty**

#### § 409 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 304 **lwarp-nomencl.sty**

#### § 410 Package **nomencl**

(Emulates or patches code by BORIS VEYTSMAN, BERND SCHANDL, LEE NETHERTON, CV RADHAKRISHNAN.)

Pkg nomencl nomencl is patched for use by lwarp.

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]#2#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 305 **l warp-nonfloat.sty**

§ 411 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 306 **l warp-nonumonpart.sty**

§ 412 Package **nonumonpart**

Pkg nonumonpart nonumonpart is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nonumonpart}[2011/04/15]

---

File 307 **l warp-nopageno.sty**

§ 413 Package **nopageno**

Pkg nopageno nopageno is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nopageno}[1989/01/01]

---

**File 308 l warp-notes.sty****§ 414 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   {%
5     \BlockClass{notes#1}%
6     \begin{BlockClass}{notesicon}\textcircled{~#2~}\end{BlockClass}%
7     \BlockClass{notescontents}%
8   }%
9   {\endBlockClass\endBlockClass}%
10 }%
11 \LWR@notes@onenote{importantnote}{!}%
12 \LWR@notes@onenote{warningnote}{--}%
13 \LWR@notes@onenote{informationnote}{i}
```

---

**File 309 l warp-notespages.sty****§ 415 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 310 l warp-nowidow.sty****§ 416 Package nowidow**

(Emulates or patches code by RAPHAËL PINSON.)

Pkg nowidow nowidow is ignored.

for HTML output: Discard all 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 311 l warp-ntheorem.sty****§ 417 Package ntheorem**

(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)

Pkg ntheorem ntheorem is patched for use by l warp.

---

Table 17: 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.

---

## § 417.1 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.
- ⚠ **cref reference format undefined** If the print version does not use `cleveref`, place all `\theoremstyle` and `\newtheorem` declarations in the preamble inside `\AtBeginDocument`.<sup>19</sup> For some theorems, it may also be required to add inside `\AtBeginDocument` something such as:

```
\AtBeginDocument{ % if not using cleveref package
    \theoremstyle{definition}
    \newtheorem{dtheorem}{Definition}
    ...
    \usepackage{etoolbox} % for \ifdef
    \ifdef{\cref}{%
        \crefname{Proof}{Proof}{Proofs}
    }{}%
}
```

- ⚠ **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.

## § 417.2 Options

Options `amsthm` or `standard` choose which set of theorems and proofs to initialize.

- ⚠ **Disabled options** The options `thmarks` 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:**

```
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 }
```

---

<sup>19</sup> `l warp` uses `cleveref` for the HTML conversion, and loads `cleveref` `\AtEndPreamble`, just before `\AtBeginDocument`.

```

15
16
17 \newbool{LWR@ntheoremmarks}
18 \boolfalse{LWR@ntheoremmarks}
19
20 \DeclareOption{thmmarks}%
21 \booltrue{LWR@ntheoremmarks}
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}{}%
34
35 \LWR@ProvidesPackagePass{ntheorem}[2011/08/15]

```

### § 417.3 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}%
49   \theorem@prework
50   \LWR@forcenewpage% l warp
51   \BlockClass{theorembody#1}%
52   \LWR@thisthmstyle% l warp
53   \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
54   \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
55     \ifthm@inframe
56       \thm@topsep\theoreminframepreskipamount
57       \thm@topsepadd\theoreminframepostskipamount
58     \else
59       \thm@topsep\theorempreskipamount
60       \thm@topsepadd\theorempostskipamount
61     \fi
62   \else% oldframeskips
63     \thm@topsep\theorempreskipamount
64     \thm@topsepadd \theorempostskipamount

```

```

64      \ifvmode\advance\thm@topsepadd\partopsep\fi
65      \fi
66      \@topsep\thm@topsep
67      \@topsepadd\thm@topsepadd
68      \advance\linewidth -\theorem@indent
69      \advance\linewidth -\theorem@rightindent
70      \advance\@totalleftmargin \theorem@indent
71      \parshape \@ne \@totalleftmargin \linewidth
72      \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
73 }
74 }% not @ifpackageloaded{cleveref}
75 \gdef@\thm#1#2#3{%
76   \if@thmmarks
77     \stepcounter{end\InTheoType ctr}%
78   \fi
79   \renewcommand{\InTheoType}{#1}%
80   \if@thmmarks
81     \stepcounter{curr#1ctr}%
82     \setcounter{end#1ctr}{0}%
83   \fi
84   \refstepcounter{#2}%
85   \theorem@prework
86   \LWR@forcenewpage% l warp
87   \BlockClass{theorembody#1}\LWR@thisthmstyle% l warp
88   \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
89   \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
90     \ifthm@inframe
91       \thm@topsep\theoreminframepreskipamount
92       \thm@topsepadd\theoreminframepostskipamount
93     \else
94       \thm@topsep\theorempreskipamount
95       \thm@topsepadd\theorempostskipamount
96     \fi
97   \else% oldframeskips
98     \thm@topsep\theorempreskipamount
99     \thm@topsepadd \theorempostskipamount
100    \ifvmode\advance\thm@topsepadd\partopsep\fi
101  \fi
102  \@topsep\thm@topsep
103  \@topsepadd\thm@topsepadd
104  \advance\linewidth -\theorem@indent
105  \advance\linewidth -\theorem@rightindent
106  \advance\@totalleftmargin \theorem@indent
107  \parshape \@ne \@totalleftmargin \linewidth
108  \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
109 }
110 }
111 }% AtBeginDocument

```

Patched to remember the style being used for new theorems:

```

112 \gdef\theoremstyle#1{%
113   \ifundefined{th@#1}{\@warning
114     {Unknown theoremstyle '#1'. Using 'plain'}%
115     \theorem@style{plain}}

```

```

116          \renewcommand{\LWR@newtheoremstyle}{plain}%
117          }%
118      {%
119          \theorem@style{#1}%
120          \renewcommand{\LWR@newtheoremstyle}{#1}%
121      }%
122 }

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

123
124 \gdef\@xnthm#1#2[#3]{%
125   \ifthm@tempif
126     \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}%
127     \expandafter\@ifundefined{c@#1}%
128       {\@definecounter{#1}}{}%
129     \@newctr{#1}[#3]%
130     \expandafter\xdef\csname the#1\endcsname{%
131       \expandafter\noexpand\csname the#3\endcsname \thmcntersep
132         {\noexpand\csname the\theoremnumbering\endcsname{#1}}}%
133     \expandafter\gdef\csname mkheader@#1\endcsname
134       {\csname setparms@#1\endcsname
135         \@thm{#1}{#1}{#2}%
136       }%
137     \global\@namedef{end#1}{\@endtheorem}%
138     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{\LWR@thmstyle#1}}}%
139   \fi
140 }
141
142 \gdef\@ynthm#1#2{%
143   \ifthm@tempif
144     \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}%
145     \expandafter\@ifundefined{c@#1}%
146       {\@definecounter{#1}}{}%
147     \expandafter\xdef\csname the#1\endcsname
148       {\noexpand\csname the\theoremnumbering\endcsname{#1}}%
149     \expandafter\gdef\csname mkheader@#1\endcsname
150       {\csname setparms@#1\endcsname
151         \@thm{#1}{#1}{#2}%
152       }%
153     \global\@namedef{end#1}{\@endtheorem}%
154     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{\LWR@thmstyle#1}}}%
155   \fi
156 }
157
158 \gdef\@othm#1[#2]{%
159   \Qifundefined{c@#2}{\@nocounterr{#2}}%
160   {\ifthm@tempif
161     \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}%
162     \global\@namedef{the#1}{\@nameuse{the#2}}%
163     \expandafter\protected\xdef\csname num@addtheoremline#1\endcsname{%
164       \noexpand\@num@addtheoremline{#1}{#3}}%
165     \expandafter\protected\xdef\csname nonum@addtheoremline#1\endcsname{%
166       \noexpand\@nonum@addtheoremline{#1}{#3}}%

```

```

167 \theoremkeyword{#3}%
168 \expandafter\protected@xdef\csname #1Keyword\endcsname
169 {\the\theoremkeyword}%
170 \expandafter\gdef\csname mkheader@#1\endcsname
171 {\csname setparms@#1\endcsname
172 \atthm{#1}{#2}{#3}%
173 }%
174 \global\@namedef{end#1}{\endtheorem}
175 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\nameuse{LWR@thmstyle#1}}}\% lwarp
176 \fi}
177 }

```

#### § 417.4 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.

```

178 \newcommand{\LWR@inctheorem}{%
179 \addtocounter{\LWR@thisautoid}{1}%
180 \LWR@stoppars%
181 \LWR@htmlltag{a id="\LWR@print@mbox{autoid-\arabic{\LWR@thisautoid}}"}\LWR@htmlltag{/a}%
182 \LWR@startpars%
183 }

```

#### § 417.5 \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>.

```

184 \gdef\newtheoremstyle#1#2#3{%
185 \expandafter\@ifundefined{th@#1}%
186 {\expandafter\gdef\csname th@#1\endcsname{%
187 \def\@begintheorem##1##2{%
188 \LWR@inctheorem% lwarp
189 #2}%
190 \def\@opargbegingroup##1##2##3{%
191 \LWR@inctheorem% lwarp
192 #3}%
193 }%
194 }%
195 {\PackageError{\basename}{Theorem style #1 already defined}\@eha}%
196 }

```

## § 417.6 Standard styles

```
197 \renewtheoremstyle{plain}%
198 { \item[
199   \InlineClass{theoremheaderplain}{##1\ ##2\ theorem@separator} ]}%
200 { \item[
201   \InlineClass{theoremheaderplain}{##1\ ##2\ (###3)\ theorem@separator} ]}%
202
203 \renewtheoremstyle{break}%
204 { \item[
205   \InlineClass{theoremheaderbreak}{##1\ ##2\ theorem@separator}\newline
206   ]}%
207 { \item[
208   \InlineClass{theoremheaderbreak}%
209   {##1\ ##2\ (###3)\ theorem@separator}\newline
210   ]}%
211
212 \renewtheoremstyle{change}%
213 { \item[
214   \InlineClass{theoremheaderchange}{##2\ ##1\ theorem@separator} ]}%
215 { \item[
216   \InlineClass{theoremheaderchange}{##2\ ##1\ (###3)\ theorem@separator} ]}%
217
218 \renewtheoremstyle{changebreak}%
219 { \item[
220   \InlineClass{theoremheaderchangebreak}%
221   {##2\ ##1\ theorem@separator}\newline
222   ]}%
223 { \item[
224   \InlineClass{theoremheaderchangebreak}%
225   {##2\ ##1\ (###3)\ theorem@separator}\newline
226   ]}%
227
228 \renewtheoremstyle{margin}%
229 { \item[
230   \InlineClass{theoremheadermargin}{##2 \qquad ##1\ theorem@separator}
231   ]}%
232 { \item[
233   \InlineClass{theoremheadermargin}{##2 \qquad ##1\ (###3)\ theorem@separator}
234   ]}%
235
236 \renewtheoremstyle{marginbreak}%
237 { \item[
238   \InlineClass{theoremheadermarginbreak}%
239   {##2 \qquad ##1\ theorem@separator}\newline
240   ]}%
241 { \item[
242   \InlineClass{theoremheadermarginbreak}%
243   {##2 \qquad ##1\ (###3)\ theorem@separator}\newline
244   ]}%
245
246 \renewtheoremstyle{nonumberplain}%
247 { \item[
248   \InlineClass{theoremheaderplain}{##1\ theorem@separator} ]}%
249 { \item[
250   \InlineClass{theoremheaderplain}{##1\ (###3)\ theorem@separator} ]}
```

```

251
252 \renewtheoremstyle{nonumberbreak}%
253 {\item[%
254   \InlineClass{theoremheaderbreak}{##1\theorem@separator}\newline
255 ]}%
256 {\item[%
257   \InlineClass{theoremheaderbreak}{##1\ (###3)\theorem@separator}\newline
258 ]}%
259
260 \renewtheoremstyle{empty}%
261 {\item[]}%
```

262 {\item[%
263 \InlineClass{theoremheaderplain}{##3}]}%

264

265 \renewtheoremstyle{emptybreak}%
266 {\item[]}%

267 {\item[%
268 \InlineClass{theoremheaderplain}{##3}] \ \newline}

## § 417.7 Additional objects

The following manually adjust the css for the standard configuration objects which are not a purely plain style:

```
269 \ifbool{LWR@ntheoremamsthm}{}{%
```

Upright text via CSS:

```

270   \newtheoremstyle{plainupright}%
271   {\item[%
272     \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]}%
273   {\item[%
274     \InlineClass{theoremheaderplain}{##1\ ##2\ (###3)\theorem@separator}]}%
```

Upright text and small caps header via CSS:

```

275   \newtheoremstyle{nonumberplainuprightsc}%
276   {\item[%
277     \InlineClass{theoremheadersc}{##1\theorem@separator}]}%
278   {\item[%
279     \InlineClass{theoremheadersc}{##1\ (###3)\theorem@separator}]}%
280 }% not amsthm
```

## § 417.8 Renewed standard configuration

The following standard configuration is renewed using the new css:

```
281 \ifbool{LWR@ntheoremamsthm}{}{%
```

```

282 \ifx\thm@usestd@\undefined
283 \else
284   \theoremnumbering{arabic}
285   \theoremstyle{plain}
286   \RequirePackage{latexsym}
```

```

287   \theoremsymbol{\Box}
288   \theorembodyfont{\itshape}
289   \theoremheaderfont{\normalfont\bfseries}
290   \theoremseparator{}
291   \renewtheorem{Theorem}{Theorem}
292   \renewtheorem{theorem}{Theorem}
293   \renewtheorem{Satz}{Satz}
294   \renewtheorem{satz}{Satz}
295   \renewtheorem{Proposition}{Proposition}
296   \renewtheorem{proposition}{Proposition}
297   \renewtheorem{Lemma}{Lemma}
298   \renewtheorem{lemma}{Lemma}
299   \renewtheorem{Korollar}{Korollar}
300   \renewtheorem{korollar}{Korollar}
301   \renewtheorem{Corollary}{Corollary}
302   \renewtheorem{corollary}{Corollary}
303
304   \theoremstyle{plainupright}
305   \theorembodyfont{\upshape}
306   \theoremsymbol{\HTMLunicode{25A1}}% UTF-8 white box
307   \renewtheorem{Example}{Example}
308   \renewtheorem{example}{Example}
309   \renewtheorem{Beispiel}{Beispiel}
310   \renewtheorem{beispiel}{Beispiel}
311   \renewtheorem{Bemerkung}{Bemerkung}
312   \renewtheorem{bemerkung}{Bemerkung}
313   \renewtheorem{Anmerkung}{Anmerkung}
314   \renewtheorem{anmerkung}{Anmerkung}
315   \renewtheorem{Remark}{Remark}
316   \renewtheorem{remark}{Remark}
317   \renewtheorem{Definition}{Definition}
318   \renewtheorem{definition}{Definition}
319
320   \theoremstyle{nonumberplainuprightsc}
321   \theoremsymbol{\HTMLunicode{220E}}% UTF-8 end-of-proof
322   \renewtheorem{Proof}{Proof}
323   \renewtheorem{proof}{Proof}
324   \renewtheorem{Beweis}{Beweis}
325   \renewtheorem{beweis}{Beweis}
326   \qedsymbol{\HTMLunicode{220E}}% UTF-8 end-of-proof
327
328   \theoremsymbol{}
329 \fi
330 }% not amsthm

```

### § 417.9 **amsthm option**

Only if the `amsthm` option was given:

```

331 \ifbool{LWR@ntheoremamsthm}{
332
333 \gdef\th@plain{%
334   \def\theorem@headerfont{\normalfont\bfseries}\itshape%
335   \def\@begintheorem##1##2{%
336     \LWR@inctheorem% lwarp

```

```
337      \item[  
338  \InlineClass{theoremheaderplain}{##1\ ##2.}  
339  ]}%  
340 \def\@opargbegintheorem##1##2##3{  
341   \LWR@inctheorem% l warp  
342   \item[  
343  \InlineClass{theoremheaderplain}{##1\ ##2\ (###3).}  
344  ]}  
345  
346 \gdef\th@nonumberplain{  
347  \def\theorem@headerfont{\normalfont\bfseries}\itshape%  
348  \def\@begintheorem##1##2{  
349    \LWR@inctheorem% l warp  
350    \item[  
351  \InlineClass{theoremheaderplain}{##1.}  
352  ]}  
353 \def\@opargbegintheorem##1##2##3{  
354  \LWR@inctheorem% l warp  
355  \item[  
356  \InlineClass{theoremheaderplain}{##1\ (###3).}  
357  ]}  
358  
359 \gdef\th@definition{  
360  \def\theorem@headerfont{\normalfont\bfseries}\normalfont%  
361  \def\@begintheorem##1##2{  
362    \LWR@inctheorem% l warp  
363    \item[  
364  \InlineClass{theoremheaderdefinition}{##1\ ##2.}  
365  ]}  
366 \def\@opargbegintheorem##1##2##3{  
367  \LWR@inctheorem% l warp  
368  \item[  
369  \InlineClass{theoremheaderdefinition}{##1\ ##2\ (###3).}  
370  ]}  
371  
372 \gdef\th@nonumberdefinition{  
373  \def\theorem@headerfont{\normalfont\bfseries}\normalfont%  
374  \def\@begintheorem##1##2{  
375    \LWR@inctheorem% l warp  
376    \item[  
377  \InlineClass{theoremheaderdefinition}{##1.}  
378  ]}  
379 \def\@opargbegintheorem##1##2##3{  
380  \LWR@inctheorem% l warp  
381  \item[  
382  \InlineClass{theoremheaderdefinition}{##1\ (###3).}  
383  ]}  
384  
385 \gdef\th@remark{  
386  \def\theorem@headerfont{\itshape}\normalfont%  
387  \def\@begintheorem##1##2{  
388    \LWR@inctheorem% l warp  
389    \item[  
390  \InlineClass{theoremheaderremark}{##1\ ##2.}  
391  ]}
```

```
392 \def@opargbegintheorem##1##2##3{%
393     \LWR@inctheorem% l warp
394     \item[
395     \InlineClass{theoremheaderremark}{##1\ ##2\ (#3).}
396     ]}}
397
398 \gdef\th@nonumberremark{%
399     \def\theorem@headerfont{\itshape}\normalfont%
400     \def@begintheorem##1##2{%
401         \LWR@inctheorem% l warp
402         \item[
403         \InlineClass{theoremheaderremark}{##1.}
404         ]}%
405     \def@opargbegintheorem##1##2##3{%
406         \LWR@inctheorem% l warp
407         \item[
408         \InlineClass{theoremheaderremark}{##1\ (#3).}
409         ]}}
410
411 \gdef\th@proof{%
412     \def\theorem@headerfont{\normalfont\bfseries}\itshape%
413     \def@begintheorem##1##2{%
414         \LWR@inctheorem% l warp
415         \item[
416         \InlineClass{theoremheaderproof}{##1.}
417         ]}%
418     \def@opargbegintheorem##1##2##3{%
419         \LWR@inctheorem% l warp
420         \item[
421         \InlineClass{theoremheaderproof}{##1\ (#3).}
422         ]}}
423
424
425
426 \newcounter{proof}%
427 \if@thmmarks
428     \newcounter{currproofctr}%
429     \newcounter{endproofctr}%
430 \fi
431
432 \gdef\proofSymbol{\openbox}
433
434 \newcommand{\proofname}{Proof}
435
436 \newenvironment{proof}[1][\proofname]{
437     \th@proof
438     \def\theorem@headerfont{\itshape}%
439     \normalfont
440     \theoremsymbol{\HTMLunicode{220E}}% UTF-8 end-of-proof
441     \ethm{proof}{proof}{#1}
442 }%
443 {\endtheorem}
444
445 }{}% amsthm option
```

### § 417.10 Ending a theorem

Patched for css:

```

446 \let\LWR@origendtheorem@\endtheorem
447 \renewcommand{\endtheorem}{%
448 \ifbool{\LWR@ntheoremmarks}{%
449   \ifsetendmark{%
450     \InLineClass{theoremendmark}{\csname\InTheoType Symbol\endcsname}%
451     \setendmarkfalse{%
452       \fi{%
453     }{}}{%
454 \LWR@origendtheorem% also does \endtrivlist
455 \ifbool{\LWR@ntheoremmarks}{\global\setendmarktrue}{%
456 \endBlockClass{%
457 }

```

### § 417.11 \NoEndMark

```
458 \gdef\NoEndMark{\global\setendmarkfalse}
```

### § 417.12 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}

459 \renewcommand{\thm@thmline@noname}[4]{%
460 \hypertocfloat{1}{theorem}{thm}{#2 #3}{}}{%
461 }
462
463 \renewcommand{\thm@thmline@name}[4]{%
464 \hypertocfloat{1}{theorem}{thm}{#1 #2 #3}{}}{%
465 }
```

This was redefined by `ntheorem` when loaded, so it is now redefined for `l warp`:

```
466 \def\thm@thmline{\thm@thmline@name}
```

Patch for css:

```

467 \def\listtheorems#1{%
468 \LWR@htmlelementclass{nav}{lothm}{%
469 \begingroup{%
470 \c@tocdepth=-2{%
471 \def\thm@list{\#1}\thm@processlist{%
472 \endgroup{%
473 \LWR@htmlelementclassend{nav}{lothm}{%
474 }

```

### § 417.13 Symbols

Proof QED symbol:

```

475 \newcommand{\qed}{\qquad\the\qedsymbol}
476
477 \AtBeginDocument{
478 \@ifundefined{LWR@orig@openbox}{
479 \LetLtxMacro{\LWR@orig@openbox}{\openbox}
480 \LetLtxMacro{\LWR@orig@blacksquare}{\blacksquare}
481 \LetLtxMacro{\LWR@orig@Box}{\Box}
482
483 \def\openbox{\text{\HTMLunicode{25A1}}}% UTF-8 white box
484 \def\blacksquare{\text{\HTMLunicode{220E}}}% UTF-8 end-of-proof
485 \def\Box{\text{\HTMLunicode{25A1}}}% UTF-8 white box
486
487 \appto{\LWR@restoreorigformatting}{%
488 \LetLtxMacro{\openbox}{\LWR@orig@openbox}%
489 \LetLtxMacro{\blacksquare}{\LWR@orig@blacksquare}%
490 \LetLtxMacro{\Box}{\LWR@orig@Box}%
491 }% appto
492 }{}% @ifundefined
493 }% AtBeginDocument

```

### § 417.14 Cross-referencing

```
\thref {\langle label \rangle}

494 \newcommand*{\thref}[1]{\cref{#1}}%
```

---

File 312 **l warp-octave.sty**

### § 418 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 313 **l warp-overpic.sty**

## § 419 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 genera-

tion. 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 86.2 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 314 **l warp-pagegrid.sty**

§ 420 Package **pagegrid**

Pkg `pagegrid` `pagegrid` is ignored.

**for HTML output:** 1 `\LWR@ProvidesPackageDrop{pagegrid}[2016/05/16]`

```
2 \newcommand*{\pagegridsetup}[1]{}
```

File 315 **l warp-pagenote.sty**

§ 421 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}{}[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]{{}^{\mathsf{\#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 316 **l warp-pagesel.sty**

#### § 422 Package **pagesel**

Pkg `pagesel` `pagesel` is ignored.

**for HTML output:** 1 `\LWR@ProvidesPackageDrop{pagesel}[2016/05/16]`

---

### File 317 **l warp-paralist.sty**

#### § 423 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 318 l warp-parallel.sty**

§ 424      Package **parallel**

*(Emulates or patches code by MATTHIAS ECKERMAN.)*

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.

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      \ifstrequal{\#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      }%
23      \setlength{\LWR@templengthone}{\linewidth-\#3}%
24      \setcounter{\LWR@parallel@Lwidth}{%
25        90*\ratio{\LWR@templengthone}{\linewidth}%
26      }%
27      \setcounter{\LWR@parallel@Rwidth}{%
28        90*\ratio{\#3}{\linewidth}%
29      }%
30      }%
31    }% #2 blank
32    {%
33      }% #2 non-blank
```

```

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             \setcounter{LWR@parallel@Lwidth}{%
42                 90*\ratio{#2}{\linewidth}%
43             }%
44             \setcounter{LWR@parallel@Rwidth}{%
45                 90*\ratio{#3}{\linewidth}%
46             }%
47             \setcounter{LWR@parallel@Lwidth}{%
48                 90*\ratio{#3}{\linewidth}%
49             }%
50             \setcounter{LWR@parallel@Rwidth}{%
51                 90*\ratio{#2}{\linewidth}%
52             }%
53             \ParallelAtEnd%
54             \renewcommand*{\ParallelAtEnd}{}%
55             \LWR@printpendingfootnotes%
56         }%
57
58 \newcommand*{\ParallelText}[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*{\ParallelRText}[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 319 **l warp-parcolumns.sty**

§ 425 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   {%
21     \begin{LWR@setvirtualpage}*{[#2]}%
22     \setcounter{LWR@parcolumns@numcols}{#2}%
23     \setcounter{LWR@parcolumns@thiscol}{1}%
24     \boolfalse{LWR@parcolumns@started}%
25     \boolfalse{LWR@parcolumns@rule}%
26     \setcounter{LWR@parcolumns@width}{%
27       85/#2%
28     }%
29     \setkeys{LWRparcols}{#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   }%
44 }
```

```

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}[%]
54     width:\arabic{LWR@parcolumns@width}\% ; % space
55     padding: .5ex 1\% ; % space
56     \LWR@tempone%
57 ]{\minipage}%
58 #1%
59 \end{BlockClass}%
60 \addtocounter{LWR@parcolumns@thiscol}{1}%
61 }
62
63 \newcommand{\colchunk}[2][\value{LWR@parcolumns@thiscol}]{%
64     \whileboolexpr{%
65         test {%
66             \ifnumcomp{%
67                 {\value{LWR@parcolumns@thiscol}}%
68                 {<}%
69                 {#1}}%
70             }%
71     }{%
72         \LWR@parcolumns@onecol{}%
73     }%
74     \LWR@parcolumns@onecol{#2}%
75 }
76
77 \newcommand*\colplacechunks{%
78     \ifbool{LWR@parcolumns@started}{%
79         {%
80             \LWR@htmldivclassend{div}%
81             \boolfalse{LWR@parcolumns@started}%
82         }%
83     }{%
84     \setcounter{LWR@parcolumns@thiscol}{1}%
85 }

```

File 320 **lwarf-parnotes.sty**

## § 426 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{%
11            \parnotemark[\arabic{parnotemark}][]\theparnotemark%
12        }%
13    }%
14    \g@addto@macro\PN@text{%
15        \LWR@textcurrentfont\%          lwarp
16        \parnotemark{#1}\nolinebreak\thinspace\%%
17    }%
18}%
19}%
20
21 \def\PN@parnotes@real{%
22     % We call \par later, so this avoids recursion with \PN@parnotes@auto
23     \PN@inparnotestru
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}{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}{\theparnotemark}%
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 321 **l warp-parskip.sty**

§ 427 Package **parskip**

Pkg **parskip** **parskip** is ignored.

for HTML output: Discard all options for **l warp-parskip**.

```
1 \LWR@ProvidesPackageDrop{parskip}[2001/04/09]
```

---

File 322 **l warp-pbox.sty**

§ 428 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 \setwidht{#2}{#3}%
9 }%
10 %
11 \newcommand{\widthofpbox}[1]{%
12 \widthof{#1}%
13 }
```

---

File 323 **l warp-pdfcol.sty**

§ 429 Package **pdfcol**

Pkg **pdfcol** **pdfcol** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcol}[2018/11/01]

2

```
3 \ltx@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 324 **l warp-pdfcolfoot.sty**

§ 430 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 325 **l warp-pdfcolmk.sty**

§ 431 Package **pdfcolmk**

Pkg pdfcolmk pdfcolmk is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcolmk}[2016/05/16]

---

File 326 **l warp-pdfcolparallel.sty**

§ 432 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 327 **l warp-pdfcolparcolumns.sty**

### § 433 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 328 **l warp-pdfcomment.sty**

### § 434 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]{}{}{#2}
6 \newcommand{\pdffreetextcomment}[2]{}{}{}
7 \newcommand{\pdfsquarecomment}[2]{}{}{}
8 \newcommand{\pdfcirclecomment}[2]{}{}{}
9 \newcommand{\pdflinecomment}[2]{}{}{}
10 \newcommand{\pdftooltip}[3]{}{}{#2}
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]{}{}{#2}}
19 \CustomizeMathJax{\newcommand{\pdftooltip}[3]{}{}{#2}}
20 \end{warpMathJax}
```

---

### File 329 lwarf-pdfcrypt.sty

§ 435 Package **pdfcrypt**

Pkg pdfcrypt pdfcrypt is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcrypt}[2016/05/16]

```
2 \newcommand*{\pdfcryptsetup}[1]{}{}
```

---

### File 330 lwarf-pdflandscape.sty

§ 436 Package **pdflandscape**

Pkg pdflandscape pdflandscape is ignored.

**for HTML output:** Discard all options for lwarf-pdflandscape:

```
1 \LWR@ProvidesPackageDrop{pdflandscape}[2016/05/14]
```

---

File 331 **l warp-pdfmarginpar.sty**

§ 437 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 332 **l warp-pdfpages.sty**

§ 438 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{pdfpages}{fitpaper}[false]{}
3 \define@key{pdfpages}{landscape}[false]{}
4 \define@key{pdfpages}{openright}[false]{}
5 \define@key{pdfpages}{signature}(){}
6 \define@key{pdfpages}{signature*}){}
7 \define@key{pdfpages}{booklet}[false]{}
8 \define@key{pdfpages}{rotateoversize}[false]{}
9 \define@key{pdfpages}{doublepages}[false]{}
10 \define@key{pdfpages}{doublepagestwist}[false]{}
11 \define@key{pdfpages}{doublepagestwistodd}[false]{}
12 \define@key{pdfpages}{doublepagestwist*}[false]{}
13 \define@key{pdfpages}{doublepagestwistodd*}[false]{}
14 \define@key{pdfpages}{duplicatepages}[2]{}
15 \define@key{pdfpages}{thread}[false]{}
16 \define@key{pdfpages}{threadname}{}{}
```

---

```

17 \define@key{pdfpages}{linkfit}{}
18 \define@key{pdfpages}{linktodoc}[false]{}
19 \define@key{pdfpages}{linktodocfit}{}
20 \define@key{pdfpages}{linkfilename}{}
21 \define@key{pdfpages}{survey}[false]{}
22 \define@key{pdfpages}{survey-nolink}[false]{}
23 \define@key{pdfpages}{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 333 l warp-pdfprivacy.sty

§ 439 Package **pdfprivacy**

Pkg pdfprivacy pdfprivacy is ignored.

for HTML output 1 \LWR@ProvidesPackageDrop{pdfprivacy}[2017/12/03]

---

File 334 **l warp-pdfrender.sty**

§ 440 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 335 **l warp-pdfsync.sty**

§ 441 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 336 **l warp-pdftricks.sty**

§ 442 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 337 **l warp-pd\_fx.sty**

#### § 443 Package **pd\_fx**

Pkg pd\_fx pd\_fx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pd\_fx}[2017/05/18]

### File 338 **l warp-perpage.sty**

#### § 444 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 \theperpage, 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 %
8         \global\expandafter\let\csname cl@abs#1\endcsname\@empty
9 %
10        \expandafter\xdef\csname theabs#1\endcsname{%
11            \noexpand\number \csname c@abs#1\endcsname
12        }%
13 %
14        \global\@namedef{c@pabs@#1}{\pp@cl@begin
15            \stepcounter{abs#1}%
16            \pp@cl@end}%
17        \@addtoreset{pabs@#1}{#1}
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 339 **lwarf-pfnote.sty**

§ 445 Package **pfnote**

Pkg `pfnote` `pfnote` is ignored.

**pfnote** While emulating `pfnote`, `lwarf` is not able to reset HTML footnote numbers per page

⚠ **pfnote numbers**

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 340 **l warp-phfqit.sty**

§ 446 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 341 **l warp-physics.sty**

§ 447 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{l warp, physics}{The MathJax v3 extension will be used}
4 \CustomizeMathJax{\require{physics}}
5 \end{warpMathJax}
```

---

File 342 **l warp-physunits.sty**

§ 448      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}{[1][ ]{\\", \mathrm{#1V}}}}
7 \CustomizeMathJax{\newcommand{\Volt}{[1][ ]{\\", \mathrm{#1V}}}}
8 \CustomizeMathJax{\newcommand{\Coulomb}{[1][ ]{\\", \mathrm{#1C}}}}
9 \CustomizeMathJax{\newcommand{\esu}{\\", \mathrm{esu}}}
10 \CustomizeMathJax{\newcommand{\Ohm}{[1][ ]{\\", \mathrm{#1\Omega}}}}
11 \CustomizeMathJax{\newcommand{\Amp}{[1][ ]{\\", \mathrm{#1A}}}}
12 \CustomizeMathJax{\newcommand{\Farad}{[1][ ]{\\", \mathrm{#1F}}}}
13 \CustomizeMathJax{\newcommand{\Tesla}{[1][ ]{\\", \mathrm{#1T}}}}
14 \CustomizeMathJax{\newcommand{\Gauss}{[1][ ]{\\", \mathrm{#1G}}}}
15 \CustomizeMathJax{\newcommand{\Henry}{[1][ ]{\\", \mathrm{#1H}}}}
16 \CustomizeMathJax{\newcommand{\eV}{[1][ ]{\\", \mathrm{#1eV}}}}
17 \CustomizeMathJax{\newcommand{\keV}{\\", \mathrm{keV}}}
18 \CustomizeMathJax{\newcommand{\MeV}{\\", \mathrm{MeV}}}
19 \CustomizeMathJax{\newcommand{\J}{[1][ ]{\\", \mathrm{#1J}}}}
20 \CustomizeMathJax{\newcommand{\Joule}{[1][ ]{\\", \mathrm{#1J}}}}
21 \CustomizeMathJax{\newcommand{\erg}{\\", \mathrm{erg}}}
22 \CustomizeMathJax{\newcommand{\kcal}{\\", \mathrm{kcal}}}
23 \CustomizeMathJax{\newcommand{\Cal}{\\", \mathrm{Cal}}}
24 \CustomizeMathJax{\newcommand{\calorie}{[1][ ]{\\", \mathrm{#1cal}}}}
25 \CustomizeMathJax{\newcommand{\BTU}{\\", \mathrm{BTU}}}
26 \CustomizeMathJax{\newcommand{\tnt}{\\", \mathrm{ton\, of\, TNT}}}
27 \CustomizeMathJax{\newcommand{\Watt}{[1][ ]{\\", \mathrm{#1W}}}}
28 \CustomizeMathJax{\newcommand{\hpi}{\\", \mathrm{hp(I)}}}
29 \CustomizeMathJax{\newcommand{\hpm}{\\", \mathrm{hp(M)}}}
30 \CustomizeMathJax{\newcommand{\hp}{\\", \mathrm{hp}}}
31 \CustomizeMathJax{\newcommand{\meter}{[1][ ]{\\", \mathrm{#1m}}}}
32 \CustomizeMathJax{\newcommand{\m}{[1][ ]{\\", \mathrm{#1m}}}}
33 \CustomizeMathJax{\newcommand{\km}{\\", \mathrm{km}}}
34 \CustomizeMathJax{\newcommand{\au}{\\", \mathrm{au}}}
35 \CustomizeMathJax{\newcommand{\pc}{[1][ ]{\\", \mathrm{#1pc}}}}
36 \CustomizeMathJax{\newcommand{\ly}{[1][ ]{\\", \mathrm{#1ly}}}}
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{#1m}\\", \mathrm{s}^{-1}}}
60 \CustomizeMathJax{\newcommand{\miph}{\\", \mathrm{mi}\\", \mathrm{h}^{-1}}}
61 \CustomizeMathJax{\newcommand{\kts}{\\", \mathrm{kts}}}
62
63 \CustomizeMathJax{\newcommand{\mpss}{\\", \mathrm{#1m}\\", \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}[1][ ]{\\", \mathrm{#1K}}}
68 \CustomizeMathJax{\newcommand{\Celcius}{\\", \circ \mathrm{C}}}
69 \CustomizeMathJax{\newcommand{\Rankine}{\\", \circ \mathrm{R}}}
70 \CustomizeMathJax{\newcommand{\Fahrenheit}{\\", \circ \mathrm{F}}}
71
72 \CustomizeMathJax{\newcommand{\rpm}{\\", \mathrm{rev}\\", \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}[1][ ]{\\", \mathrm{#1Ba}}}
83 \CustomizeMathJax{\newcommand{\Torr}{\\", \mathrm{#1Torr}}}
84 \CustomizeMathJax{\newcommand{\mol}{\\", \mathrm{mol}}}
85 \end{warpMathJax}

```

---

File 343 **lwarp-pifont.sty**

§ 449 Package **pifont**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg pifont pifont is patched for use by lwarp.

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 344 **l warp-placeins.sty**

### § 450 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 345 **l warp-plarydshln.sty**

### § 451 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 346 **l warp-plex.sty**

### § 452 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{\rensucci}{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 `pxext`, is encapsulated by the `lwarp` core.

File 347 **lwarp-plexarydshln.sty**

## § 453 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 348 **l warp-plextcolortbl.sty**

§ 454 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 349 **l warp-prelim2e.sty**

§ 455 Package **prelim2e**

(Emulates or patches code by MARTIN SCHRÖDER.)

Pkg prelim2e prelim2e is ignored.  
Discard all options for l warp-prelim2e:

1 \LWR@ProvidesPackageDrop{prelim2e}[2009/05/29]  
2 \newcommand{\PrelimText}{}  
3 \newcommand{\PrelimTextStyle}{}  
4 \newcommand{\PrelimWords}{}

---

File 350 **l warp-prettyref.sty**

§ 456 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 351 **l warp-preview.sty**

§ 457 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 352 l warp-psfrag.sty

#### § 458 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 lateximage captures the modified image from the document.

```

2 \BeforeBeginEnvironment{psfrags}{%
3   \begin{lateximage}[-psfrags-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{psfrags}{\end{lateximage}}

```

### File 353 l warp-psfragx.sty

#### § 459 Package **psfragx**

(Emulates or patches code by PASCAL KOCKAERT.)

Pkg psfragx psfragx is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{psfragx}[2012/05/02]

A 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 354 **l warp-pst-eps.sty**

§ 460 Package **pst-eps**

*(Emulates or patches code by HERBERT VOSS.)*

Pkg pst-eps **pst-eps** is patched for use by **l warp**.

for HTML output:

```

1 \LWR@ProvidesPackagePass{pst-eps}[2005/05/20]

2 \renewenvironment{TeXtoEPS}{}{}
3 \renewcommand{\PSTtoEPS}[3][]{}
```

---

File 355 **l warp-pstool.sty**

§ 461 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 356 **l warp-pstricks.sty**

### § 462 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}}}
```

---

#### File 357 **l warp-pxatbegshi.sty**

### § 463 Package **pxatbegshi**

Pkg **pxatbegshi** `pxatbegshi` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxatbegshi}[2017/11/04]

```
2 \LWR@origRequirePackage{l warp-atbegshi}
```

---

#### File 358 **l warp-pxeveryshi.sty**

### § 464 Package **pxeveryshi**

Pkg **pxeveryshi** `pxeveryshi` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxeveryshi}[2012/05/19]  
2 \LWR@origRequirePackage{l warp-everyshi}

---

File 359 **l warp-pxfonts.sty**

§ 465 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@origRequirePackage{l warp-common-mathjax-letters}  
2  
3 \LWR@ProvidesPackagePass{pxfonts}[2008/01/22]

For MATHJAX:

4 \begin{warpMathJax}  
5 \LWR@infoprocessingmathjax{pxfonts}  
6  
7 \LWR@mathjax@addgreek@l@up{}{up}  
8 \end{warpMathJax}

---

File 360 **l warp-pxftnright.sty**

§ 466 Package **pxftnright**

Pkg pxftnright pxftnright is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxftnright}[2017/02/28]  
2 \LWR@origRequirePackage{l warp-ftnright}

---

File 361 **l warp-pxjahyper.sty**

§ 467 Package **pxjahyper**

Pkg pxjahyper pxjahyper is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxjahyper}[2018/07/15]

---

File 362 **l warp-quotchap.sty**

§ 468 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@stopars%
```

---

```

24   \begin{BlockClass}{qauthor}%
25   {#1}%
26   \end{BlockClass}%
27   \LWR@startpars%
28 }
```

Fonts are ignored. Use css.

```

29 \newcommand{\qsetcfont}[1]{}
30 \providecommand*{\quotefont}{}
31 \providecommand*{\qauthorfont}{}
```

---

### File 363 **l warp-quoting.sty**

#### § 469 Package **quoting**

*(Emulates or patches code by THOMAS TITZ.)*

Pkg **quoting** **quoting** is patched for use by **l warp**.

**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 364 **l warp-ragged2e.sty**

#### § 470 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 365 **lwarp-realscripts.sty**

§ 471 Package **realscripts**

*(Emulates or patches code by WILL ROBERTSON.)*

Pkg **realscripts** **realscripts** is emulated. See **lwarp.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@realsubscript {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@realsubscript {m} {
46   \LWR@HTML@textsuperscript{\#1}
47 }
48
49 \LWR@formatted{realsubscript}
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 {\textsuperscript*{\#4}}
59   }
60   {
61     \hbox_set:Nn \l_tmpa_box {\textsubscript{\#3}}
62     \hbox_set:Nn \l_tmpb_box {\textsuperscript{\#4}}
63   }
64   \hbox_set:Nn \l_tmpa_box
65   { \box_move_down:nn \subsupersep {\box_use:N \l_tmpa_box} }
66   \hbox_set:Nn \l_tmpb_box
67   { \box_move_up:nn \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@mbx{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         \textsuperscript{#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 366 l warp-refcheck.sty

#### § 472 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{}%
9 \def\ignoreunlbl{}%
10 \newcommand*\refcheckxrdoc[2][]{}

```

---

### File 367 l warp-register.sty

#### § 473 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 368 **l warp-relsize.sty**

§ 474      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 `\relscaled` 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@reyscale\reyscale
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\reyscale{\LWR@reyscale}%
15   \LetLtxMacro{\textlarger}{\LWR@origtextlarger}%
16   \LetLtxMacro{\textsmaller}{\LWR@origtextsmaller}%
17   \let\textscale{\LWR@textscale}%
18 }
19
20 \newcounter{LWR@relsize临时}
21
22 \renewcommand*{\relsize}[1]{}
23 \renewcommand*{\larger}[1][]{}
24 \renewcommand*{\smaller}[1][]{}
25 \renewcommand*{\reyscale}[1]{}
26
27 \renewcommand*{\textlarger}[2][1]{%
28   \setcounter{LWR@relsize临时}{100+ (#1*20)}%
29   \InlineClass{font-size:\arabic{LWR@relsize临时}\%}{textlarger}{#2}%
30 }
31
32 \renewcommand*{\textsmaller}[2][1]{%
33   \setcounter{LWR@relsize临时}{100- (#1*20)}%
34   \InlineClass{font-size:\arabic{LWR@relsize临时}\%}{textsmaller}{#2}%
35 }
36
37 \renewcommand*{\textscale}[2]{%
38   \setcounter{LWR@relsize临时}{100*\real{#1}}%
39   \InlineClass{font-size:\arabic{LWR@relsize临时}\%}{textscale}{#2}%
40 }

```

For MATHJAX:

```

41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\mathlarger}[1]{#1}}
43 \CustomizeMathJax{\newcommand{\mathsmaller}[1]{#1}}
44 \end{warpMathJax}

```

---

File 369 **l warp-repeatingindex.sty**

§ 475 Package **repeatingindex**

Pkg repeatingindex repeatingindex is emulated for l warp.

⚠ style file l warp must be used with a special style file:

```
\usepackage[makeindex,makeindexStyle={l warp_repeatingindex}]{l warp}
```

where l warp\_repeatingindex.ist may be copied from the following modified version of l warp.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{repeatingindex}[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 370 **l warp-resizegather.sty**

§ 476 Package **resizegather**

Pkg **resizegather** **resizegather** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{resizegather}[2016/05/16]  
2 \newcommand\*\{\resizegathersetup}{1}{}  

---

File 371 **l warp-returntogrid.sty**

§ 477 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 372 **l warp-rmathbr.sty**

§ 478 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}[2016/04/10]  
2 \begin{warpMathJax}  
3 \CustomizeMathJax{\def\\*\{\~\}}  
4 \CustomizeMathJax{\newcommand{\cdott}{\cdot}}  
5 \CustomizeMathJax{\newcommand{\nobr}{}}  
6 \end{warpMathJax}  

---

File 373 **l warp-rmpage.sty**

§ 479 Package **rmpage**

Pkg **rmpage** **rmpage** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{rmpage}[1997/09/29]

---

### File 374 **l warp-romanbar.sty**

#### § 480 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]{% #1 is in Roman, i.e. MMXII
3 \InlineClass[%  
4   text-decoration: overline underline ;
5 ]{romanbar}{#1}%
6 }
```

---

### File 375 **l warp-romanbarpagenumber.sty**

#### § 481 Package **romanbarpagenumber**

Pkg romanbarpagenumber romanbarpagenumber is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{romanbarpagenumber}[2015/02/06]

---

### File 376 **l warp-rotating.sty**

#### § 482 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@ProvidesPackageDrop{rotating}[2016/08/11]

```
2 \RequirePackage{graphicx}
```

```
3 \LetLtxMacro{\sidewaystable}{\table}
4 \let\endsidewaystable\endtable
5
6 \LetLtxMacro{\sidewaysfigure}{\figure}
7 \let\endsidewaysfigure\endfigure
8
```

---

```

9 \newenvironment*{sideways}{}{}
10 \newenvironment*{turn}[1]{}{}
11 \newenvironment*{rotate}[1]{}{}
12 \NewDocumentCommand{\turnbox}{m +m}{#2}
13 \let\rotcaption\caption
14 \let\@makerotcaption\@makecaption

```

---

File 377 **l warp-rotfloat.sty**

§ 483 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} [\langle 4: within\rangle]

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    \DeclareFloatingEnvironment[fileext=#3]{#1}{%
11 }{%
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 378 **l warp-rviewport.sty**

§ 484 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 379 **l warp-savetrees.sty**

§ 485 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 380 **l warp-scalefnt.sty**

§ 486 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 381 **l warp-schemata.sty**

§ 487 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}[2016/01/25]

---

```

2 \LetLtxMacro{\LWR@schemata@origschema}{\schema}
3 \LetLtxMacro{\LWR@schemata@origSchema}{\Schema}
4
5 \renewcommand{\schema}[3][open]{%
6 \begin{lateximage}%
7 \LWR@print@normalsize
8 \LWR@schemata@origschema[#1]{#2}{#3}%
9 \end{lateximage}%
10 }
11
12 \renewcommand{\Schema}[5][open]{%
13 \begin{lateximage}%
14 \LWR@print@normalsize
15 \LWR@schemata@origSchema[#1]{#2}{#3}{#4}{#5}%
16 \end{lateximage}%
17 }

```

---

File 382 **lwarf-scrextend.sty**

§ 488 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*{\crr}{}
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}{}
116 \DeclareDocumentCommand{\deffootnotemark}{m}{}
117 \DeclareDocumentCommand{\setfootnoterule}{o m}{}
118 \DeclareDocumentCommand{\raggedfootnote}{}{ }
119
120 \begin{LWR@BlockClassWP}{\LWR@print@mbox{text-align:right}}{}{dictum}
121   #2
122   \IfValueT{\#1}
123   {
124     \LWR@stoppars%
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{\dictumaauthorformat}{m}{(#1)}
136 \DeclareDocumentCommand{\dictumrule}{}{}
137 \DeclareDocumentCommand{\raggeddictum}{}{}
138 \DeclareDocumentCommand{\raggeddictumtext}{}{}
139 \DeclareDocumentCommand{\raggeddictumaauthor}{}{}
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>

```
179
180 \ExplSyntaxOn
181 \cs_new:cpxn {addmargin*} {\addmargin*}
182 \cs_new_eq:cN {endaddmargin*} \endaddmargin
183 \ExplSyntaxOff
184
185 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}
```

---

### File 383 **lwarp-scrhack.sty**

#### § 489 Package **scrhack**

Pkg scrhack scrhack is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{scrhack}[2018/03/30]

---

### File 384 **lwarp-scrlayer.sty**

#### § 490 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*\{\DeclarerSectionNumberDepth}[2]{}
3 \newcommand*\{\DeclarerLayer}[2][]{}
4 \newcommand*\{\DeclarerNewLayer}[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{fooheight}{\newlength\fooheight}{}
54 \DeclareDocumentCommand{\automark}{s o m}{}
55 \DeclareDocumentCommand{\manualmark}{}{m}
56 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

57 \newcommand{\partmarkformat}{}
58 \ife@chapter
59 \newcommand{\chaptermarkformat}{}
60 \fi
61 \newcommand{\sectionmarkformat}{}
62 \DeclareDocumentCommand{\GenericMarkFormat}{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][]{}
```

File 385 **lwarp-scrlayer-notecolumn.sty**

# § 491 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 386 **lwarf-scrlayer-scrpage.sty**

§ 492 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{footheight}{\newlength\footheight}{}
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 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
22 \newcommand*{\defpairofpagestyles}[3][]{}
23 \newcommand*{\newpairofpagestyles}[3][]{}
24 \newcommand*{\renewpairofpagestyles}[3][]{}
25 \newcommand*{\providepairofpagestyles}[3][]{}

26 \newcommand*{\clearmainofpairofpagestyles}(){}
27 \newcommand*{\clearplainofpairofpagestyles}(){}
28 \newcommand*{\clearpairofpagestyles}(){}
29 \newcommand*{\clearscrheadings}(){}
30 \newcommand*{\clearscrheadfoot}(){}
31 \newcommand*{\clearscrplain}(){}

32 \NewDocumentCommand{\deftriplepagestyle}{m o o m m m m m m}{}
33 \NewDocumentCommand{\newtriplepagestyle}{m o o m m m m m m}{}
34 \NewDocumentCommand{\renewtriplepagestyle}{m o o m m m m m m}{}
35 \NewDocumentCommand{\providetriplepagestyle}{m o o m m m m m m}{}
36 \newcommand*{\defpagestyle}[3]){}
37 \newcommand*{\newpagestyle}[3]){}
38 \newcommand*{\providepagestyle}[3]){}
39 \newcommand*{\renewpagestyle}[3]{}}

```

---

### File 387 lwarf-scrpage2.sty

§ 493      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{\cefot}{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}{}{m}
23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
24 \NewDocumentCommand{\deftripstyle}{m o o m 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}{}
30 \if@chapter
31 \newcommand{\chaptermarkformat}{}
32 \fi
33 \newcommand{\sectionmarkformat}{}
34 \newcommand{\subsectionmarkformat}{}
35 \newcommand{\subsubsectionmarkformat}{}
36 \newcommand{\paragraphmarkformat}{}
37 \newcommand{\ subparagraphmarkformat}{}
38
39 \newcommand*{\clearscrheadings}{}
40 \newcommand*{\clearscrheadfoot}{}
41 \newcommand*{\clearscrplain}{}

```

---

File 388 **lwarf-section.sty**

§ 494      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{hdepth}
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 389 **l warp-sectionbreak.sty**

§ 495      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 390 **l warp-sectsty.sty**

§ 496      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*\{\chapternumberfont} [1] {}
7 \newcommand*\{\chaptertitlefont} [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 391 **lwarf-semantic-markup.sty**

## § 497 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@subsingledollar*%
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 392 **l warp-setspace.sty**

## § 498 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 393 **l warp-shadethm.sty**

§ 499 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 394 **l warp-shadow.sty**

§ 500 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 395 **l warp-shapepar.sty**

§ 501 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 `\teximage`, 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 396 **l warp-showidx.sty**

§ 502 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 397 **l warp-showkeys.sty**

§ 503 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 398 l warp-showtags.sty

#### § 504 Package showtags

Pkg showtags showtags is ignored.

for HTML output 1 \LWR@ProvidesPackageDrop{showtags}% no version is given

```
2 \newcommand{\thecitetag}[1]{}{}
```

---

### File 399 l warp-shuffle.sty

#### § 505 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 \begin{warpHTML}
3 \newcommand*{\LWR@shuffle@start}{%
4   \hspace*{.2em}
5   \begin{picture}(.75,.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 \end{warpHTML}
30
31 \begin{warpMathJax}
32 \CustomizeMathJax{\newcommand{\shuffle}{\unicode{0x29E2}}}
33 \CustomizeMathJax{\newcommand{\cshuffle}{\bar{\unicode{0x29E2}}}}
34 \end{warpMathJax}

```

---

File 400 **lwarf-sidecap.sty**

§ 506 Package **sidecap**

*(Emulates or patches code by ROLF NIEPRASCHK, HUBERT GÄSSLEIN.)*

Pkg sidecap sidecap is emulated.

for HTML output: Discard all options for lwarf-sidecap.

```
1 \LWR@ProvidesPackageDrop{sidecap}[2003/06/06]
```

See:

<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:cpx {SCfigure*} {\SCfigure*}
18 \cs_new_eq:cN {endSCfigure*} \endSCfigure
19 \ExplSyntaxOff

```

---

```

20
21
22 \newenvironment*{wide}{}{}

```

---

File 401 **l warp-sidenotes.sty**

§ 507 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:

```

\sidecaption * [<entry>] [<offset>] {<text>}
 2 \RenewDocumentCommand \sidecaption {s o o m}
 3 {
 4   \LWR@stoppars
 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 l warp 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{KFLT}sidenotes@marginfloat}{\end{KFLT}sidenotes@marginfloat}
35 { \end{KFLT}sidenotes@marginfloat}
36
37 \RenewDocumentEnvironment{marginintable}{o}
38 { \begin{KFLT}sidenotes@marginfloat}{\end{KFLT}sidenotes@marginfloat}
39 { \end{KFLT}sidenotes@marginfloat}

```

The following were changed by `sidenotes`, and now are reset back to their `lwarp`-supported originals:

Restoring the definition from the `LATEX2E article.cls` source:

```

40 \renewenvironment{figure*}
41     {\@dblfloat{figure}}
42     {\@enddblfloat}
43
44 \renewenvironment{table*}
45     {\@dblfloat{table}}
46     {\@enddblfloat}

```

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@synconenumber{\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]{{}^{\mathrm{#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]{{}^{\mathrm{#1}}}}
```

File 402 **lwarp-SIunits.sty**

§ 508 Package **Slunits**

(Emulates or patches code by MARCEL HELDOORN.)

Pkg SIunits Slunits is patched for use by `lwarp`.

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 `LATEX` code, allowing for copy/paste. When units are used outside of the `\unit` macro, each

unit macro will have its own `\teximage`, 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$*% lwarp
5     {%
6       \textbackslash{}unit\{\LWR@HTMLsanitize{\#1}\}%
7       \{ \LWR@HTMLsanitize{\#2}\}% extra space
8     }%
9     {SIunits}% add'l hashing
10    {%
11      \#1\,\,\#\#2%
12    }% contents
13  }
14 }% not MathJax
15 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
16   @inunitcommandtrue% original
17   \LWR@subsingle$*% lwarp
18   {%
19     \textbackslash{}unit\{\LWR@HTMLsanitize{\#1}\}%
20     \{ \LWR@HTMLsanitize{\#2}\}% extra space
21   }%
22   {SIunits}% add'l hashing
23   {%
24     \LWR@origensuredmath% lwarp modification
25     \SIfstyle{%
26       {\#1}@qsk\period@active{\#2}%
27     }% original
28   }%
29   {%
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{\mu}}{\mathrm{B5}}}
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}{\power{10}{-2}}}
98 \CustomizeMathJax{\newcommand{\decid}{\power{10}{-1}}}
99 \CustomizeMathJax{\newcommand{\decad}{\power{10}{1}}}
100 \CustomizeMathJax{\newcommand{\hectod}{\power{10}{2}}}
101 \CustomizeMathJax{\newcommand{\kilod}{\power{10}{3}}}
102 \CustomizeMathJax{\newcommand{\megad}{\power{10}{6}}}
103 \CustomizeMathJax{\newcommand{\gigad}{\power{10}{9}}}
104 \CustomizeMathJax{\newcommand{\terad}{\power{10}{12}}}
105 \CustomizeMathJax{\newcommand{\petad}{\power{10}{15}}}
106 \CustomizeMathJax{\newcommand{\exad}{\power{10}{18}}}
107 \CustomizeMathJax{\newcommand{\zettad}{\power{10}{21}}}
108 \CustomizeMathJax{\newcommand{\yottad}{\power{10}{24}}}
109 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
110 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
111 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kilo}\mathrm{gram}}}
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{\degrecelsius}{\mathrm{\text{\scriptsize{e}}}\mathit{c}\mathit{e}\mathit{l}\mathit{s}\mathit{i}\mathit{u}\mathit{s}}}
133 \CustomizeMathJax{\newcommand{\celsius}{\mathit{c}\mathit{e}\mathit{l}\mathit{s}\mathit{i}\mathit{u}\mathit{s}}}
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{\asecond}{^{\prime\prime\prime}}}
241 \CustomizeMathJax{\newcommand{\asecond}{^{\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{rad}}}
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{\unicode{x212B}}}}
```

```
263 \CustomizeMathJax{\newcommand{\rperminute}{\mathrm{r}\per\minute}}
```

```
264 \CustomizeMathJax{\newcommand{\rpersecond}{\mathrm{r}\per\second}}
```

```
265 \CustomizeMathJax{\newcommand{\squaremetre}{\power{\metre}{2}}}
```

```
266 \CustomizeMathJax{\newcommand{\cubicmetre}{\cubic\metre}}
```

```
267 \CustomizeMathJax{\newcommand{\graypersecond}{\gray\per\second}}
```

```
268 \CustomizeMathJax{\newcommand{\graypersecondnp}{\gray\usk\reciprocal\second}}
```

```
269 \CustomizeMathJax{\newcommand{\metrepersquaresecond}{\metre\per\second\squared}}
```

```
270 \CustomizeMathJax{\newcommand{\metrepersquaresecondnp}{\metre\usk\second\rpsquared}}
```

```
271 \CustomizeMathJax{\newcommand{\joulepermole}{\joule\per\mole}}
```

```
272 \CustomizeMathJax{\newcommand{\joulepermolenp}{\joule\usk\reciprocal\mole}}
```

```
273 \CustomizeMathJax{\newcommand{\molepercubicmetre}{\mole\per\cubic\metre}}
```

```
274 \CustomizeMathJax{\newcommand{\molepercubicmetrenp}{\mole\usk\rpcubic\metre}}
```

```
275 \CustomizeMathJax{\newcommand{\radianpersquaresecond}{\radian\per\second\squared}}
```

```
276 \CustomizeMathJax{\newcommand{\radianpersquaresecondnp}{\radian\usk\second\rpsquared}}
```

```
277 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecond}{\kilogram\usk\squaremetre\per\second}}
```

```
278 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecondnp}{\kilogram\usk\squaremetre\usk\reciproca}}
```

```
279 \CustomizeMathJax{\newcommand{\radianpersecond}{\radian\per\second}}
```

```
280 \CustomizeMathJax{\newcommand{\radianpersecondnp}{\radian\usk\reciprocal\second}}
```

```
281 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetre}{\squaremetre\per\cubic\metre}}
```

```
282 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetrenp}{\squaremetre\usk\rpcubic\metre}}
```

```
283 \CustomizeMathJax{\newcommand{\katalpercubicmetre}{\katal\per\cubic\metre}}
```

```
284 \CustomizeMathJax{\newcommand{\katalpercubicmetrenp}{\katal\usk\rpcubic\metre}}
```

```
285 \CustomizeMathJax{\newcommand{\coulombpermol}{\coulomb\per\mole}}
```

```
286 \CustomizeMathJax{\newcommand{\coulombpermolnp}{\coulomb\usk\reciprocal\mole}}
```

```
287 \CustomizeMathJax{\newcommand{\amperepersquaremetre}{\ampere\per\squaremetre}}
```

```
288 \CustomizeMathJax{\newcommand{\amperepersquaremetrenp}{\ampere\usk\rpsquare\metre}}
```

```
289 \CustomizeMathJax{\newcommand{\kilogrampercubicmetre}{\kilogram\per\cubic\metre}}
```

```
290 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrenp}{\kilogram\usk\rpcubic\metre}}
```

```
291 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecond}{\squaremetre\per\newton\usk\second}}
```

```
292 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecondnp}{\squaremetre\usk\reciprocal\newton\usk\re}}
```

```
293 \CustomizeMathJax{\newcommand{\pascalsecond}{\pascal\usk\second}}
```

```
294 \CustomizeMathJax{\newcommand{\coulombpercubicmetre}{\coulomb\per\cubic\metre}}
```

```
295 \CustomizeMathJax{\newcommand{\coulombpercubicmetrenp}{\coulomb\usk\rpcubic\metre}}
```

```
296 \CustomizeMathJax{\newcommand{\ampere metre second}{\ampere\usk\metre\usk\second}}
```

```
297 \CustomizeMathJax{\newcommand{\voltpermetre}{\volt\per\metre}}
```

```
298 \CustomizeMathJax{\newcommand{\voltpermetrenp}{\volt\usk\reciprocal\metre}}
```

```
299 \CustomizeMathJax{\newcommand{\coulombpersquaremetre}{\coulomb\per\squaremetre}}
```

```
300 \CustomizeMathJax{\newcommand{\coulombpersquaremetrenp}{\coulomb\usk\rpsquare\metre}}
```

```
301 \CustomizeMathJax{\newcommand{\faradpermetre}{\farad\per\metre}}
```

```
302 \CustomizeMathJax{\newcommand{\faradpermetrenp}{\farad\usk\reciprocal\metre}}
```

```
303 \CustomizeMathJax{\newcommand{\ohmmetre}{\ohm\usk\metre}}
```

```
304 \CustomizeMathJax{\newcommand{\kilowatthour}{\kilo\watt\hour}}
```

```
305 \CustomizeMathJax{\newcommand{\wattpersquaremetre}{\watt\per\squaremetre}}
```

```
306 \CustomizeMathJax{\newcommand{\wattpersquaremetrenp}{\watt\usk\rpsquare\metre}}
```

```
307 \CustomizeMathJax{\newcommand{\joulepersquaremetre}{\joule\per\squaremetre}}
```

```
308 \CustomizeMathJax{\newcommand{\joulepersquaremetrenp}{\joule\usk\rpsquare\metre}}
```

```
309 \CustomizeMathJax{\newcommand{\newtonpercubicmetre}{\newton\per\cubic\metre}}
```

```
310 \CustomizeMathJax{\newcommand{\newtonpercubicmetrenp}{\newton\usk\rpcubic\metre}}
```

```
311 \CustomizeMathJax{\newcommand{\newtonperkilogram}{\newton\per\kilogram}}
```

```
312 \CustomizeMathJax{\newcommand{\newtonperkilogramnp}{\newton\usk\reciprocal\kilogram}}
```

```
313 \CustomizeMathJax{\newcommand{\jouleperkelvin}{\joule\per\kelvin}}
```

```
314 \CustomizeMathJax{\newcommand{\jouleperkelvinnp}{\joule\usk\reciprocal\kelvin}}
```

```
315 \CustomizeMathJax{\newcommand{\jouleperkilogram}{\joule\per\kilogram}}
```

```
316 \CustomizeMathJax{\newcommand{\jouleperkilogramnp}{\joule\usk\reciprocal\kilogram}}
```

```
317 \CustomizeMathJax{\newcommand{\coulombperkilogram}{\coulomb\per\kilogram}}
318 \CustomizeMathJax{\newcommand{\coulombperkilogramnp}{\coulomb\usk\reciprocal\kilogram}}
319 \CustomizeMathJax{\newcommand{\squaremetrepersecond}{\squaremetre\per\second}}
320 \CustomizeMathJax{\newcommand{\squaremetrepersecondnp}{\squaremetre\usk\reciprocal\second}}
321 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecond}{\squaremetre\per\second\squared}}
322 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecondnp}{\squaremetre\usk\second\rpsquared}}
323 \CustomizeMathJax{\newcommand{\kilogrammetrepersecond}{\kilogram\usk\metre\per\second}}
324 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondnp}{\kilogram\usk\metre\usk\reciprocal\second}}
325 \CustomizeMathJax{\newcommand{\candelapersquaremetre}{\candela\per\squaremetre}}
326 \CustomizeMathJax{\newcommand{\candelapersquaremetrenp}{\candela\usk\rpsquare\metre}}
327 \CustomizeMathJax{\newcommand{\amperepermetre}{\ampere\per\metre}}
328 \CustomizeMathJax{\newcommand{\amperepermetrenp}{\ampere\usk\reciprocal\metre}}
329 \CustomizeMathJax{\newcommand{\joulepertesla}{\joule\per\tesla}}
330 \CustomizeMathJax{\newcommand{\jouleperteslanp}{\joule\usk\reciprocal\tesla}}
331 \CustomizeMathJax{\newcommand{\henrypermetre}{\henry\per\metre}}
332 \CustomizeMathJax{\newcommand{\henrypermetrenp}{\henry\usk\reciprocal\metre}}
333 \CustomizeMathJax{\newcommand{\kilogrampersecond}{\kilogram\per\second}}
334 \CustomizeMathJax{\newcommand{\kilogrampersecondnp}{\kilogram\usk\reciprocal\second}}
335 \CustomizeMathJax{\newcommand{\kilogramssquaremetresecond}{\kilogram\per\squaremetre\usk\second}}
336 \CustomizeMathJax{\newcommand{\kilogramssquaremetresecondnp}{\kilogram\usk\rpsquare\metre\usk\recipr}}
337 \CustomizeMathJax{\newcommand{\kilogramssquaremetre}{\kilogram\per\squaremetre}}
338 \CustomizeMathJax{\newcommand{\kilogramssquaremetrenp}{\kilogram\usk\rpsquare\metre}}
339 \CustomizeMathJax{\newcommand{\kilogrampermetre}{\kilogram\per\metre}}
340 \CustomizeMathJax{\newcommand{\kilogrampermetrenp}{\kilogram\usk\reciprocal\metre}}
341 \CustomizeMathJax{\newcommand{\joulepermolekelvin}{\joule\per\mole\usk\kelvin}}
342 \CustomizeMathJax{\newcommand{\joulepermolekelvinnp}{\joule\usk\reciprocal\mole\usk\reciprocal\kelvin}}
343 \CustomizeMathJax{\newcommand{\kilogramperkilomole}{\kilogram\per\kilo\mole}}
344 \CustomizeMathJax{\newcommand{\kilogramperkilomolenp}{\kilogram\usk\kilo\reciprocal\mole}}
345 \CustomizeMathJax{\newcommand{\kilogramsquaremetre}{\kilogram\usk\squaremetre}}
346 \CustomizeMathJax{\newcommand{\kilogramsquaremetrenp}{\kilogramsquaremetre}}
347 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecond}{\kilogram\usk\metre\per\second\squared}}
348 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecondnp}{\kilogram\usk\metre\usk\second\rpsquare}}
349 \CustomizeMathJax{\newcommand{\newtonpersquaremetre}{\newton\per\squaremetre}}
350 \CustomizeMathJax{\newcommand{\newtonpersquaremetrenp}{\newton\usk\rpsquare\metre}}
351 \CustomizeMathJax{\newcommand{\persquaremetresecond}{\per\squaremetre\usk\second}}
352 \CustomizeMathJax{\newcommand{\persquaremetresecondnp}{\rpsquare\metre\usk\reciprocal\second}}
353 \CustomizeMathJax{\newcommand{\wattperkilogram}{\watt\per\kilogram}}
354 \CustomizeMathJax{\newcommand{\wattperkilogramnp}{\watt\usk\reciprocal\kilogram}}
355 \CustomizeMathJax{\newcommand{\wattpercubicmetre}{\watt\per\cubic\metre}}
356 \CustomizeMathJax{\newcommand{\wattpercubicmetrenp}{\watt\usk\rpcubic\metre}}
357 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradian}{\watt\per\squaremetre\usk\steradian}}
358 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradiannp}{\watt\usk\rpsquare\metre\usk\rp\steradian}}
359 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvin}{\joule\per\kilogram\usk\kelvin}}
360 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvinnp}{\joule\usk\reciprocal\kilogram\usk\reciprocal}}
361 \CustomizeMathJax{\newcommand{\squaremetreperkilogram}{\squaremetre\per\kilogram}}
362 \CustomizeMathJax{\newcommand{\rpsquaremetreperkilogram}{\squaremetre\usk\reciprocal\kilogram}}
363 \CustomizeMathJax{\newcommand{\cubicmetreperkilogram}{\cubic\metre\per\kilogram}}
364 \CustomizeMathJax{\newcommand{\rpcubicmetreperkilogram}{\cubic\metre\usk\reciprocal\kilogram}}
365 \CustomizeMathJax{\newcommand{\newtonpermetre}{\newton\per\metre}}
366 \CustomizeMathJax{\newcommand{\newtonpermetrenp}{\newton\usk\reciprocal\metre}}
367 \CustomizeMathJax{\newcommand{\Celsius}{\text{\textnormal{C}}}}
368 \CustomizeMathJax{\newcommand{\wattpermetrekelvin}{\watt\per\metre\usk\kelvin}}
369 \CustomizeMathJax{\newcommand{\wattpermetrekelvinnp}{\watt\usk\reciprocal\metre\usk\reciprocal\kelvin}}
370 \CustomizeMathJax{\newcommand{\newtonmetre}{\newton\usk\metre} \CustomizeMathJax{\newcommand{\newtonmetre}{\newton\usk\metre}}}
371 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecond}{\squaremetre\per\cubic\second}}
```

---

```

372 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecondnp}{\squaremetre\usk\rpcubic\second}}
373 \CustomizeMathJax{\newcommand{\metrepersecond}{\metre\per\second}}
374 \CustomizeMathJax{\newcommand{\metrepersecondnp}{\metre\usk\reciprocal\second}}
375 \CustomizeMathJax{\newcommand{\joulepercubicmetre}{\joule\per\cubicmetre}}
376 \CustomizeMathJax{\newcommand{\joulepercubicmetrenp}{\joule\usk\rpcubic\metre}}
377 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulomb}{\kilogram\per\cubic\metre\usk\coulomb}}
378 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulombnp}{\kilogram\usk\rpcubic\metre\usk\recipro}
379 \CustomizeMathJax{\newcommand{\cubicmetrepersecond}{\cubicmetre\per\second}}
380 \CustomizeMathJax{\newcommand{\rpcubicmetrepersecond}{\cubicmetre\usk\reciprocal\second}}
381 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetre}{\kilogram\per\second\usk\cubicmetre}}
382 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetrenp}{\kilogram\usk\reciprocal\second\usk\rpcu}
383 \end{warpMathJax}

```

---

### File 403 **lwarf-siunitx.sty**

#### § 509 Package **siunitx**

(Emulates or patches code by JOSEPH WRIGHT.)

Pkg **siunitx** **siunitx** is patched for use by **lwarf**.

**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, **lwarf** 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. **siunitx** macros with more than one optional value cannot absorb the second optional value, and complicated parsing such as for \ang is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

**lwarf's** MATHJAX emulation for **siunitx** is meant to be a stop-gap measure until an extension is included in MATHJAX. As of this writing, the third-party **siunitx** extension for MATHJAX is not currently hosted at any public CDN, thus **siunitx** is not usable with this extension unless a local copy of this extension is created first. See \MathJaxFilename to select a custom MathJax script, but **lwarf's** emulation would have to be disabled as well.

Document modifications required for MATHJAX:

**custom units** • Custom units may be added with \CustomizeMathJax. See the **lwarf-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   \DeclareSIUnit\bohr{\textit{a}\textsubscript{0}}
6   \DeclareSIUnit\clight{\textit{c}\textsubscript{0}}
7   \DeclareSIUnit\elementarycharge{\textit{e}}
8   \DeclareSIUnit\electronmass{\textit{m}\textsubscript{e}}
9   \DeclareSIUnit\hartree{\textit{E}\textsubscript{h}}
10  \DeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
11 }% 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:n
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}%
36         {\__siunitx_print_text:}% lwarp
```

```

37          {%
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% lwarp
82         \boolfalse{mathjax}% lwarp
83 %     \__siunitx_print:nn { number } { \ensuremath { \#1 } } %
84         \LWR@subsingle dollar{%
85             \textbackslash( \LWR@HTMLsanitize{\#1} \textbackslash)%
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{#1}%
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%    l warp
128             \boolfalse{mathjax}%    l warp
129 %         \__siunitx_print:nn { number } {#1}
130             \LWR@subsingle dollar{#1}%
131             \textbackslash( \LWR@HTMLsanitize{#1} \textbackslash)% l warp
132             \{siunitx\}%
133                 \__siunitx_print:nn { number } {
134                     \LWR@origensuredmath{#1}%
135                     }% l warp
136                 }% l warp
137             \endgroup%    l warp
```

```

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}%
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 { \l_siunitx_angle_print_astronomy_marker: }
194 { \l_siunitx_angle_print_astronomy_unit: }
195 }% lateximage
196 {%
197     \l_siunitx_print:nV { unit } \l_siunitx_unit_tl
198     \l_siunitx_print:nn { number } { \l_siunitx_output_decimal_tl } }
199 }% not a lateximage
200 \prop_get:NnNT \l_siunitx_number_out_prop { mantissa-decimal }
201 \l_siunitx_tmpa_tl
202 { \l_siunitx_print:nV { number } \l_siunitx_tmpa_tl }
203 }

204 \cs_undefine:N \l_siunitx_textsuperscript:n
205 \cs_new_protected:Npn \l_siunitx_textsuperscript:n #1 {\textsuperscript{#1} }

206 \RenewDocumentCommand \num { o m } {
207     \leavevmode
208     \group_begin:% lwarp
209     \LetLtxMacro\@ensuredmath\@origensuredmath% lwarp
210     \LetLtxMacro\mbox\@LWR@print@mbox% lwarp
211     \bool_set_false:N \l_siunitx_font_set_bool
212     \IfNoValueF {#1}
213     { \keys_set:nn { siunitx } {#1} }
214     \l_siunitx_number_output:n {#2}
215     \group_end:% lwarp
216 }
217
218 \RenewDocumentCommand \numrange { o m m } {
219     \leavevmode
220     \group_begin:% lwarp
221     \LetLtxMacro\@ensuredmath\@origensuredmath% lwarp
222     \LetLtxMacro\mbox\@LWR@print@mbox% lwarp
223     \bool_set_false:N \l_siunitx_font_set_bool
224     \IfNoValueF {#1}
225     { \keys_set:nn { siunitx } {#1} }
226     \l_siunitx_range_numbers:nn {#2} {#3}
227     \group_end:% lwarp
228 }
229
230 \RenewDocumentCommand \ang { o > { \SplitArgument { 2 } { ; } } m } {
231     \group_begin:% lwarp
232     \LetLtxMacro\@ensuredmath\@origensuredmath% lwarp
233     \LetLtxMacro\mbox\@LWR@print@mbox% lwarp
234     \IfNoValueF {#1}
235     { \keys_set:nn { siunitx } {#1} }
236     \l_siunitx_angle_output:nnn #2
237     \group_end:% lwarp
238 }
```

```

239
240 \RenewDocumentCommand \si { o m } {
241   \leavevmode
242   \group_begin:% lwarp
243   \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
244   \LetLtxMacro\mbox\LWR@print@mbox% lwarp
245   \bool_set_false:N \l_siunitx_font_set_bool
246   \IfNoValueTF {#1}
247     { \__siunitx_unit_output:n {#2} { } }
248   {
249     \keys_set:nn { siunitx } {#1}
250     \__siunitx_unit_output:n {#2} {#1}
251   }
252   \group_end:% lwarp
253 }
254
255
256 \RenewDocumentCommand{\SIRange}{o m m m}
257 {%
258   \leavevmode
259   \group_begin:% lwarp
260   \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
261   \LetLtxMacro\mbox\LWR@print@mbox% lwarp
262   \bool_set_false:N \l_siunitx_font_set_bool
263   \IfNoValueTF {#1}
264     { \__siunitx_range_unit:nnnn {#4} { } {#2} {#3} }
265   {
266     \keys_set:nn { siunitx } {#1}
267     \__siunitx_range_unit:nnnn {#4} {#1} {#2} {#3}
268   }
269   \group_end:% lwarp
270 }
271
272 \ExplSyntaxOff

```

For **MATHJAX**. (The following runs much faster as separate \CusomizeMathJax calls instead of one single call.)

```

273 \begin{warpMathJax}
274 \LWR@infoprocessingmathjax{siunitx}

275 \CustomizeMathJax{\newcommand{\tothe}[1]{^{#1}}}
276 \CustomizeMathJax{\newcommand{\raiseto}[2]{{^{\#2}}^{#1}}}
277
278 \CustomizeMathJax{\newcommand{\ang}[2][]{({\mathrm{#2}})\degree}}
279 \CustomizeMathJax{\newcommand{\num}[2][]{\mathrm{#2}}}
280 \CustomizeMathJax{\newcommand{\si}[2][]{\mathrm{#2}}}
281 %
282 % \SI[opt]{num}[preunit][unit]
283 \CustomizeMathJax{\newcommand{\LWRSI}[2][]{\mathrm{#1}\LWRStnumber\,,\#2}}
284 \CustomizeMathJax{\newcommand{\SI}[2][]{\def\LWRStnumber{\#2}\LWRSI} }

285 \CustomizeMathJax{\newcommand{\numlist}[2][]{\mathrm{#2}}}
286 \CustomizeMathJax{\newcommand{\numrange}[3][]{\mathrm{#2}\,\text{\scriptsize\texttt{,}}\,\text{\scriptsize\texttt{x2013}}\,,\#3}}

```

```
287 \CustomizeMathJax{\newcommand{\SIlist}[3][]{\mathrm{#2}, #3}}}
288 \CustomizeMathJax{\newcommand{\SIrange}[4][]{\mathrm{#2}, #4, \unicode{x2013}, #3, #4}}
289 \CustomizeMathJax{\newcommand{\tablenum}[2][]{\mathrm{#2}}}
290 %
291 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
292 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
293 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
294 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kg}}}
295 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
296 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
297 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
298 %
299 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
300 \CustomizeMathJax{\newcommand{\degreeCelsius}{\unicode{x2103}}}
301 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
302 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
303 \CustomizeMathJax{\newcommand{\gray}{\mathrm{Gy}}}
304 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
305 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
306 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
307 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
308 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
309 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
310 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
311 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
312 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
313 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
314 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
315 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
316 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
317 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
318 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
319 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
320 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
321 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
322 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
323 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{ha}}}
324 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
325 \CustomizeMathJax{\newcommand{\litre}{\mathrm{l}}}
326 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
327 \CustomizeMathJax{\newcommand{\arcminute}{\mathrm{'}\prime}}
328 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
329 \CustomizeMathJax{\newcommand{\arcsecond}{\mathrm{''}\prime\prime}}
330 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
331 \CustomizeMathJax{\newcommand{\astronomicalunit}{\mathrm{au}}}
332 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
333 \CustomizeMathJax{\newcommand{\bohr}{\mathrm{a}_0}}
334 \CustomizeMathJax{\newcommand{\clight}{\mathrm{c}_0}}
335 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{D}_\mathrm{a}}}
336 \CustomizeMathJax{\newcommand{\electronmass}{\mathrm{m}_\mathrm{e}}}
337 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
338 \CustomizeMathJax{\newcommand{\elementarycharge}{\mathrm{e}}}
339 \CustomizeMathJax{\newcommand{\hartree}{\mathrm{E}_\mathrm{h}}}
340 \CustomizeMathJax{\newcommand{\planckbar}{\mathrm{\hbar}}}
341 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\AA}}}
```

```
342 \CustomizeMathJax{\let\LWRorigbar\bar}
343 \CustomizeMathJax{\newcommand{\bar}{\mathrm{bar}}}
344 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
345 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
346 \CustomizeMathJax{\newcommand{\decibel}{\mathrm{dB}}}
347 \CustomizeMathJax{\newcommand{\knot}{\mathrm{kn}}}
348 \CustomizeMathJax{\newcommand{\mmHg}{\mathrm{mmHg}}}
349 \CustomizeMathJax{\newcommand{\nauticalmile}{\mathrm{M}}}
350 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
351 %
352 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
353 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
354 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
355 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
356 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
357 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
358 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
359 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
360 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
361 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
362 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
363 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
364 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
365 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
366 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
367 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
368 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
369 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
370 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
371 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
372 %
373 \CustomizeMathJax{\newcommand{\percent}{\mathrm{\%}}}
374 %
375 \CustomizeMathJax{\newcommand{\meter}{\mathrm{m}}}
376 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
377 %
378 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
379 \CustomizeMathJax{\newcommand{\kg}{\mathrm{kilo\gram}}}
380 \CustomizeMathJax{\newcommand{\of}[1]{_{\mathrm{#1}}}}
381 \CustomizeMathJax{\newcommand{\squared}{^2}}
382 \CustomizeMathJax{\newcommand{\square}{\mathrm{#1}^2}}
383 \CustomizeMathJax{\newcommand{\cubed}{^3}}
384 \CustomizeMathJax{\newcommand{\cubic}{\mathrm{#1}^3}}
385 \CustomizeMathJax{\newcommand{\per}{/}}
386 \CustomizeMathJax{\newcommand{\celsius}{\mathrm{\unicode{x2103}}}}
387 %
388 \CustomizeMathJax{\newcommand{\fg}{\mathrm{femto\gram}}}
389 \CustomizeMathJax{\newcommand{\pg}{\mathrm{pico\gram}}}
390 \CustomizeMathJax{\newcommand{\ng}{\mathrm{nano\gram}}}
391 \CustomizeMathJax{\newcommand{\ug}{\mathrm{micro\gram}}}
392 \CustomizeMathJax{\newcommand{\mg}{\mathrm{milli\gram}}}
393 \CustomizeMathJax{\newcommand{\g}{\mathrm{gram}}}
394 \CustomizeMathJax{\newcommand{\kg}{\mathrm{kilo\gram}}}
395 %
396 \CustomizeMathJax{\newcommand{\amu}{\mathrm{u}}}
```

```
397 %
398 \CustomizeMathJax{\newcommand{\pm}{\pico\metre}}
399 \CustomizeMathJax{\newcommand{\nm}{\nano\metre}}
400 \CustomizeMathJax{\newcommand{\um}{\micro\metre}}
401 \CustomizeMathJax{\newcommand{\mm}{\milli\metre}}
402 \CustomizeMathJax{\newcommand{\cm}{\centi\metre}}
403 \CustomizeMathJax{\newcommand{\dm}{\deci\metre}}
404 \CustomizeMathJax{\newcommand{\m}{\metre}}
405 \CustomizeMathJax{\newcommand{\km}{\kilo\metre}}
406 %
407 \CustomizeMathJax{\newcommand{\as}{\atto\second}}
408 \CustomizeMathJax{\newcommand{\fs}{\femto\second}}
409 \CustomizeMathJax{\newcommand{\ps}{\pico\second}}
410 \CustomizeMathJax{\newcommand{\ns}{\nano\second}}
411 \CustomizeMathJax{\newcommand{\us}{\micro\second}}
412 \CustomizeMathJax{\newcommand{\ms}{\milli\second}}
413 \CustomizeMathJax{\newcommand{\s}{\second}}
414 %
415 \CustomizeMathJax{\newcommand{\fmol}{\femto\mol}}
416 \CustomizeMathJax{\newcommand{\pmol}{\pico\mol}}
417 \CustomizeMathJax{\newcommand{\nmol}{\nano\mol}}
418 \CustomizeMathJax{\newcommand{\umol}{\micro\mol}}
419 \CustomizeMathJax{\newcommand{\mmol}{\milli\mol}}
420 \CustomizeMathJax{\newcommand{\mol}{\mol}}
421 \CustomizeMathJax{\newcommand{\kmol}{\kilo\mol}}
422 %
423 \CustomizeMathJax{\newcommand{\pA}{\pico\ampere}}
424 \CustomizeMathJax{\newcommand{\nA}{\nano\ampere}}
425 \CustomizeMathJax{\newcommand{\uA}{\micro\ampere}}
426 \CustomizeMathJax{\newcommand{\mA}{\milli\ampere}}
427 \CustomizeMathJax{\newcommand{\A}{\ampere}}
428 \CustomizeMathJax{\newcommand{\kA}{\kilo\ampere}}
429 %
430 \CustomizeMathJax{\newcommand{\ul}{\micro\litre}}
431 \CustomizeMathJax{\newcommand{\ml}{\milli\litre}}
432 \CustomizeMathJax{\newcommand{\lL}{\litre}}
433 \CustomizeMathJax{\newcommand{\hL}{\hecto\litre}}
434 \CustomizeMathJax{\newcommand{\uL}{\micro\liter}}
435 \CustomizeMathJax{\newcommand{\mL}{\milli\liter}}
436 \CustomizeMathJax{\newcommand{\L}{\liter}}
437 \CustomizeMathJax{\newcommand{\hL}{\hecto\liter}}
438 %
439 \CustomizeMathJax{\newcommand{\mHz}{\milli\hertz}}
440 \CustomizeMathJax{\newcommand{\Hz}{\hertz}}
441 \CustomizeMathJax{\newcommand{\kHz}{\kilo\hertz}}
442 \CustomizeMathJax{\newcommand{\MHz}{\mega\hertz}}
443 \CustomizeMathJax{\newcommand{\GHz}{\giga\hertz}}
444 \CustomizeMathJax{\newcommand{\THz}{\tera\hertz}}
445 %
446 \CustomizeMathJax{\newcommand{\mN}{\milli\newton}}
447 \CustomizeMathJax{\newcommand{\N}{\newton}}
448 \CustomizeMathJax{\newcommand{\kN}{\kilo\newton}}
449 \CustomizeMathJax{\newcommand{\MN}{\mega\newton}}
450 %
451 \CustomizeMathJax{\newcommand{\Pa}{\pascal}}
```

```
452 \CustomizeMathJax{\newcommand{\kPa}{\kilo\pascal}}
453 \CustomizeMathJax{\newcommand{\MPa}{\mega\pascal}}
454 \CustomizeMathJax{\newcommand{\GPa}{\giga\pascal}}
455 %
456 \CustomizeMathJax{\newcommand{\mohm}{\milli\ohm}}
457 \CustomizeMathJax{\newcommand{\kohm}{\kilo\ohm}}
458 \CustomizeMathJax{\newcommand{\Mohm}{\mega\ohm}}
459 %
460 \CustomizeMathJax{\newcommand{\pV}{\pico\volt}}
461 \CustomizeMathJax{\newcommand{\nV}{\nano\volt}}
462 \CustomizeMathJax{\newcommand{\uV}{\micro\volt}}
463 \CustomizeMathJax{\newcommand{\mV}{\milli\volt}}
464 \CustomizeMathJax{\newcommand{\V}{\volt}}
465 \CustomizeMathJax{\newcommand{\kV}{\kilo\volt}}
466 %
467 \CustomizeMathJax{\newcommand{\W}{\watt}}
468 \CustomizeMathJax{\newcommand{\uW}{\micro\watt}}
469 \CustomizeMathJax{\newcommand{\mW}{\milli\watt}}
470 \CustomizeMathJax{\newcommand{\kW}{\kilo\watt}}
471 \CustomizeMathJax{\newcommand{\MW}{\mega\watt}}
472 \CustomizeMathJax{\newcommand{\GW}{\giga\watt}}
473 %
474 \CustomizeMathJax{\newcommand{\J}{\joule}}
475 \CustomizeMathJax{\newcommand{\uJ}{\micro\joule}}
476 \CustomizeMathJax{\newcommand{\mJ}{\milli\joule}}
477 \CustomizeMathJax{\newcommand{\kJ}{\kilo\joule}}
478 %
479 \CustomizeMathJax{\newcommand{\eV}{\electronvolt}}
480 \CustomizeMathJax{\newcommand{\meV}{\milli\electronvolt}}
481 \CustomizeMathJax{\newcommand{\keV}{\kilo\electronvolt}}
482 \CustomizeMathJax{\newcommand{\MeV}{\mega\electronvolt}}
483 \CustomizeMathJax{\newcommand{\GeV}{\giga\electronvolt}}
484 \CustomizeMathJax{\newcommand{\TeV}{\tera\electronvolt}}
485 %
486 \CustomizeMathJax{\newcommand{\kWh}{\kilo\watt\hour}}
487 %
488 \CustomizeMathJax{\newcommand{\F}{\farad}}
489 \CustomizeMathJax{\newcommand{\fF}{\femto\farad}}
490 \CustomizeMathJax{\newcommand{\pF}{\pico\farad}}
491 %
492 \CustomizeMathJax{\newcommand{\K}{\mathrm{K}}}
493 %
494 \CustomizeMathJax{\newcommand{\dB}{\mathrm{dB}}}
495 %
496 \CustomizeMathJax{\newcommand{\kibi}{\mathrm{Ki}}}
497 \CustomizeMathJax{\newcommand{\mebi}{\mathrm{Mi}}}
498 \CustomizeMathJax{\newcommand{\gibi}{\mathrm{Gi}}}
499 \CustomizeMathJax{\newcommand{\tebi}{\mathrm{Ti}}}
500 \CustomizeMathJax{\newcommand{\pebi}{\mathrm{Pi}}}
501 \CustomizeMathJax{\newcommand{\exbi}{\mathrm{Ei}}}
502 \CustomizeMathJax{\newcommand{\zebi}{\mathrm{Zi}}}
503 \CustomizeMathJax{\newcommand{\yobi}{\mathrm{Yi}}}
504 \end{warpMathJax}
```

---

**File 404 l warp-slantsc.sty**

§ 510 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 405 l warp-slashed.sty**

§ 511 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 406 l warp-soul.sty**

§ 512 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}{\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*{\<}={}

```

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 407 **l warp-soulpos.sty**

§ 513 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\ifulenctype[1]{%
13 \expandafter\@secondoftwo%
14 }
15

```

```
16 \newcommand{\ulstarttype}{0}
17 \newcommand{\ulendtype}{0}
18 \newcommand{\ulpostolerance}{0}%

```

---

**File 408 lwarf-soulutf8.sty****§ 514 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 409 lwarf-splitbib.sty****§ 515 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@style{simple#1#2}{%
31 \par
32 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
33 \par
34 }
```

---

File 410 **l warp-splitidx.sty**

§ 516 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 [629.17](#) in the **l warp-patch-memoir** package for the **\@wrsindexhyp** 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 **l warp**'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@\#1@hook\endcsname
21 %     \expandafter\ifx\csname @wrsindex\endcsname\relax
22 %     \addtocounter{LWR@autoindex}{1}%           l warp
23 %     \Label{LWRindex-\arabic{LWR@autoindex}}%    l warp
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 }

```

`l warp` 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 411 `l warp-srcltx.sty`

§ 517 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 412 l warp-srctex.sty****§ 518 Package srctex**

Pkg srctex srctex is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]
2 \LWR@origRequirePackage{l warp-srcltx}

---

**File 413 l warp-stabular.sty****§ 519 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{m}}
6 }
7 {\end{tabular}}
```

Env stabular [ $\langle width \rangle$ ] [ $\langle vpos \rangle$ ] [ $\langle colspec \rangle$ ]

```
8 \NewDocumentEnvironment{stabular*}{m o m}
9 {
10 \begin{tabular}[2][\#3]
11 \renewcommand{\noalign}{\vphantom{m}}
12 }
13 {\end{tabular}}
```

---

File 414 **l warp-stackengine.sty**

§ 520 Package **stackengine**

(Emulates or patches code by STEVEN B. SEGETES.)

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%
55       l warp
56       \LWR@restoreorigformatting%
57       \RenewDocumentEnvironment{ lateximage }{ s o s o o }{ }{ }% l warp: inside group
58       \expandafter\lWR@gsavebox\csname\sv@name content\endcsname{#2}%
59       \expandafter\gdef\expandafter#1\expandafter{%
60         \expandafter\begin\expandafter{ lateximage \expandafter }% l warp
61         \expandafter\usebox\expandafter%
62         {\csname\sv@name content\endcsname}%
63         \expandafter\end\expandafter{ lateximage \expandafter }% l warp
64       }%
65     \endgroup%
66   l warp
67 }

```

File 415 **l warp-stackrel.sty**

§ 521 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}{\mathrel{\mathop{\#3}\limits_{\#1}^{\#2}}}}
4 \mathrel{\mathop{\#3}\limits_{\#1}^{\#2}}
5 }
6
7 \CustomizeMathJax{\newcommand{\stackbin}{\mathbin{\mathop{\#3}\limits_{\#1}^{\#2}}}}
8 \mathbin{\mathop{\#3}\limits_{\#1}^{\#2}}
9 }
10 \end{warpMathJax}
```

---

#### File 416 **l warp-statex2.sty**

§ 522 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 `\sim` 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{\mathrm{#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{#1}}}
30 \fi
31
32 \CustomizeMathJax{\newcommand{\diag}{\mathbf{\mathrm{diag}}}}
33 \CustomizeMathJax{\newcommand{\blockdiag}{\mathbf{\mathrm{blockdiag}}}}
34 \CustomizeMathJax{\newcommand{\erf}{\mathbf{\mathrm{erf}}}}
35 \CustomizeMathJax{\newcommand{\logit}{\mathbf{\mathrm{logit}}}}
36 \CustomizeMathJax{\newcommand{\trace}{\mathbf{\mathrm{trace}}}}
37
38 \CustomizeMathJax{\newcommand{\chisq}{\mathbf{\chi^2}}}
39 \CustomizeMathJax{\newcommand{\deriv}[2]{\mathbf{\frac{d}{d\#1}}}\wrap{\mathbf{\#2}}}
40 \CustomizeMathJax{\newcommand{\derivf}[2]{\mathbf{\frac{d}{d\#2}}}\wrap{\mathbf{\#1}}}
41 \CustomizeMathJax{\newcommand{\e}[1]{\mathbf{\mathrm{e}}^{#1}}}
42 \CustomizeMathJax{\newcommand{\E}[2]{\mathbf{\mathrm{e}}^{#1}}\mathbf{\mathrm{e}}^{#2}\wrap{\mathbf{\#2}}}
43 \CustomizeMathJax{\newcommand{\ha}{\mathbf{\frac{\alpha}{2}}}}
44 \CustomizeMathJax{\newcommand{\I}[2][]{\mathbf{\mathrm{I}}\mathbf{\mathrm{#1}}}\mathbf{\mathrm{#2}}\%}
45   \mathbf{\mathrm{I}}\mathbf{\mathrm{#1}} \LWRrapparen{\mathbf{\mathrm{#2}}}\%
46 }
47 \CustomizeMathJax{\newcommand{\IBeta}[2]{%
48   \mathbf{\mathrm{I}}\mathbf{\mathrm{#1}}+\mathbf{\mathrm{I}}\mathbf{\mathrm{#2}}}\mathbf{\mathrm{I}}\mathbf{\mathrm{#1}}\mathbf{\mathrm{I}}\mathbf{\mathrm{#2}}\%}
49 }
50 \CustomizeMathJax{\newcommand{\If}{{\mathbf{\mathrm{if}}};\mathbf{\mathrm{#1}};\mathbf{\mathrm{#2}}}}
51 \CustomizeMathJax{\newcommand{\im}{\mathbf{\mathrm{#1}}\mathbf{\mathrm{#2}}}}
52 \CustomizeMathJax{\newcommand{\ol}{\mathbf{\mathrm{#1}}\mathbf{\mathrm{#2}}}}
53 \CustomizeMathJax{\newcommand{\ow}{{\mathbf{\mathrm{otherwise}}};\mathbf{\mathrm{#1}};\mathbf{\mathrm{#2}}}}
54 \CustomizeMathJax{\newcommand{\pderiv}[2]{\mathbf{\frac{\partial}{\partial\#1}}}\wrap{\mathbf{\#2}}}
55   \mathbf{\frac{\partial}{\partial\#1}}\wrap{\mathbf{\#2}}\%
56 }
57 \CustomizeMathJax{\newcommand{\pderivf}[2]{\mathbf{\frac{\partial}{\partial\#1}}}\wrap{\mathbf{\#2}}}
58   \mathbf{\frac{\partial}{\partial\#1}}\mathbf{\mathrm{#2}}\wrap{\mathbf{\#1}}\%
59 }
60 \CustomizeMathJax{\newcommand{\sd}{\mathbf{\mathrm{\sigma}}}}
61 \CustomizeMathJax{\newcommand{\ul}{\mathbf{\mathrm{#1}}\mathbf{\mathrm{#2}}}}
```

```

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><space> with <space>\sim<space>
70
71 \CustomizeMathJax{\newcommand{\iid}{\stackrel{\mb{\mathrm{iid}}}{\sim}}}
72 \CustomizeMathJax{\newcommand{\ind}{\stackrel{\mb{\mathrm{ind}}}{\sim}}}
73 \CustomizeMathJax{\newcommand{\indpr}{\stackrel{\mb{\mathrm{ind}}}{\stackrel{\mb{\mathrm{prior}}}{\sim}}}}
74
75 }
76 \CustomizeMathJax{\newcommand{\post}{\stackrel{\mb{\mathrm{post}}}{\sim}}}
77 \CustomizeMathJax{\newcommand{\prior}{\stackrel{\mb{\mathrm{prior}}}{\sim}}}
78
79 \CustomizeMathJax{\let\STATEXGamma=\Gamma}
80 \CustomizeMathJax{\renewcommand{\Gamma}[1][]{\mb{\STATEXGamma}\LWRwrapparen{\mb{#1}}}}
81 %
82 \CustomizeMathJax{\renewcommand{\and}{\mb{\mathrm{and}}}}
83 %
84 \CustomizeMathJax{\newcommand{\H}{\mb{\mathrm{H}}}}
85 %
86 \CustomizeMathJax{\newcommand{\P}[2][]{\mb{\mathrm{P}}}_{\mb{#1}}\wrap{\mb{#2}}}}
87 %
88 \CustomizeMathJax{\newcommand{\mid}{\mb{\mid}}}
89
90 \CustomizeMathJax{\newcommand{\B}[1]{\mb{\mathrm{B}}}\LWRwrapparen{\mb{#1}}}
91 \CustomizeMathJax{\newcommand{\BB}[1]{\mb{\mathrm{BetaBin}}}\LWRwrapparen{\mb{#1}}}
92 \CustomizeMathJax{\newcommand{\Bin}[2]{\mb{\mathrm{Bin}}}\LWRwrapparen{\mb{#1}, \#2}}
93 \CustomizeMathJax{\newcommand{\Dir}[1]{\mb{\mathrm{Dirichlet}}}\LWRwrapparen{\mb{#1}}}
94 \CustomizeMathJax{\newcommand{\HG}[3]{\mb{\mathrm{Hypergeometric}}}\LWRwrapparen{\mb{#1}, \#2, \#3}}
95
96 }
97 \CustomizeMathJax{\newcommand{\M}[2]{\mb{\mathrm{Multinomial}}}\LWRwrapparen{\mb{#1}, \#2}}
98
99 }
100 \CustomizeMathJax{\newcommand{\NB}[2]{\mb{\mathrm{NegBin}}}\LWRwrapparen{\mb{#1}, \#2}}
101 \CustomizeMathJax{\newcommand{\Poi}[1]{\mb{\mathrm{Poisson}}}\LWRwrapparen{\mb{#1}}}
102 \CustomizeMathJax{\let\Poisson=\Poi}
103
104 \CustomizeMathJax{\newcommand{\pBB}[4][x]{%
105   \frac{\Gamma[#2+1]\Gamma[#3+1]\Gamma[#2+#4-#1]\Gamma[#3+#4]}{%
106     \Gamma[#1+1]\Gamma[#2-#1+1]\Gamma[#2+#3+#4]\Gamma[#3]\Gamma[#4]}%
107   \cdot I[#1]{\{0, 1, \dots, #2\}}, \where #3>0, \#4>0 \and n=1, 2, \dots}%
108 }
109 \CustomizeMathJax{\newcommand{\pBin}[3][x]{%
110   \binom{\#2}{\#1}\#3^{\#1} \LWRwrapparen{\mb{#1-#3}^{\#2-\#1}}}%
111   \cdot I[#1]{\{0, 1, \dots, #2\}}, \where p \in (0, 1) \and n=1, 2, \dots}%
112 }
113 \CustomizeMathJax{\newcommand{\pPoi}[2][x]{%
114   \frac{1}{\#1!}\#2^{\#1} e^{-\#2} I[#1]{\{0, 1, \dots\}}, \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}\!-\!\ln}}}\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}{\cpi}\left(1+\wrap{\LWRwapparen{x-#2}/#3}^2\right)}, \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 e^{-\LWRwapparen{#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\cdot \LWRwapparen{1+#1/#2}^{#3+1}}\cdot 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{#3-#2}{#3}\cdot I[#1]{#2, #3}, \where #2<#3}}%
184 }% no special case for 0,1
185
186 \CustomizeMathJax{\newcommand{\=}{[1]{\bar{#1}}}}
187 \CustomizeMathJax{\let{\widehat{\vphantom{A}}}{\widehat{A}}}
188 \CustomizeMathJax{\let{\widetilde{\vphantom{A}}}{\widetilde{A}}}
189 \CustomizeMathJax{\newcommand{\'}[1]{\LWRwapparen{\mb{#1}}}}
190 \CustomizeMathJax{\newcommand{\b}[1]{\bar{#1}}}
191 \CustomizeMathJax{\newcommand{\c}[1]{\mb{\mathit{#1}}}}
192 \CustomizeMathJax{\newcommand{\d}[1]{\mb{\mathit{#1}}}}
193 \CustomizeMathJax{\newcommand{\ldots}{\ldots}}
194 \end{warpMathJax}
```

---

#### File 417 **lwarp-statmath.sty**

§ 523 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@origRequirePackage{lwarp-common-mathjax-letters}
2
3 \LWR@ProvidesPackagePass{statmath}[2018/03/08]

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@bf{fit}{bf}{}% Greek lowercase bold face italic
67 \LWR@mathjax@addgreek@u@bf{up}{*}{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.}{\rightarrow}}}
75 \CustomizeMathJax{\newcommand{\indist}{\overset{d}{\rightarrow}}}
```

---

```

76 \CustomizeMathJax{\newcommand{\inprob}{\overset{p}{\rightarrow}}}
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 418 **l warp-steinmetz.sty**

§ 524 Package **steinmetz**

*(Emulates or patches code by ENRICO GREGORIO.)*

Pkg **steinmetz** **steinmetz** is patched for use by **l warp**. Emulation is provided for MATHJAX

**for HTML output:** 1 \LWR@ProvidesPackagePass{steinmetz}[2009/06/14]

```

2 \begin{warpHTML}
3 \renewcommand{\phase}[2][]{%
4   \begin{lateximage}*[\steinmetz{\detokenize{\#2}\!}]
5   \ensuremath{\underline{/}\#2}}
6   \end{lateximage}
7 }
8 \end{warpHTML}
9
10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\phase}[2][]{\underline{/}\#2}}
12 \end{warpMathJax}
```

---

File 419 **l warp-stfloats.sty**

§ 525 Package **stfloats**

Pkg **stfloats** **stfloats** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{stfloats}[2017/03/27]

**stfloats** 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 420 **l warp-struktex.sty**

##### § 526 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}[2018/06/04]

```
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 421 **l warp-subcaption.sty**

##### § 527 Package **subcaption**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg subcaption subcaption is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{subcaption}[2018/05/01]

Tells l warp 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 422 **l warp-subfig.sty**

§ 528      Package **subfig**

*(Emulates or patches code by STEVEN DOUGLAS COCHRAN.)*

Pkg **subfig** **subfig** is supported and patched by **l warp**.

⚠ **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 **l warp-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}\l warp
4 \IfValueTF{#2}{%
5   \LWR@setlatestname{#2}%
6 }{%
7   \IfValueTF{#3}{%
8     \LWR@setlatestname{#3}%
9   }{%
10 }%
11 \LWR@stopars\l warp
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      \tempcnta=\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\Xhsizem-\wd\@tempboxa
32 %        \dimen@=\ht\@tempboxa
33 %        \advance\dimen@\dp\@tempboxa
34 %        \ifdim\dimen@>\FBso@max
35 %            \global\FBso@max\dimen@
36 %        \fi}%

```

Do not use boxes, which interfere with `\textrimage`:

```

37 %   \vtop%
38   \bgroup
39 %   \vbox%
40   \bgroup
41       \ifcase\@tempcnta
42           \minipagefalse
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@captopadj
55       } \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\FBsubheight\relax
69       \box\@tempboxa

```

```
70          #4
71      \else
72 %           \vbox to \FBsuboheight{\FBafil\box@\tempboxa\FBbfil}%
73          #4
74      \fi}%
75      \LWR@stoppars% lwarp
76      \egroup
77      \ifx \empty\relax \else
78 %           \vskip\sff@skip
79 %           \hrule width0pt height0pt depth0pt
80           \sff@subcaption{\#1}{\#2}{\#3}%
81      \fi
82 }%
83 %           \vskip\sff@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 }%
```

```
\sff@subcaption {<1 type>} {<2 LOF entry>} {<3 caption>}
97 \long\def\sff@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     \sff@updatecaptionlist{\#1}{\#2}{\the\value{\capttype}}{\the\value{\#1}}%
106   }%
107 \egroup
108 \fi
109 \bgroup
110   \ifx \relax#3\relax
111     \let\captionlabelsep=\relax
112   \fi
113   \setbox0\vbox{%
114     \hb@xt@\the\tempdima{%
115       \hss
116       \parbox[t]{\the\tempdima}{%
117         \caption@make
118         {\nameuse{sub\capttype name}}%
119         {\nameuse{thesub\capttype}}%
120         {\#3}
121       }%
122     }%
123   }%
124 }
```

```

122 % %
123 %   }
124 %   }%
125     \@ifundefined{FBsc@max}%
126       {\box0}%
127     {
128       \parbox[t]{\the\@tempdima}{%
129 \LWR@traceinfo{sfsubcap B1}% lwarf
130         \LWR@figcaption% lwarf
131         \caption@make
132           {\@nameuse{sub\@capttype name}}%
133           {\@nameuse{thesub\@capttype}}%
134           {\LWR@isolate{\#3}}%

135         \endLWR@figcaption% lwarf
136 \LWR@traceinfo{sfsubcap B2}% lwarf
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}% lwarf
160         \caption@make
161           {\@nameuse{sub\@capttype name}}%
162           {\@nameuse{thesub\@capttype}}%
163           {\#3}
164 \LWR@traceinfo{sfsubcap C1}% lwarf
165   }%
166 %       \hss
167
168 %   }
169 %   }%
170   }%
171   \egroup
172 \LWR@startpars% lwarf
173 }

```

\subfloat@label Patches for \sf@sub@label:

```
174 \def\subfloat@label{%
175   \LWR@ensuredoingapar% \l warp
176   \@ifnextchar(% %) match left parenthesis
177   { \sf@sub@label}
178   { \sf@sub@label( \Sub@\@capttype\space
179     \ifundefined{\thechapter}{}{ \nameuse{\thechapter}\space}%
180     \nameuse{p@sub\@capttype}%
181     \nameuse{thesub\@capttype}. )}}
```

Patches for \subref.

\sf@subref {*label*}

The unstarred version uses a \ref link whose printed text comes from the sub@<label>:

```
182 \renewcommand{\sf@subref}[1]{%
183     \LWR@subnewref{#1}{sub@#1}%
184 }
```

\sf@@subref {*label*}

The starred version uses the printed `sub@<label>` which is stored as if it were a page number:

```
185 \renewcommand{\sf@@subref}[1]{\LWR@orig@pageref{sub@#1}}
```

Defining new subfloats. The `\@sub<type>` for each is redefined.

\@newsubfloat [⟨keys/values⟩] {⟨float name⟩}

```
186 \LetLtxMacro{\LWR@orig}{\newsubfloat}{\@newsubfloat}
187
188 \def\@newsubfloat[#1]{%
189   \LWR@orig{\newsubfloat[#1]{#2}}%
190 }%
191 \renewcommand{\l@sub#2}{\hypertocfloat{2}{s}}
```

Pre-defined for figures and tables:

\l@subfigure {*text*} {*pagenum*}

```
192 \renewcommand{\l@subfigure}[2]{\hypertocfloat{2}{subfigure}{lof}{#1}{#2}}
```

\l@subtable {*text*} {*pagenum*}

```
193 \renewcommand{\l@subtable}[2]{\hypertocfloat{2}{subtable}{lot}{#1}{#2}}
```

## File 423 **lwarf-subfigure.sty**

§ 529 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\relax}{}
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\subfigcaptopadj
16 \newskip\subfigbottomskip
17 \newdimen\subfigcapmargin
18 \newskip\subfiglabelskip
19 \newcommand*\subcapsize{ $\scriptstyle\textit{size}$ }
20 \newcommand*\subcaplabelfont{ $\scriptstyle\textit{font}$ }
21 \newcommand*\subcapfont{ $\scriptstyle\textit{font}$ }

```

---

#### File 424 **lwarp-subsupscripts.sty**

### § 530 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{\lrsupscriptsC}[5]{%
10    \fourscriptsC{\#1}{\#2}{\#3}{\#4}{\#5}%
11  }
12 }
13 \CustomizeMathJax{%
14   \newcommand{\lrsubscriptsC}[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{\lrsubscripts}[3]{\fourscripts{#1}{#2}{#3}{#4}{#5}}
25 }
26 \CustomizeMathJax{%
27     \newcommand{\lrsubscripts}[3]{\fourscripts{#1}{#2}{#3}{#4}{#5}}
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{\lsubscript}[3][-.16ex]{\twolscripts{#1}{#2}{#3}{#4}}
37 }
38 \CustomizeMathJax{%
39     \newcommand{\lsuperscript}[3][-.16ex]{\twolscripts{#1}{#2}{#3}{#4}}
40 }
41 \CustomizeMathJax{%
42     \newcommand{\rsubscript}[3][-.07ex]{\tworscripts{#1}{#2}{#3}{#4}}
43 }
44 \CustomizeMathJax{%
45     \newcommand{\rsuperscript}[3][-.07ex]{\tworscripts{#1}{#2}{#3}{#4}}
46 }
47 \end{warpMathJax}

```

File 425 **lwarf-supertabular.sty**

§ 531 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.

⚠ **latextimage** supertabular and xtab are not supported inside a `latextimage`.

```
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 426 l warp-svg.sty**

§ 532 Package **SVG**

(Emulates or patches code by PHILIP ILTEN, FALK HANISCH.)

Pkg svg **svg** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{svg}[2019/10/22]

```
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 427 l warp-syntonly.sty**

§ 533 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*{\syntaxonly}{}

---


```

```
6  
7 \@onlypreamble\syntaxonly  
  
8 \def\nopages@{}
```

---

File 428 **l warp-tabfigures.sty**

§ 534 Package **tabfigures**

Pkg tabfigures tabfigures is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{tabfigures}[2012/01/24]

---

File 429 **l warp-tablefootnote.sty**

§ 535 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 430 **l warp-tables.sty**

§ 536 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 431 l warp-tabularx.sty**

§ 537      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 432 l warp-tabulary.sty**

§ 538      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 433 l warp-tagpdf.sty**

§ 539      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 \tagmcfinTF { 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

```

---

File 434 **lwarp-tascmac.sty**

§ 540 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 }
50
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 435 **lwarf-tcolorbox.sty**

§ 541      Package **tcolorbox**

(Emulates or patches code by THOMAS F. STURM.)

Pkg tcolorbox tcolorbox is patched for use by l warp.

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}{tcbscolback}{HTML}\LWR@tcbscolback
6   \convertcolorspec{named}{tcbscolframe}{HTML}\LWR@tcbscolframe
7   \iftcb@titlefilled%
8     \convertcolorspec{named}{tcbscolbacktitle}{HTML}\LWR@tcbscolbacktitle
9   \else
10     \convertcolorspec{named}{tcbscolframe}{HTML}\LWR@tcbscolbacktitle
11   \fi
12   \convertcolorspec{named}{tcbscoltitle}{HTML}\LWR@tcbscoltitle
13   \convertcolorspec{named}{tcbscolupper}{HTML}\LWR@tcbscolupper
14   \convertcolorspec{named}{tcbscollower}{HTML}\LWR@tcbscollower
15 }
16
17 \newcommand*{\LWR@tcolorbox@titlecolorstyles}{%
18   border-top: 1px solid \LWR@origpound\LWR@tcbscolframe ;
19   border-bottom: 1px solid \LWR@origpound\LWR@tcbscolframe ;
20   background: \LWR@origpound\LWR@tcbscolbacktitle ;
21   color: \LWR@origpound\LWR@tcbscoltitle ;
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@tcbsolidframe ;
52     background: \LWR@origpound\LWR@tcback ;
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@tcbsolidupper ;
62   ]{\tcolorboxupper}
63 }

```

Flosts enclose the `tcolorbox`.

```

64 \newcommand*{\LWR@tcolorbox@dosstartfloat}{%
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@tcolorbox@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         {%
90             Lwarp cannot process a tcolorbox inside a lateximage\MessageBreak
91             or SVG math.\MessageBreak
92             Enter 'H' for possible solutions%
93         }
94         {%
95             Use \protect\tcbox, \protect\tcboxmath, or
96             \protect\tchighmath\space instead.\MessageBreak%
97             (Inside math, you probably want to use these anyhow.)%
98         }
99     }{%
100     \LWR@printpendingfootnotes
101     \tcb@layer@inc
102     \tcb@apply@box@options{#1}
103     \LWR@tcolorbox@dostartfloat%
104     \tcbset{title=#1}
105     \boolfalse{LWR@havetcblower}
106     \LWR@tcolorboxstart{tcolorbox}
107     \tcb@insert@before@upper%
108 }
109 {
110     \ifbool{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. \tcblower is only temporarily defined where appropriate, so the HTML version is defined globally via \newcommand instead of \renewcommand.

```

121 \newcommand{\tcblower}{%
122     \tcb@insert@after@upper%
123     \end{BlockClass}
124     \begin{BlockClass}[%]
125         border-top: 1px dashed \LWR@origpound\LWR@tcbcolframe ;
126         color: \LWR@origpound\LWR@tcbcollower ;
127     ]{tcolorboxlower}
128     \tcb@insert@before@lower%
129 }
```

Starred and unstarred \tcbline are simple \hrules.

```

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   \boolfalse{\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{\tcbox}[2][]{#2}%
169 }

```

Patches for the subtitle, which is placed inside a <div> of class tcboxsubtitle.

```

170 \xpatchcmd{\tcbsubtitle}
171   {\begingroup}
172   {\begingroup\let\kvtcb@title\relax\begin{BlockClass}{tcboxsubtitle}}
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 \tcbbox.

```
181 \AtBeginDocument{
182     \ifdef{\tcboxfit}{%
183         \let\LWR@HTML@tcboxfit\tcbox%
184         \LWR@formatted{tcboxfit}
185     }{}
186 }
```

\tcboxtitle is patched to support the text font.

```
187 \LetLtxMacro{\LWR@HTML@tcboxtitle}{\tcboxtitle}
188 \xpatchcmd{\LWR@HTML@tcboxtitle}
189     {\kv tcb@before@title\tcboxtitletext}
190     {\kv tcb@before@title\LWR@textcurrentfont{\LWR@textcurrentcolor{\tcboxtitletext}}}
191     {}
192     {\LWR@patcherror{tcolorbox}{\LWR@HTML@tcboxtitle}}
193 \LWR@formatted{tcboxtitle}
```

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. `\tcbboxmath` and `\tcbhighmath` 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\tcbboxmath\space and
203             \protect\tcbhighmath\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 }%
212 \LWR@formatted{tcb@hack@amsmath}
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@tcbxmath}[2][]{#2}%
228 \LWR@formatted{tcbxmath}%
229 \newcommand{\LWR@HTML@tcbhighmath}[2][]{#2}%
230 \LWR@formatted{tcbhighmath}%
231 \appto{\LWR@restoreMathJaxFormatting}{%
232   \renewcommand{\tcbxmath}[2][]{#2}%
233   \renewcommand{\tcbhighmath}[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{\tcbxmath}[2][]{\boxed{#2}}}
246 \CustomizeMathJax{\newcommand{\tcbhighmath}[2][]{\boxed{#2}}}

```

#### File 436 **lwarp-termcal.sty**

§ 542 Package **termcal**

(Emulates or patches code by BILL MITCHELL.)

Pkg **termcal** **termcal** is patched for use by **lwarp**.

**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@doday}}
```

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 437 **l warp-textarea.sty**

##### § 543 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@restoretarea\empty
```

---

#### File 438 **l warp-textcomp.sty**

##### § 544 Package **textcomp**

(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)

Pkg **textcomp** **textcomp** is patched for use by **l warp**.

## § 544.1 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.

## § 544.2 Package loading

**for HTML output:** 1 \LWR@ProvidesPackagePass{textcomp}[2017/04/05]

### § 544.3 HTML symbols

For `HTML`, use `HTML` entities or direct Unicode, depending on the engine.

`\AtBeginDocument` improves support for `LuaLaTeX` and `XeLaTeX`.

#### § 544.3.1 pdfLaTeX 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

```

#### § 544.3.2 XeLaTeX and LuaLaTeX 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}{\{}}
30 \newcommand*{\LWR@HTML@textrquill}{\}}
31 \newcommand*{\LWR@HTML@textcircledP}{\@}
32 \newcommand*{\LWR@HTML@texttwelveudash}{\text{‐}}% emdash
33 \newcommand*{\LWR@HTML@textthreequartersemdash}{\text{‐}}% emdash
34 \newcommand*{\LWR@HTML@textmho}{\text{U}}
35 \newcommand*{\LWR@HTML@textnaira}{\text{₦}}
36 \newcommand*{\LWR@HTML@textpeso}{\text{₱}}
37 \newcommand*{\LWR@HTML@textrecipe}{\text{₹}}
38 \newcommand*{\LWR@HTML@textinterrobang}{\text{?}}
39 \newcommand*{\LWR@HTML@textinterrobangdown}{\text{`}i}
40 \newcommand*{\LWR@HTML@textperthousand}{\text{‰}}
41 \newcommand*{\LWR@HTML@textpertenthousand}{\text{‰m}}
42 \newcommand*{\LWR@HTML@textbaht}{\text{฿}}
43 \newcommand*{\LWR@HTML@textdiscount}{\text{‐}%}
44 \newcommand*{\LWR@HTML@textservicemark}{\text{℠}}
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}

```

#### § 544.4 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*{\texttwelvedash}{()}%
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 439 **l warp-textfit.sty**

§ 545 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*\{\scalletowidth}[2]{%
13 \sbox{\LWR@textfitbox}{#2}%
14 \settowidth{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
15 \LWR@textfitscale{#1}{#2}%
16 }
17
18 \newcommand*\{\scalotheight}[2]{%
19 \sbox{\LWR@textfitbox}{#2}%
20 \settoheight{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
21 \LWR@textfitscale{#1}{#2}%
22 }

```

---

File 440 **l warp-textpos.sty**

§ 546 Package **textpos**

(Emulates or patches code by NORMAN GRAY.)

Pkg **textpos** **textpos** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{textpos}[2019/04/15]

```
2 \NewDocumentEnvironment{textblock}{m o r()}{\begin{#1}\begin{#2}}{\end{#2}\end{#1}}
3 \NewDocumentEnvironment{textblock*}{m o r()}{\begin{#1}\begin{#2}}{\end{#2}\end{#1}}
4 \newcommand*\TPGrid[3][]{\begin{#1}\begin{#2}\begin{#3}}
```

```
5 \NewDocumentCommand{\TPMargin}{s o}{\begin{#1}\begin{#2}}
```

```
6 \newcommand*\textblockcolour[1]{\color{#1}}
```

```
7 \newcommand*\textblockrulecolour[1]{\color{#1}}
```

```
8 \newcommand*\textblockcolor[1]{\color{#1}}
```

```
9 \newcommand*\textblockrulecolor[1]{\color{#1}}
```

```
10 \newcommand*\tekstblokkulur[1]{\color{#1}}
```

```
11 \newcommand*\tekstblokrulekulur[1]{\color{#1}}
```

```
12 \newlength{\TPHorizModule}
```

```
13 \newlength{\TPVertModule}
```

```
14 \newlength{\TPboxrulesize}
```

```
15 \newcommand*\textblocklabel[1]{\color{#1}}
```

```
16 \newcommand*\showtextsize{}
```

```
17 \newcommand*\textblockorigin[2]{\color{#1}}
```

```
18 \newcommand*\TPoptions[1]{\color{#1}}
```

```
19 \newcommand*\TPReferencePosition[1]{\color{#1}}
```

---

File 441 **l warp-theorem.sty**

§ 547      Package **theorem**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg **theorem** **theorem** is patched for use by **l warp**.

---

Table 18: 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]

### § 547.1 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}\l warp
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\@ifdefinable\csname #1\endcsname
18   {%
19     \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}\l warp
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}}}\l warp
31   }%
32
33 \gdef\ynuthm#1#2{%
34   \expandafter\@ifdefinable\csname #1\endcsname
35   {%
36     \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}\l warp
37     \definecounter{#1}%
38     \expandafter\xdef\csname the#1\endcsname{\thmcOUNTER{#1}}%
39     \def@tempa{\global\@namedef{#1}}\expandafter \attempa
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}}}\l warp
44   }%
45 }
```

```

46 \gdef\@othm[#1][#2]{%
47   \expandafter\ifx\csname c@#2\endcsname\relax
48   \@nocounterr{#2}%
49 \else
50   \expandafter\@ifdefinable\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 \attempa
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}

```

## § 547.2 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% l warp
143   \BlockClass{\theorembdy\LWR@thisthmstyle}{\l warp}
144   \trivlist
145   \atopsep \theorempreskipamount           % used by first \item
146   \atopsepadd \theorempostskipamount       % used by \endparentv
147   \@ifnextchar [%]
148   {\@ythm{#1}{#2}}%
149   {\@begintheorem{#2}{\csname the#1\endcsname}\ignorespaces}}
150
151 \gdef\@endtheorem{%
152 \endtrivlist
153 \endBlockClass
154 }

```

---

File 442 **l warp-thinsp.sty**

§ 548 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 443 **l warp-thm-listof.sty**

§ 549 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         \c@nx\@dottedtocline{1}{1.5em}{\c@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       \c@nx\@dottedtocline{1}{1.5em}{\c@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 444 **lwarf-thm-restate.sty**

##### § 550 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 lwarf.

**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 445 **lwarf-thmbox.sty**

##### § 551 Package **thmbox**

(Emulates or patches code by EMMANUEL BEFFARA.)

Pkg thmbox thmbox is emulated for use by lwarf.

**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 446 **lwarp-thmtools.sty**

§ 552      Package **thmtools**

(Emulates or patches code by ULRICH M. SCHWARZ.)

Pkg thmtools thmtools is patched for use by lwarp.

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{amsthmnnumbertheorem}{\NUMBER}
4   \
5   \InlineClass{amsthmnametheorem}{\NAME}
6   \InlineClass{amsthmnotetheorem}{\NOTE}
7 }

```

```
8  
9 \let\thmt@headstyle@swapnumber\thmt@headstyle@margin
```

---

File 447 **l warp-threadcol.sty**

§ 553 Package **threadcol**

Pkg **threadcol** **threadcol** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{threadcol}[2013/01/06]  
2 \newcommand{\setthreadname}[1]{}

---

File 448 **l warp-threeparttable.sty**

§ 554 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** [*alignment*]  
2 \newenvironment\*{threeparttable}[1][b]  
3 {\def\@captype{table}}  
4 {}

Env **tablenotes** [*options*]  
5 \newenvironment\*{tablenotes}[1][]  
6 {  
7 \LWR@forcenewpage  
8 \BlockClass{tnotes}%

9 \description%  
10 }  
11 {  
12 \enddescription%  
13 \endBlockClass%  
14 }

\tnote {*text*}  
15 \newcommand{\tnote}[1]{\LWR@htmlspan{sup}{#1}}

```

Env measuredfigure [<alignment>]
16 \newenvironment*{measuredfigure}[1][t]
17   {\def\@captype{figure}}
18   {}

```

---

### File 449 **l warp-threeparttablex.sty**

## § 555 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, l warp 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
16 \renewcommand{\TPTL@tnotex[2]}{\tnote{\nameref{#2}}}
```

---

**File 450 l warp-thumb.sty**

§ 556      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 451 l warp-thumbs.sty**

§ 557      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 452 l warp-tikz.sty**

§ 558      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 `l warp-tikz`:

```
1 \LWR@ProvidesPackagePass{tikz}[2015/08/07]
```

**catcodes** `l 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, `l 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}%
5 {\usetikzlibrary{babel}\booltrue{\LWR@tikzbabel}}
6 {\boolfalse{\LWR@tikzbabel}}
```

**Env pgfpicture** The `\pgfpicture` environment is enclosed inside a `\latextimage`. Enclose the low-level `\pgfpicture` in a `latextimage`. This is also used by the higher-level `\tikz` and `tikzpicture`.

```
7 \preto\pgfpicture{%
8   \begin{latextimage}[-tikz-\~\PackageDiagramAltText]%
9   \ifbool{\LWR@tikzbabel}%
10    {}%
11    {\catcode`\$=3}%
12 }%
13
14 \appto\endpgfpicture{\end{latextimage}}
```

`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
21 \def\pgfutil@font@tiny{\LWR@print@tiny}
22 \def\pgfutil@font@scriptsize{\LWR@print@scriptsize}
23 \def\pgfutil@font@footnotesize{\LWR@print@footnotesize}
24 \def\pgfutil@font@small{\LWR@print@small}
25 \def\pgfutil@font@normalsize{\LWR@print@normalsize}
```

```
26 \def\pgfutil@font@large{\LWR@printlarge}
27 \def\pgfutil@font@Large{\LWR@printLarge}
28 \def\pgfutil@font@huge{\LWR@printhuge}
29 \def\pgfutil@font@Huge{\LWR@printHuge}
30
31 \def\pgfutil@font@itshape{\LWR@origitshape}
32 \def\pgfutil@font@bfseries{\LWR@origbfseries}
33
34 \def\pgfutil@font@normalfont{\LWR@orignormalfont}
```

---

**File 453 l warp-**titleps**.sty**

§ 559      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 {⟨length⟩}  
9 \newcommand*{\setheadrule}[1]{}  
  
\setfootrule {⟨length⟩}  
10 \newcommand*{\setfootrule}[1]{}  
  
\makeheadrule  
11 \newcommand*{\makeheadrule}{}  
  
\makefootrule  
12 \newcommand*{\makefootrule}{}  
  
\setmarkboth {⟨code⟩}  
13 \newcommand{\setmarkboth}[1]{}  
  
\widenhead  
14 \NewDocumentCommand{\widenhead}{s o o m}{}  
  
\bottitlemarks  
15 \newcommand*{\bottitlemarks}{}  
  
\toptitlemarks  
16 \newcommand*{\toptitlemarks}{}  
  
\firsttitlemarks  
17 \newcommand*{\firsttitlemarks}{}  
  
\nexttitlemarks  
18 \newcommand*{\nexttoptitlemarks}{}  
  
\outertitlemarks  
19 \newcommand*{\outertitlemarks}{}  
  
\innertitlemarks  
20 \newcommand*{\innertitlemarks}{}  
  
\newtitlemark * {⟨name⟩}
```

```
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 * [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨extra⟩} [⟨which⟩]  
24 \NewDocumentCommand{\setfloathead}{s o o o m m m m m}{}  
  
\setfloatfoot * [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨extra⟩} [⟨which⟩]  
25 \NewDocumentCommand{\setfloatfoot}{s o o o m m m m m}{}  
  
\nextfloathead * [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨extra⟩} [⟨which⟩]  
26 \NewDocumentCommand{\nextfloathead}{s o o o m m m m m}{}  
  
\nextfloatfoot * [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨extra⟩} [⟨which⟩]  
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{\nexttopextramarks}[1]{}  
  
\outerextramarks {\langle markset\rangle}
```

```
34 \newcommand{\outerextramarks}[1]{}
```

```
\innerextramarks {⟨markset⟩}  
35 \newcommand{\innerextramarks}[1]{}
```

---

#### File 454 **l warp-titleref.sty**

##### § 560 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 455 **l warp-titlesec.sty**

##### § 561 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 \boolefalse{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{lwarp-titleps}
17 }{}


\titelabel {⟨label-format⟩}
18 \newcommand*{\titelabel}[1]{}

\titleformat* {⟨command⟩} {⟨format⟩}
\titleformat {⟨command⟩} [⟨shape⟩] {⟨format⟩} {⟨label⟩} {⟨sep⟩} {⟨before⟩} [⟨after⟩]
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\chaptename}{}
25 \newcommand\chaptertitlename{@chapapp}

\titlespacing * {⟨command⟩} {⟨left⟩} {⟨before⟩} {⟨after⟩} [⟨right⟩]
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 456 **lwarp-titletoc.sty**

#### § 562 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 lwarp-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 m o} {}

\contentsmargin [<correction>] {<right>}

```

```
6 \newcommand{\contentsmargin}[2][]{}

\thecontentslabel
7 \newcommand*{\thecontentslabel}{\thecontentslabel}

\thecontentspage
8 \newcommand*{\thecontentspage}{\thecontentspage}

\contentslabel [⟨format⟩] {⟨space⟩}
9 \newcommand{\contentslabel}[2][]{\thecontentslabel}

\contentspage [⟨format⟩]
10 \newcommand{\contentspage}[1][]{\thecontentspage}

\contentspush {⟨text⟩}
11 \newcommand{\contentspush}[1]{}

\contentsuse {⟨name⟩} {⟨text⟩}
12 \newcommand{\contentsuse}[2]{}

\startcontents [⟨name⟩]
13 \newcommand*{\startcontents}[1][]{}

\stopcontents [⟨name⟩]
14 \newcommand*{\stopcontents}[1][]{}

\resumecontents [⟨name⟩]
15 \newcommand*{\resumecontents}[1][]{}

\printcontents [⟨name⟩] {⟨prefix⟩} {⟨start⟩} {⟨code⟩}
16 \newcommand{\printcontents}[4][]{}

\startlist [⟨name⟩] {⟨list⟩}
17 \newcommand{\startlist}[2][]{}

\stoplist [⟨name⟩] {⟨list⟩}
18 \newcommand{\stoplist}[2][]{}

\resumelist [⟨name⟩] {⟨list⟩}
```

```
19 \newcommand{\resumelist}[2][]{}
\nprintlist  [\langle name\rangle ] {\langle list\rangle } {\langle prefix\rangle } {\langle code\rangle }
20 \newcommand{\printlist}[4][]{}
```

---

**File 457 l warp-titling.sty**

§ 563      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 67.8.

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@origkeepthetitle\keepthetitle
7 \renewcommand*{\keepthetitle}{%
8 \LWR@orig@keepthetitle%
9 }
```

\killtitle Patch \killtitle:

```
10 \let\LWR@origkilltitle\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{\textsuperscript{\@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@htmltag{\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@stopars \@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@stopars \@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’, ‘fn-symbol’, etc.

```
92 \renewcommand{\thanksmarkseries}[1]{%
93 \def\@bsmarkseries{\renewcommand{\thefootnote}{\@nameuse{#1}{footnote}}}}
94 }
```

Set default titlepage thanks footnote marks. See section 67.7.

```
95 \@ifclassloaded{memoir}{
96   \thanksmarkseries{arabic}
97 }{% not memoir
98 \@if@titlepage
99   \thanksmarkseries{arabic}
100 \else
101   \thanksmarkseries{fnsymbol}
102 \fi
103 }% not memoir
```

#### File 458 **l warp-tocbasic.sty**

### § 564 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}{}
11 \DeclareDocumentCommand{\DefineTOCEntryNumberOption}{m o m m m}{}
12 \DeclareDocumentCommand{\CloneTOCEntryStyle}{m m}{}
```

```
13 \DeclareDocumentCommand{\TOCEntryStyleInitCode}{m m}{}  
14 \DeclareDocumentCommand{\TOCEntryStyleStartInitCode}{m m}{}  


---


```

File 459 **l warp-tocbibind.sty**

§ 565 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 LATEX 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\csname the##1\endcsname\simplechapterdelim\quad%
36     }%
37 }
38
39 \DeclareDocumentCommand{\restorechapter}{()}{%
40 \let\@chapcntformat\@secCntFormat%
41 }
```

---

File 460 **l warp-tocdata.sty**

§ 566 Package **tocdata**

(Emulates or patches code by BRIAN DUNN.)

Pkg tocdata tocdata is patched for use by l warp.

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{\TArtistaauthorprint}[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{\TDArtistauthortextprint}[2]{%
56   \LWR@TD@setnamealign{#1}%
57   \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
58   #2%
59   \end{BlockClass}%
60 }

```

---

File 461 **l warp-tocenter.sty**

§ 567 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 462 **l warp-tocloft.sty**

§ 568 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]

⚠ **tocloft & other packages**

```
\tocloftpagestyle {⟨style⟩}
2 \newcommand{\tocloftpagestyle}[1]{}

\cftmarktoc
3 \newcommand*{\cftmarktoc}{}{ }

\cfttoctitlefont
4 \newcommand*{\cfttoctitlefont}{}{ }

\cftaftertoctitle
5 \newcommand*{\cftaftertoctitle}{}{ }

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{\cftpnumwidth}
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}{}  
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{\cftparrayindent}  
83 \LWR@providelength{\cftparraynumwidth}  
84 \newcommand*{\cftparrayfont}{}  
85 \newcommand*{\cftparraypresnum}{}  
86 \newcommand*{\cftparrayaftersnum}{}  
87 \newcommand*{\cftparrayaftersnumb}{}  
88 \newcommand*{\cftparrayleader}{}  
89 \newcommand*{\cftparraydotsep}{1}  
90 \newcommand*{\cftparraypagefont}{}  
91 \newcommand*{\cftparrayafterpnum}{}  
92 \newcommand*{\cftparraydotsep}{1}
```

The following do not appear in memoir:

```
92 \LWR@provide length{\cftbefore subpara skip}
93 \LWR@provide length{\cftsub para indent}
94 \LWR@provide length{\cftsub para num width}
95 \newcommand*{\cftsub para font} {}
96 \newcommand*{\cftsub para presnum} {}
97 \newcommand*{\cftsub para after snum} {}
98 \newcommand*{\cftsub para after snum b} {}
99 \newcommand*{\cftsub para leader} {}
100 \newcommand*{\cftsub para dotsep}{1}
101 \newcommand*{\cftsub para page font} {}
102 \newcommand*{\cftsub para after pnum} {}

103 \LWR@provide length{\cft before fig skip}
104 \LWR@provide length{\cftfig indent}
105 \LWR@provide length{\cftfig num width}
106 \newcommand*{\cftfig font} {}
107 \newcommand*{\cftfig presnum} {}
108 \newcommand*{\cftfig after snum} {}
109 \newcommand*{\cftfig after snum b} {}
110 \newcommand*{\cftfig leader} {}
111 \newcommand*{\cftfig dotsep}{1}
112 \newcommand*{\cftfig page font} {}
113 \newcommand*{\cftfig after pnum} {}

114 \LWR@provide length{\cft before subfig skip}
115 \LWR@provide length{\cftsub fig indent}
116 \LWR@provide length{\cftsub fig num width}
117 \newcommand*{\cftsub fig font} {}
118 \newcommand*{\cftsub fig presnum} {}
119 \newcommand*{\cftsub fig after snum} {}
120 \newcommand*{\cftsub fig after snum b} {}
121 \newcommand*{\cftsub fig leader} {}
122 \newcommand*{\cftsub fig dotsep}{1}
123 \newcommand*{\cftsub fig page font} {}
124 \newcommand*{\cftsub fig after pnum} {}

125 \LWR@provide length{\cft before tabs skip}
126 \LWR@provide length{\cfttab indent}
127 \LWR@provide length{\cfttab num width}
128 \newcommand*{\cfttab font} {}
129 \newcommand*{\cfttab presnum} {}
130 \newcommand*{\cfttab after snum} {}
131 \newcommand*{\cfttab after snum b} {}
132 \newcommand*{\cfttab leader} {}
133 \newcommand*{\cfttab dotsep}{1}
134 \newcommand*{\cfttab page font} {}
135 \newcommand*{\cfttab after pnum} {}

136 \LWR@provide length{\cft before sub tabs skip}
137 \LWR@provide length{\cftsub tab indent}
138 \LWR@provide length{\cftsub tab num width}
139 \newcommand*{\cftsub tab font} {}
140 \newcommand*{\cftsub tab presnum} {}
141 \newcommand*{\cftsub tab after snum} {}
142 \newcommand*{\cftsub tab after snum b} {}
```

```

143 \newcommand*{\cftsubtableader}{}
144 \newcommand*{\cftsubtabdotsep}{1}
145 \newcommand*{\cftsubtabpagefont}{}
146 \newcommand*{\cftsubtabafterpnum}{}

147 \DeclareDocumentCommand{\cftsetindents}{m m m} {}

148 \newcommand{\pagenumbersoff}[1]{}
149 \newcommand{\pagenumberson}[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}%
187 {%

```

```

188  \IfValueTF{#1}%
189    {\newlistentry[#1]{#2}{#3}{0}}%
190    {\newlistentry[#2]{#3}{0}}%
191  \@namedef{ext@#2}{#3}%
192  \@ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
193  \setcounter{#3depth}{1}%
194  \@namedef{cftmark#3}{}%
195  \@namedef{listof#2}{\listof{#2}{#4}}%
196  \@namedef{@cftmake#3title}{}%
197  \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
198  \expandafter\newlength\csname cftafter#3titleskip\endcsname%
199  \@namedef{cft#3titlefont}{}%
200  \@namedef{cftaftetitle}{}%
201  \@namedef{cft#3prehook}{}%
202  \@namedef{cft#3posthook}{}%
203 }

\cftchapterprecis  {\langle text\rangle}

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 463 **lwarp-tocstyle.sty**

§ 569      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{\iftochasdepth}[4]{}%

```

---

**File 464 l warp-todo.sty**

§ 570 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\textrm{\#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 465 **l warp-todonotes.sty**

§ 571 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}{\textcolor{red}{#1}}
6
7 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\textcolor{red}{#1}}{\textcolor{red}{#2}}}

8 \let\LWRTODONOTES@orig@todototoc\todototoc
9
10 \renewcommand*{\todototoc}{%
11 \LWR@phantomsection%
12 \LWRTODONOTES@orig@todototoc%
13 }
14
15 \renewcommand{\@todonotes@drawMarginNoteWithLine}{%
16 \fcolorbox{%
17   \color{todonotes@currentbordercolor}%
18   \color{todonotes@currentbackgroundcolor}%
19   \arabic{@todonotes@numberoftodonotes}%
20 }{\marginpar{\@todonotes@drawMarginNote}%
21 }
22
23 \renewcommand{\@todonotes@drawInlineNote}{%
24 \fcolorbox{%
25   \color{todonotes@currentbordercolor}%
26   \color{todonotes@currentbackgroundcolor}%
27   \%
28     \if@todonotes@authorgiven%
29       \color{todonotes@author}%
30     \fi%
31     \color{todonotes@text}%
32   }%
33 }
34
35 \renewcommand{\@todonotes@drawMarginNote}{%
36   \if@todonotes@authorgiven%
```

```

37      \atodonotes@author\par%
38  \fi%
39  \arabic{@todonotes@numberoftodonotes}: %
40  \fcolorbox%
41  {\atodonotes@currentbordercolor}%
42  {\atodonotes@currentbackgroundcolor}%
43  {%
44      \atodonotes@sizecommand%
45      \atodonotes@text %
46  }%
47 }%
48
49 \renewcommand{\atodonotes@drawLineToRightMargin}{}
50
51 \renewcommand{\atodonotes@drawLineToLeftMargin}{}
52
53 \renewcommand{\missingfigure}[2][]{%
54 \setkeys{todonotes}{#1}%
55 \addcontentsline{tdo}{todo}{\atodonotes@MissingFigureText: #2}%
56 \fcolorboxBlock%
57  {\atodonotes@currentbordercolor}%
58  {\atodonotes@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 466 **lwarf-topcapt.sty**

§ 572 Package **topcapt**

Pkg topcapt **topcapt** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{topcapt}[2004/12/11]

2 \LetLtxMacro{\topcaption}{\caption}

---

**File 467 l warp-tram.sty**

§ 573 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 468 l warp-transparent.sty**

§ 574 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 E T A X !** Note that `transparent` does not work with X E T A 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 469 l warp-trimclip.sty****§ 575 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 470 l warp-trivfloat.sty****§ 576 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`.

**for HTML output:**

```

3 \begin{warpHTML}

4 \AtBeginDocument{\DeclareDocumentCommand{\tfl@chapter@fix}{m m}{}}

5 \end{warpHTML}

```

### § 576.1 Combining `\newfloat`, `\trivfloat`, and `algorithmicx`

**for HTML & PRINT:**

**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

```

---

7 \end{warpall}

---

### File 471 **l warp-truncate.sty**

#### § 577 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 472 **l warp-turnthepage.sty**

#### § 578 Package **turnthepage**

Pkg `turnthepage` `turnthepage` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{turnthepage}[2011/03/24]  
2 \newcommand{\turnthepage}{}

---

File 473 **l warp-twoup.sty**

§ 579 Package **twoup**

Pkg twoup twoup is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{twoup}[2007/02/26]  
2 \newcommand{\cleartolastpage}{}

---

File 474 **l warp-txfonts.sty**

§ 580 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@origRequirePackage{l warp-common-mathjax-letters}  
2  
3 \LWR@ProvidesPackagePass{txfonts}[2008/01/22]

For MATHJAX:

4 \begin{warpMathJax}  
5 \LWR@infoprocessingmathjax{txfonts}  
6  
7 \LWR@mathjax@addgreek@l@up{}{up}  
8 \end{warpMathJax}

---

File 475 **l warp-typearea.sty**

§ 581 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 476 l warp-typicons.sty****§ 582 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 {%
21   \begin{lateximage}*[#1 icon][typicon#1]%
22   \TI\csname ticon@#1\endcsname%
23   \end{lateximage}%
24 }
```

---

File 477 **l warp-ulem.sty**

§ 583 Package **ulem**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg ulem Patched for use by l warp.

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 478 **l warp-umoline.sty**

### § 584 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 479 **l warp-underscore.sty**

§ 585 Package **underscore**

Pkg underscore underscore is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{underscore}[2006/09/13]

---

File 480 **l warp-unicode-math.sty**

§ 586 Package **unicode-math**

(Emulates or patches code by WILL ROBERTSON.)

Pkg unicode-math unicode-math is supported as-is for HTML with svgmath.

For MATHJAX, many characters may not be read correctly, such as bold letters, and so are not read correctly by *pdftotext* for HTML. Symbol font commands are emulated, but not all combinations are supported by MathJax.

**for HTML output:** 1 \LWR@ProvidesPackagePass{unicode-math}[2019/09/26]

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{unicode-math}
4
5 % Not all are possible in MathJax.
6 \CustomizeMathJax{\let\symnormal\mathit}
7 \CustomizeMathJax{\let\symliteral\mathrm}
8 \CustomizeMathJax{\let\symbolbb\mathbb}
9 \CustomizeMathJax{\let\symbolbit\mathbb}% not italic
10 \CustomizeMathJax{\let\symcal\mathcal}
11 \CustomizeMathJax{\let\symscr\mathscr}
12 \CustomizeMathJax{\let\symfrak\mathfrak}

```

```
13 \CustomizeMathJax{\let\symsfup\mathsf}
14
15 % \CustomizeMathJax{\let\symsfit\mathit}{% not sans
16 \CustomizeMathJax{\newcommand{\symsfit}[1]{%
17     \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}}}{%
18 }
19
20 % \CustomizeMathJax{\let\symbfsf\mathbf}{% not sans
21 \CustomizeMathJax{\newcommand{\symbfsf}[1]{%
22     \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}}{%
23 }
24
25 \CustomizeMathJax{\let\symbfup\mathbf}
26 \CustomizeMathJax{\newcommand{\symbfit}[1]{\boldsymbol{#1}}}{%
27 \CustomizeMathJax{\let\symbfcal\mathcal}{% not bold
28
29 \CustomizeMathJax{\let\symbfscr\mathscr}{% not bold
30 \CustomizeMathJax{\newcommand{\symbfscr}[1]{%
31     \mmlToken{mi}[mathvariant="math-bold-script"]{#1}}}{%
32 }
33
34 \CustomizeMathJax{\let\symbffrak\mathfrak}{% not bold
35 \CustomizeMathJax{\newcommand{\symbffrak}[1]{%
36     \mmlToken{mi}[mathvariant="math-bold-fraktur"]{#1}}}{%
37 }
38
39 % \CustomizeMathJax{\let\symbfsup\mathbf}{% not sans
40 \CustomizeMathJax{\newcommand{\symbfsup}[1]{%
41     \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}}{%
42 }
43
44 % \CustomizeMathJax{\let\symsfit\mathit}{% not bold nor sans
45 \CustomizeMathJax{\newcommand{\symsfit}[1]{%
46     \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}}}{%
47 }
48
49 % Duplicates below are commented out.
50 \CustomizeMathJax{\let\symup\mathrm}
51 \CustomizeMathJax{\let\symbf\mathbf}{% \symbfup defined above
52 \CustomizeMathJax{\let\symit\mathit}
53 \CustomizeMathJax{\let\symbfit\mathit}{% not bold
54 \CustomizeMathJax{\let\symsf\mathsf}
55 \CustomizeMathJax{\let\symbfsup\mathbf}{% not sans
56 \CustomizeMathJax{\let\symsfit\mathit}{% not sans
57 \CustomizeMathJax{\let\symbfsfit\mathit}{% not bold nor sans
58 \CustomizeMathJax{\let\symtt\mathtt}
59 \CustomizeMathJax{\let\symbb\mathbb}
60 \CustomizeMathJax{\let\symbbit\mathbb}{% not italic
61 \CustomizeMathJax{\let\symscr\mathscr}
62 \CustomizeMathJax{\let\symbfscr\mathscr}{% not bold
63 \CustomizeMathJax{\let\symfrak\mathfrak}
64 \CustomizeMathJax{\let\symbffrac\mathbfrac}
65 \end{warpMathJax}
```

---

File 481 **lwarp-units.sty**

§ 587 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][]{\#1 \#2}}
27 \CustomizeMathJax{\newcommand{\unitfrac}[3][]{\#1 \#2/\#3}}
28 \end{warpMathJax}
```

---

**File 482 l warp-unitsdef.sty****§ 588 Package unitsdef**

(Emulates or patches code by PATRICK HAPPEL.)

Pkg unitsdef unitsdef is patched for use by l warp.

**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     \{\HTMLUnicode{2032}\}\prime
10 }%
11
12 \renewunit{\arcsec}{%
13   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
14     \ensuremath{{}^{\prime\prime}}%
15     \{\HTMLUnicode{2033}\}\dbl\prime
16 }%
17
18 \renewrobustcmd{\SI}[2]{%
19   \begingroup%
20   \let\unit@\xspace\relax%
21   \unitSId\selectfont%
22   \LWR@textcurrentfont{\#1#2}\l warp
23   \endgroup%
24 }
```

---

**File 483 l warp-upgreek.sty****§ 589 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@origRequirePackage{l warp-common-mathjax-letters}
2
3 \LWR@ProvidesPackagePass{upgreek}[2003/02/12]

For MATHJAX:

```
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 484 lwarf-upref.sty****§ 590 Package upref**

Pkg upref upref is ignored.

**for HTML output:** Discard all options for lwarf-upref:

```
1 \LWR@ProvidesPackageDrop{upref}[2007/03/14]
```

---

**File 485 lwarf-url.sty****§ 591 Package url**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg url url is patched for use by lwarf.

**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 486 lwarf-ushort.sty****§ 592 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]{\ushort{\overline{#1}}}}
8 \CustomizeMathJax{\newcommand{\ushortw}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
9 \CustomizeMathJax{\newcommand{\ushortdw}[1]{\ushortw{\overline{#1}}}}
10 \end{warpMathJax}
```

---

**File 487 l warp-uspace.sty****§ 593 Package uspace**

Pkg uspace uspace is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{uspace}[2016/11/06]

---

**File 488 l warp-varioref.sty****§ 594 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 489 l warp-verse.sty****§ 595 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. `lwarf` 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`

- `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.
- `Cl memoir`
- `\flagverse`
- `Len \vleftskip`
- `7 \ifdef{\vleftskip}{%
8 \setlength{\vleftskip}{\HTMLvleftskip}
9 \setlength{\leftmargini}{\HTMLleftmargini}
10 }{%
11 \LWR@forcenewpage
12 \LWR@atbeginverbatim{3}{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{1}%
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 490 **l warp-personotes.sty**

§ 596      Package **personotes**

*(Emulates or patches code by NORMAN GRAY.)*

Pkg `personotes` `personotes` is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{personotes}[2019/07/06]

2 \newcommand{\personote}[1]{\marginpar{\#1}}
3 \newdimen\versotextwidth
4 \newdimen\versoleftmargin
5 \newcommand*{\versolayout}{}{}
```

In case the user changed the page number before loading `personotes`:

```
6 \setcounter{page}{1}
```

---

#### File 491 **l warp-vertbars.sty**

§ 597      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 492 **l warp-vmargin.sty**

§ 598 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*\setmargnohfrb[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 493 **l warp-vowel.sty**

§ 599 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 494 **l warp-vpe.sty**§ 600 Package **vpe**

Pkg vpe vpe is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]File 495 **l warp-vwcol.sty**§ 601 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@addrule  {\langle style tag\rangle}
8 \newcommand*{\LWR@vwcol@addgap}[1]{%
9   \appto{\LWR@vwcolstyle}{%
10    #1: %
11    \LWR@printlength{\vwcol@sep} ; %
12  }%
13 }

```

Env vwcol {\langle key/values\rangle}

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@stoppars%
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   }{}%
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 496 **l warp-wallpaper.sty**

### § 602 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}{}{}
17 \newlength{\wpXoffset}{}
18 \newlength{\wpYoffset}{}
```

---

**File 497 l warp-watermark.sty****§ 603 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 498 l warp-widetable.sty****§ 604 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 499 l warp-widows-and-orphans.sty****§ 605 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 500 **l warp-witharrows.sty**

§ 606 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 \begin{warpHTML}  
3 \ifbool{mathjax}{  
4   % For the hidden print version in the HTML:  
5   \newcommand{\Arrow}[2][]{  
6     \newcommand{\unicode}[1]{  
7       \NewDocumentEnvironment { DispWithArrows } { ! d < > ! O { } +b }  
8       {  
9         \IfValueTF{#1}{  
10           \begin{displaymath}  
11             #1 \left\{  
12               \begin{align}  
13                 #3  
14                 \end{align}  
15                 \right.  
16                 \end{displaymath}  
17           }{  
18             \begin{displaymath}  
19               \begin{align}  
20                 #3  
21                 \end{align}  
22               \end{displaymath}  
23           }  
24         }  
25       }  
26       \NewDocumentEnvironment { DispWithArrows* } { ! d < > ! O { } +b }  
27       {  
28         \IfValueTF{#1}{  
29           \begin{displaymath}  
30             #1 \left\{  
31               \begin{align*}  
32                 #3  
33                 \end{align*}  
34                 \right.  
35                 \end{displaymath}  
36           }{  
37             \begin{displaymath}  
38               \begin{align*}  
39                 #3  
40               \end{align*}  
41             }
```

```

41           \end{displaymath}
42       }
43   }
44   {}
45 }{
46 % If not MathJax, use SVG images.
47 \BeforeBeginEnvironment{WithArrows}{\global\booltrue{LWR@unknownmathsize}}
48 \BeforeBeginEnvironment{DispWithArrows}{%
49   \begin{BlockClass}{displaymathnumbered}%
50   \begin{lateximage}%
51   }%
52 \AfterEndEnvironment{DispWithArrows}{\end{lateximage}\end{BlockClass}}%
53 \BeforeBeginEnvironment{DispWithArrows*}{%
54   \begin{BlockClass}{displaymath}%
55   \begin{lateximage}%
56   }%
57 \AfterEndEnvironment{DispWithArrows*}{\end{lateximage}\end{BlockClass}}%
58 }%
59 \end{warpHTML}
60
61 \begin{warpMathJax}
62 \CustomizeMathJax{\newenvironment{WithArrows}[1][]{\begin{aligned}}{\end{aligned}}}
63 % Unable to make a sized box.
64 \CustomizeMathJax{\newcommand{\Arrow}[2][]{\&{\Large\unicode{x2938}}\textit{#2}}}
65 \end{warpMathJax}

```

File 501 **l warp-wrapfig.sty**

§ 607 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 {marginblock}%

21 \setlength{\linewidth}{\LWR@templengthone}%
22 }
23
24
25 \NewDocumentEnvironment{wrapfigure}{o m o m}
26 {%
27     \begin{LWR@setvirtualpage}(*%
28     \LWR@subwrapfigure{#2}{#4}%
29     \renewcommand*{\@capttype}{figure}%
30 }
31 {%
32     \endLWR@BlockClassWP%
33     \end{LWR@setvirtualpage}%
34 }
35
36
37 \NewDocumentEnvironment{wraptable}{o m o m}
38 {%
39     \begin{LWR@setvirtualpage}(*%
40     \LWR@subwrapfigure{#2}{#4}%
41     \renewcommand*{\@capttype}{table}%
42 }
43 {%
44     \endLWR@BlockClassWP%
45     \end{LWR@setvirtualpage}%
46 }
47
48
49 \NewDocumentEnvironment{wrapfloat}{m o m o m}
50 {%
51     \begin{LWR@setvirtualpage}(*%
52     \LWR@subwrapfigure{#3}{#5}%
53     \renewcommand*{\@capttype}{#1}%
54 }
55 {%
56     \endLWR@BlockClassWP%
57     \end{LWR@setvirtualpage}%
58 }
59
60 \newlength{\wrapoverhang}
```

---

**File 502 l warp-xbmks.sty**

§ 608      Package    **xbmks**

Pkg    xbmks    xbmks is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{xbmks}[2018/07/04]

---

```

2 \newcommand{\xbmksetup}[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 503 **l warp-xcolor.sty**

## § 609 Package **xcolor**

*(Emulates or patches code by DR. UWE KERN.)*

Pkg xcolor xcolor is supported by l warp.

### § 609.1 **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 l warp'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.

### § 609.2 **xcolor definitions: location and timing**

The l warp core and its l warp-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 l warp-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 cre-

ated for \textcolor, \pagecolor, \nopagecolor, \colorbox, \colorboxBlock, \fcolorbox, \fcolorboxBlock, and \fcolorminipage.

**\AtBeginDocument in print or HTML mode:** See Section 87. 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 \teximage, \LWR@restoreorigformatting is appended to temporarily set these functions to their print-mode versions.

**In a \teximage in HTML mode:** \LWR@restoreorigformatting temporarily restores the print-mode definitions of xcolor's functions. See \LWR@restoreorigformatting on page 535.

#### \color:

**Print:** Used as-is.

**HTML:** Ignored by *pdftotext*, and will not appear.

**HTML \teximage:** Colors will appear in a \teximage.

#### \textcolor:

**Print:** Used as-is.

**HTML:** Redefined by lwarp-xcolor, page 1151.

**HTML \teximage:** Remembers and reuses the print version.

#### \pagecolor:

**Print:** Used as-is.

**HTML:** Ignored.

**HTML \teximage:** Colors will be picked up in a \teximage.

#### \nopagecolor:

**Print:** Used as-is.

**HTML:** Ignored.

**HTML \teximage:** Colors will be picked up in a \teximage.

#### \colorbox:

**Print:** Used as-is.

**HTML:** Redefined by lwarp-xcolor, page 1152.

**HTML \teximage:** Remembers and reuses the print version.

#### \colorboxBlock:

**Print:** Becomes \colorbox.

**HTML:** Newly defined by lwarp-xcolor to use a <div>, page 1152.

**HTML \teximage:** Remembers and reuses the print version \colorbox.

**\fcolorbox:**

**Print:** Modified to allow a background of none.

\LWR@print@fcolorbox at section 87

**HTML:** Redefined by l warp-xcolor, page 1153.

**HTML \textrimage:** Remembers and reuses the print version.

**\fcolorboxBlock:**

**Print:** Becomes \fcolorbox. Section 87

**HTML:** Newly defined by l warp-xcolor to use a <div>, page 1153.

**HTML \textrimage:** Remembers and reuses the print version \fcolorbox.

**fcolorminipage:**

**Print:** Newly defined in the l warp core.

\LWR@print@fcolorminipage at section 87

**HTML:** Newly defined by l warp-xcolor, page 1154.

**HTML \textrimage:** Uses the print version.

**\boxframe:**

**Print:** Used as-is.

**HTML:** Redefined by l warp-xcolor, page 1155.

**HTML \textrimage:** Remembers and reuses the print version.

### § 609.3 Package loading

**for HTML output:** 1 \LWR@ProvidesPackagePass{xcolor}[2016/05/11]

2 \begin{warpHTML}

### § 609.4 Remembering and restoring original definitions

Remember the following print-mode actions to be restored when inside a \textrimage environment:

3 \LetLtxMacro{\LWR@print@pagecolor}{\pagecolor}  
4 \LetLtxMacro{\LWR@print@nopagecolor}{\nopagecolor}

\LWR@restoreorigformatting Inside a \textrimage the following gets restored to their print-mode actions:

5 \appto{\LWR@restoreorigformatting}{%  
6 \LetLtxMacro{\pagecolor}{\LWR@print@pagecolor}%  
7 \LetLtxMacro{\nopagecolor}{\LWR@print@nopagecolor}%  
8 }

## § 609.5 \normalcolor

```
\normalcolor
9 \DeclareRobustCommand{\LWR@HTML@normalcolor}{\color{black}}%
10
11 \LWR@formatted{normalcolor}
```

## § 609.6 HTML color style

\LWR@findcurrenttextcolor Sets \LWR@tempcolor to the current color.

```
12 \renewcommand*\LWR@findcurrenttextcolor{%
13 \protect\colorlet{\LWR@current@color}{.}%
14 \protect\convertcolorspec[named]{\LWR@current@color}{HTML}\LWR@tempcolor%
15 }
```

Prints a color style for the current color.

```
16 \newcommand*\LWR@currenttextcolorstyle{%
17 \LWR@findcurrenttextcolor%
18 \ifdefstring{\LWR@tempcolor}{000000}%
19 {}%
20 {color: \LWR@origpound\LWR@tempcolor ; }%
21 }
```

\LWR@textcurrentcolor {*text*} Like \textcolor but uses the current \color instead.

```
22 \DeclareDocumentCommand{\LWR@textcurrentcolor}{m}{%
23 \begingroup%
24 \LWR@FBcancel%
25 \LWR@findcurrenttextcolor%
26 \InlineClass[color:\LWR@origpound\LWR@tempcolor]{textcolor}{%
27   \renewcommand*\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
28   #1%
29 }%
30 \endgroup%
31 }
```

\LWR@colorstyle {*1: model*} {*2: color*}

For a color style, prints the color converted to HTML colors.

```
32 \NewDocumentCommand{\LWR@colorstyle}{m m}{%
33 \begingroup%
34 \LWR@FBcancel%
```

Use the xcolor package to convert to an HTML color space:

```
35 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
```

Print the converted color:

```
36 \LWR@origpound\LWR@tempcolor%
37 \endgroup%
38 }
```

---

\LWR@backgroundcolor [*model*] {*color*} {*text*}

Similar to \textcolor, but prints black text against a color background.

Converted into an HTML hex color span.

```

39 \NewDocumentCommand{\LWR@backgroundcolor}{o m m}{%
40 \begingroup%
41 \LWR@FBcancel%
42 \InlineClass[background:\LWR@colorstyle{#1}{#2}]{backgroundcolor}{%
43 #3%
44 }%
45 \endgroup%
46 }
```

## § 609.7 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.

```

47 \newcommand*{\LWR@borderpadding}[2]{%
48 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@colorstyle{#1}{#2} ; %
49 padding:\LWR@printlength{\fboxsep}%
50 }
```

## § 609.8 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.

```

51 \NewDocumentCommand{\LWR@HTML@color}{o m}{%
52 \IfValueTF{#1}{%
53   \LWR@print@color[#1]{#2}%
54   \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
55 }{%
56   \LWR@print@color{#2}%
57   \convertcolorspec{named}{#2}{HTML}\LWR@tempcolor%
58 }%
59 \edef\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
60 }%
61
62 \LWR@formatted{color}
```

\textcolor [*model*] {*color*} {*text*}

Converted into an HTML hex color span.

```

63 \NewDocumentCommand{\LWR@HTML@textcolor}{o m m}{%
64 \begingroup%
65 \LWR@FBcancel%
```

```
66 \IfValueTF{#1}{%
67     \color[#1]{#2}%
68 }{%
69     \color{#2}%
70 }%
71 \InlineClass[color:\LWR@currenttextcolor]{textcolor}{#3}%
72 \endgroup%
73 }%
74
75 \LWR@formatted{textcolor}

\pagecolor [⟨model⟩] {⟨color⟩}
Ignored. Use css instead.

76 \renewcommand*{\pagecolor}[2][named]{}  
  
\nopagecolor Ignored.

77 \renewcommand*{\nopagecolor}{}  
  
\colorbox [⟨model⟩] {⟨color⟩} {⟨text⟩}
Converted into an HTML hex background color <span>.

78 \NewDocumentCommand{\LWR@HTML@colorbox}{O{named} m +m}{%
79 \begingroup%
80 \LWR@FBcancel%
81 \InlineClass[%  
82 background:\LWR@colorstyle{#1}{#2} ; %
83 padding:\LWR@printlength{\fboxsep}%
84 ]{colorbox}{#3}%
85 \endgroup%
86 }
87
88 \AtBeginDocument{
89     \LWR@formatted{colorbox}
90 }

\colorboxBlock [⟨model⟩] {⟨color⟩} {⟨text⟩}
Converted into an HTML hex background color <div>.

91 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{O{named} m +m}{%
92 \begingroup%
93 \LWR@FBcancel%  
  
94 \LWR@stopars%
```

```

95 \begin{BlockClass}{%
96 background:\LWR@colorstyle{\#1}{\#2} ; %
97 padding:\LWR@printlength{\fboxsep}%
98 }{\colorboxBlock}
99 #3
100 \end{BlockClass}%
101 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

102 \global\booltrue{\LWR@minipagethispar}%
103 }
104
105 \AtBeginDocument{%
106     \LWR@formatted{\colorboxBlock}
107 }

```

\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.

```

108 \NewDocumentCommand{\LWR@HTML\fcolorbox}{O{named} m O{named} m +m}{%
109 \LWR@traceinfo{HTML fcolorbox #2 #4}%
110 \begingroup%
111 \LWR@FBcancel%
112 \LWR@forceminwidth{\fboxrule}%
113 \ifthenelse{\equal{#4}{none}}{%
114     {%
115         \InlineClass[%
116             \LWR@borderpadding{\#1}{\#2}%
117         ]{\fcolorbox}{\#5}%
118     }%
119     {%
120         \InlineClass[%
121             \LWR@borderpadding{\#1}{\#2} ; %
122             background:\LWR@colorstyle{\#3}{\#4}%
123         ]{\fcolorbox}{\#5}%
124     }%
125 \endgroup%
126 }%
127
128 \AtBeginDocument{%
129     \LWR@formatted{\fcolorbox}
130 }

```

\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.

```

131 \NewDocumentCommand{\LWR@HTML@fcolorboxBlock}{O{named} m O{named} m +m}{%
132 \LWR@traceinfo{HTML fcolorboxBlock #2 #4}%
133 \begingroup%
134 \LWR@FBcancel%
135 \LWR@forceminwidth{\fboxrule}%

136 \LWR@stopars%

137 \ifthenelse{\equal{#4}{none}}{%
138     {%
139         \begin{BlockClass}[%%
140             \LWR@borderpadding{#1}{#2}%
141         ]{fcolorboxBlock}%
142         #5%
143         \end{BlockClass}%
144     }%
145     {%
146         \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
147         \begin{BlockClass}[%%
148             background:\LWR@origpound\LWR@tempcolortwo\ ; %
149             \LWR@borderpadding{#1}{#2}%
150         ]{fcolorboxBlock}%
151         #5%
152         \end{BlockClass}%
153     }%
154 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

155 \global\booltrue{\LWR@minipagethispar}%
156 \LWR@traceinfo{HTML fcolorboxBlock done}%
157 }%
158
159 \AtBeginDocument{%
160     \LWR@formatted{fcolorboxBlock}%
161 }

```

Creates a framed HTML <div> around its contents.

A print-output version is defined in the lwarp core: section 87

```

\LWR@subfcolorminipage  {\langle framemodel\rangle} {\langle framecolor\rangle} {\langle background tag\rangle} {\langle height\rangle}%
162 \NewDocumentCommand{\LWR@subfcolorminipage}{m m m m}{%
163 \LWR@stopars%
164 \begin{BlockClass}[%%
165 #3%
166 \LWR@borderpadding{#1}{#2} ; %

```

```

167 \IfValueT{#4}{height:\LWR@printlength{\LWR@tempheight} ; }%
168 width:\LWR@printlength{\LWR@tempwidth}%
169 ]{fcolorminipage}%
170 }

Env fcolorminipage [<1:framemode>] [<2:framecolor>] [<3:boxmodel>] [<4:boxcolor>] [<5:align>] [<6:height>]
[<7:inner-align>] [<8:width>]

171 \NewDocumentEnvironment{\LWR@HTML@fcolorminipage}{O{named} m O{named} m O{c} o o m}
172 {%
173 \LWR@FBcancel%
174 \setlength{\LWR@tempwidth}{#8}%
175 \IfValueT{#6}{\setlength{\LWR@tempheight}{#6}}%
176 \LWR@forceminwidth{\fboxrule}%
177 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
178 \ifthenelse{\equal{#4}{none}}%
179   {\LWR@subfcolorminipage{#1}{#2}{}}{#6}%
180   {%
181     \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
182     \LWR@subfcolorminipage{#1}{#2}%
183       {background:\LWR@origpound\LWR@tempcolortwo\ ; }%
184     {#6}%
185   }%
186 }%
187 {%
188   \end{BlockClass}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

189   \global\booltrue{\LWR@minipagethispar}%
190 }%
191
192 \AtBeginDocument{
193 \LWR@formattedeenv{fcolorminipage}%
194 }

```

\boxframe {<width>} {<height>} {<depth>}

The depth is added to the height, but the box is not descended below by the depth. \textcolor is honored.

```

195 \newcommand*{\LWR@HTML@boxframe}[3]{%
196 {%
197 \setlength{\LWR@tempwidth}{#1}%
198 \setlength{\LWR@tempheight}{#2}%
199 \addtolength{\LWR@tempheight}{#3}%
200 \LWR@forceminwidth{\fboxrule}%
201 \LWR@findcurrenttextcolor%
202 \InlineClass[%%
203 display:inline-block ; %
204 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@currenttextcolor{} ; %

```

```

205 width:\LWR@printlength{\LWR@tempwidth} ; %
206 height:\LWR@printlength{\LWR@tempheight}%
207 ]{boxframe}{}}%
208 }%
209 }
210
211 \LWR@formatted{boxframe}

```

## § 609.9 Row colors

```

\rowc@l@rs [⟨cmds⟩] {⟨startrow⟩} {⟨odd color⟩} {⟨even color⟩}
212 \newcommand*{\LWR@xcolortempcolor}{}%
213
214 \def\rowc@l@rs[#1]#2#3#4%
215 {
216 \rownum=1%
217 \@rowcolorstrue%
218 \@ifxempty{#3}%
219 {\def\@oddrowcolor{\@norowcolor}}%
220 {%
221     \convertcolorspec{named}{#3}{HTML}\LWR@xcolortempcolor%
222     \edef\@oddrowcolor{%
223         \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}}%
224     }%
225 }%
226 \@ifxempty{#4}%
227 {\def\@evenrowcolor{\@norowcolor}}%
228 {%
229     \convertcolorspec{named}{#4}{HTML}\LWR@xcolortempcolor%
230     \edef\@evenrowcolor{%
231         \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}}%
232     }%
233 }%
234 \if@rowcmd
235     \def\@rowcolors
236     {%
237 %         #1%
238         \if@rowcolors
239 %             \noalign{%
240                 \relax\ifnum\rownum<#2\@norowcolor\else
241                 \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi\fi%
242 %             }%
243             \fi%
244         }%
245     \else
246         \def\@rowcolors
247         {%
248             \if@rowcolors
249                 \ifnum\rownum<#2%
250 %                     \noalign{%
251                     \@norowcolor
252 %                 }%
253                 \else
254 %                     #1%
255 %                     \noalign{%

```

---

```

256           \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi%
257 %           }%
258           \fi%
259           \fi%
260       }%
261   \fi%
262   \ignorespaces%
263 }
```

\@norowcolor Turns off color for this row.

```

264 \def\@norowcolor{%
265 \renewcommand{\LWR@xcolorrowHTMLcolor}{()}%
266 }
```

\@rowc@lors Executed at the end of each row.

```

267 \def\@rowc@lors{%
268 %   \noalign{%
269 %     \advance\rownum\@ne%
270 %   }%
271   \@rowcolors%
272 }
```

```
273 \end{warpHTML}
```

---

#### File 504 l warp-xchangebar.sty

### § 610 Package **xchangebar**

Pkg xchangebar xchangebar is ignored

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xchangebar}[2017/08/03]  
2 \LWR@origRequirePackage{l warp-changebar}

---

#### File 505 l warp-xellipsis.sty

### § 611 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@xellipsispace}[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{\xelipraeft}%
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 506 **l warp-xetexko-vertical.sty**

§ 612 Package **xetexko-vertical**

*(Emulates or patches code by DOHYUN KIM.)*

Pkg xetexko-vertical xetexko-vertical is patched for use by l warp.

**for HTML output:**

```

1 \LWR@Loadbefore{xetexko-vertical}
2
3 \LWR@ProvidesPackagePass{xetexko-vertical}[2018/04/06]

4 \renewcommand{\verticalltypesetting}{}
5 \renewenvironment{vertical}[1]{\BlockClass{verticalrl}}{\endBlockClass}
6 \renewenvironment{horizontal}[1]{\BlockClass{horizontaltb}}{\endBlockClass}
7 \renewcommand{\vertlatin}[1]{#1}

```

---

File 507 **l warp-xfakebold.sty**

§ 613 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 `\textrimage`s. 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][]{\relax}}
13 \CustomizeMathJax{\newcommand{\unsetBold}{}}
14 \end{warpMathJax}
```

#### File 508 **l warp-xfrac.sty**

### § 614 Package **xfrac**

(Emulates or patches code by THE LATEX3 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, **l warp** should be loaded after font-related setup. During HTML conversion, this font is used by **l warp** 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` `[\langle instance\rangle] {\langle num\rangle} [\langle sep\rangle] {\langle denom\rangle}`

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 `\textrimage`, no adjustments are necessary.

**for HTML & PRINT:** 2 \begin{warpall}

\xfracHTMLfontsize User-redefinable macro which controls the font size of the fraction.

3 \newcommand\*\xfracHTMLfontsize{.6em}

4 \end{warpall}

**for HTML output:** 5 \begin{warpHTML}

**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.

```
6 \DeclareInstance{xfrac}{default}{text}{  
7   numerator-format = {  
8     \begingroup%  
9     \RenewDocumentCommand{\scalebox}{m o m}{##3}%  
10    \InlineClass{numerator}{#1},%  
11    \endgroup%  
12  },  
13  denominator-format = {  
14    \begingroup%  
15    \RenewDocumentCommand{\scalebox}{m o m}{##3}%  
16    \InlineClass{denominator}{#1}%  
17    \endgroup%  
18  },
```

For `pdftotext`, do not scale the text:

```
19   scaling = false  
20 }  
21  
22 \DeclareInstance{xfrac}{lmr}{text}{  
23   numerator-format = {  
24     \begingroup%  
25     \RenewDocumentCommand{\scalebox}{m o m}{##3}%  
26     \InlineClass{numerator}{#1},%  
27     \endgroup%  
28  },  
29  denominator-format = {  
30    \begingroup%  
31    \RenewDocumentCommand{\scalebox}{m o m}{##3}%  
32    \InlineClass{denominator}{#1}%  
33    \endgroup%  
34  },
```

For `pdftotext`, do not scale the text:

```
35   scaling = false  
36 }
```

```

37
38 \DeclareInstance{xfrac}{lmss}{text}{
39     numerator-format = {%
40         \begingroup%
41         \RenewDocumentCommand{\scalebox}{m o m}{##3}%
42         \InlineClass{numerator}{#1},%
43         \endgroup%
44     },
45     denominator-format = {%
46         \begingroup%
47         \RenewDocumentCommand{\scalebox}{m o m}{##3}%
48         \InlineClass{denominator}{#1}%
49         \endgroup%
50     },

```

For *pdftotext*, do not scale the text:

```

51     scaling = false
52 }
53
54 \DeclareInstance{xfrac}{lmtt}{text}{
55     numerator-format = {%
56         \begingroup%
57         \RenewDocumentCommand{\scalebox}{m o m}{##3}%
58         \InlineClass{numerator}{#1},%
59         \endgroup%
60     },
61     denominator-format = {%
62         \begingroup%
63         \RenewDocumentCommand{\scalebox}{m o m}{##3}%
64         \InlineClass{denominator}{#1}%
65         \endgroup%
66     },

```

For *pdftotext*, do not scale the text:

```

67     scaling = false
68 }

```

For MATHJAX:

```

69 \begin{warpMathJax}
70 \CustomizeMathJax{\newcommand{\LWRsfrac}[2][]{\{}^{\LWRsfracnumerator\!#1\!\!\!-\!\!\!#2\!\!\!}\}}
71 \CustomizeMathJax{\newcommand{\sfrac}[2][]{\def\LWRsfracnumerator{#2}\LWRsfrac}}
72 \end{warpMathJax}

73 \end{warpHTML}

```

File 509 **lwarp-xltabular.sty**

§ 615 Package **xltabular**

(Emulates or patches code by ROLF NIEPRASCHK, HERBERT VOSS.)

Pkg xltabular xltabular is emulated by lwarp.

**for HTML output:**

- ⚠ **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 510 **lwarp-xltxtra.sty**

### § 616 Package **xltxtra**

(Emulates or patches code by WILL ROBERTSON, JONATHAN KEW.)

Pkg xltxtra xltxtra is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xltxtra}[2016/01/21]

```
2 \RequirePackage{realscripts}
3 \RequirePackage{metalogo}
4 \newcommand*\TeX@logo@spacing[6]{}
5
6 \newcommand*{\vfrac}[2]{%
7 \textsuperscript{#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 511 l warp-xmpincl.sty**

§ 617 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 512 l warp-xpiano.sty**

§ 618 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 513 l warp-xpinyin.sty****§ 619 Package xpinyin***(Emulates or patches code by SOBEN LEE.)*

Pkg xpinyin xpinyin is supported.

Pinyin is disabled for file names, the sideroc, 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:n #1#2#3
4 {
5     \color_group_begin: \color_ensure_current:
6     \l__xpinyin_pinyin_box_hook_tl
7     \renewcommand*\l__xpinyin_ratio_tl{\fbox{#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:n}
18
19 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_CJKsymbol:nn #1#2
20 {
21     \__xpinyin_leavevmode:
22     \LWR@htmltagc{ruby}
23     \LWR@htmltagc{rb}
24     \__xpinyin_save_CJKsymbol:n {#2}\null% \null removes extra space
25     \LWR@htmltagc{/rb\space}
26     \LWR@htmltagc{rp}(\LWR@htmltagc{/rp\space}
27     \LWR@htmltagc{rt}
28     \__xpinyin_make_pinyin_box:n {#1} {#2} { \use:c { c__xpinyin_ #1 _tl } }
29     \LWR@htmltagc{/rt\space}
30     \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
31     \LWR@htmltagc{/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@htmltagc{ruby}
39      \LWR@htmltagc{rb}
40      \__xpinyin_save_CJKsymbol:n {#1}\null% \null removes extra space
41      \LWR@htmltagc{/rb\space}
42      \LWR@htmltagc{rp}(\LWR@htmltagc{/rp\space}
43      \LWR@htmltagc{rt}
44      \__xpinyin_make_pinyin_box:xnn
45      { \__xpinyin_to_unicode:n {#1} } {#1} { \__xpinyin_pinyin:n {#2} }
46      \LWR@htmltagc{/rt\space}
47      \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
48      \LWR@htmltagc{/ruby\space}\null
49  }
50 \LWR@formatted{__xpinyin_single_CJKsymbol:nn}
51
52 \ExplSyntaxOff

```

The **l warp** core uses the following to disable CJK **xpinyin** for filenames, sidetoc, and footnotes.

```

53 \renewcommand*\LWR@disablepinyin}{\disablepinyin}
54
55 \FilenameNullify{\LWR@disablepinyin}

```

#### File 514 **l warp-xr.sty**

§ 620 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 515 l warp-xr-hyper.sty****§ 621 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 516 l warp-xtab.sty****§ 622 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 &

```
\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 517 **l warp-xunicode.sty**

§ 623 Package **xunicode**

Pkg xunicode Error if xunicode is loaded after l warp.

Patch l warp-xunicode, but also verify that it was loaded before l warp:

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*\texttwelvedash{}%
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 518 **l warp-xurl.sty**

§ 624 Package **xurl**

Pkg xurl xurl is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xurl}[2020/01/14]  
2  
3 \def\useOriginalUrlSetting{}

---

File 519 **l warp-xy.sty**

§ 625 Package **XY**

(Emulates or patches code by KRISTOFFER H. ROSE, ROSS MOORE.)

Pkg xy xy is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xy}[2013/10/06]

After xy modules have been loaded:

2 \AtBeginDocument{

The original definitions without a lateximage:

3 \LetLtxMacro\LWR@orig@xy\xy  
4 \LetLtxMacro\LWR@orig@endxy\endxy

The outer-most xy environment is placed in a lateximage, but not more than one level deep, which would conflict with xy:

```

5 \renewcommand*\{\xy}{%
6   \ifnumcomp{\value{\LWR@lateximagedepth}}{0}{%
7     \addtocounter{\LWR@lateximagedepth}{1}%
8     \begin{lateximage}[-xy-\~\PackageDiagramAltText]%
9     \LWR@orig@xy%
10   }%
11 }%
12 \renewcommand*\{\endxy}{%

```

---

```

13      \LWR@orig@endxy%
14      \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{1}%
15          {\addtocounter{\LWR@lateximagedepth}{-1}}%
16          {\end{lateximage}}%
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 `lateximage`:

```

22 \@ifundefined{xygraph}{}{%
23
24 \LetLtxMacro{\LWR@origxygraph}{\xygraph}
25
26 \renewcommand{\xygraph}[1]{%
27     \begin{lateximage}[-xy- xygraph \PackageDiagramAltText]
28     \LWR@origxygraph{#1}
29     \end{lateximage}
30 }
31
32 }% xygraph defined
33
34 }% AtBeginDocument

```

---

#### File 520 **lwarp-zhlineskip.sty**

##### § 626 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 521 **lwarp-zwpagelayout.sty**

##### § 627 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{#1}}
40 \def\SetEvenPageMessage#1{\gdef\Z@evenwarning{#1}}
41 \def\ZW@oddwarning{Empty page inserted}\let\ZW@evenwarning\ZW@oddwarning
42
43 \def\clap#1{\hbox{#1}\hskip-\wd\hbox{#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 \ifXeTeX
57 \def\ifcaseZWdriver{\ifcase2}
58 \else
59 \def\ifcaseZWdriver{\ifcase1}
60 \fi
61 \DeclareRobustCommand\ZWifdriver[2]{}
```

---

**File 522 l warp-patch-komascript.sty****§ 628 Package patch-komascript**

Pkg l warp-patch-komascript Patches for komascript classes.

l warp 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{l warp-patch-komascript}

typearea is emulated.

2 \RequirePackage{l warp-typearea}

tocbasic is emulated.

3 \RequirePackage{l warp-tocbasic}

scrextend patches most of the new macros.

4 \RequirePackage{l warp-scrextend}

Indexing macros, simplified for l warp:

```
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{\captionofabove}{\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 523 **l warp-patch-memoir.sty**

§ 629      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 629.1). 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 **l warp** 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 `pagenotes` are declared in the text, but for `HTML` it prints the name where the `pagenotes` 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}`

## § 629.1 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}%
3 % \RequirePackage{lwarp-array}%
4 \RequirePackage{lwarp-booktabs}%
5 % \RequirePackage{lwarp-ccaption}%
6 \RequirePackage{lwarp-changepage}%
7 \RequirePackage{lwarp-crop}%
8 % \RequirePackage{lwarp-dcolumn}%
9 \RequirePackage{lwarp-enumerate}%
10 \RequirePackage{lwarp-epigraph}%
11 \RequirePackage{lwarp-fancyvrb}%
12 \RequirePackage{lwarp-footmisc}%

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}%
18 % req'd
19 \RequirePackage{l warp-hanging}%
20 \RequirePackage{l warp-makeidx}%
21 \DismulatePackage{moreverb}
22 \RequirePackage{l warp-moreverb}
23 \RequirePackage{l warp-mparhack}
24 \RequirePackage{l warp-needspace}%
25 \RequirePackage{l warp-nextpage}%
26 \RequirePackage{l warp-pagenote}%
27 \RequirePackage{l warp-parskip}
28 \RequirePackage{l warp-setspace}%
29 \RequirePackage{l warp-showidx}

30 \makeindex

31 % \RequirePackage{l warp-tabularx}%
32 % no longer req'd
33 \RequirePackage{l warp-titling}%
34 % \RequirePackage{l warp-tocbibind}%
35 % not emulated by memoir
36 \RequirePackage{l warp-tocloft}%
37 \RequirePackage{l warp-verse}%

```

## § 629.2 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 adds 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 becomes LWR@new@label.
  - LWR@orig@label becomes @mem@old@label.
- cleveref then encapsulates all the above.
- For a subcaption, cleveref modifies memoir's sf@memsub@label.

```

36 \let\LWR@orig@label\@mem@old@label
37 \let\@mem@old@label\LWR@new@label

```

Patches for subfloats to support additional l warp labels:

```

38 \AtBeginDocument{
39   \renewcommand*{\sf@memsub@label}[1]{%
40     \@bsphack

```

```

41      \sf@@memsub@label@hook{#1}%
42      \ememoldlabel{#1}%
43      \LWR@label@createtag{sub@#1}%
44      \protected@write\@auxout{}{%
45          \string\newlabel{sub@#1}%
46          {\{\@nameuse{@thesub\@capttype}\}%
47          {\thepage}\}}%
48      \LWR@write@lwarplabel{sub@#1}%
49      \esphack
50  }
51 }
```

### § 629.3 Page layout

*memoir* already set the page size to a default, so it must be forced large for *lwarf*'s use, to avoid tag overflows off the page.

```

52 \setstocksize{190in}{20in}
53 \setlrmarginsandblock{2in}{2in}{*}
54 \setulmarginsandblock{1in}{1in}{*}

55 \renewcommand*\stockavi(){}
56 \renewcommand*\stockav){}
57 \renewcommand*\stockaiv){}
58 \renewcommand*\stockaiii){}
59 \renewcommand*\stockavii){}
60 \renewcommand*\stockbvi){}
61 \renewcommand*\stockbv){}
62 \renewcommand*\stockbiv){}
63 \renewcommand*\stockbiii){}
64 \renewcommand*\stockbvii) {}

65% \renewcommand*\stockmetriccrownvo){}% in docs but not in the package
66 \renewcommand*\stockmlargecrownvo){}
67 \renewcommand*\stockmdemyvo){}
68 \renewcommand*\stockmsmallroyalvo) {}

69 \renewcommand*\pageavi){}
70 \renewcommand*\pageavii){}
71 \renewcommand*\pageav){}
72 \renewcommand*\pageaiv){}
73 \renewcommand*\pageaiii){}
74 \renewcommand*\pagebvi){}
75 \renewcommand*\pagebvii){}
76 \renewcommand*\pagebv){}
77 \renewcommand*\pagebiv){}
78 \renewcommand*\pagebiii) {}

79% \renewcommand*\pagemetriccrownvo){}% in docs but not in the package
80 \renewcommand*\pagemlargecrownvo){}
81 \renewcommand*\pagemdemyvo){}
82 \renewcommand*\pagemsallroyalvo) {}

83
84 \renewcommand*\stockdbill){}
85 \renewcommand*\stockstatement){}
86 \renewcommand*\stockexecutive){}
87 \renewcommand*\stockletter){}
88 \renewcommand*\stockold){}
```

```
89 \renewcommand*\{\\stocklegal}{}  
90 \renewcommand*\{\\stockledger}{}  
91 \renewcommand*\{\\stockbroadsheet}{}  
92 \renewcommand*\{\\pagedbill}{}  
93 \renewcommand*\{\\pagestatement}{}  
94 \renewcommand*\{\\pageexecutive}{}  
95 \renewcommand*\{\\pageletter}{}  
96 \renewcommand*\{\\pageold}{}  
97 \renewcommand*\{\\pagelegal}{}  
98 \renewcommand*\{\\pageledger}{}  
99 \renewcommand*\{\\pagebroadsheet}{}  
100  
101 \renewcommand*\{\\stockpottvo}{}  
102 \renewcommand*\{\\stockfoolscapvo}{}  
103 \renewcommand*\{\\stockcrownvo}{}  
104 \renewcommand*\{\\stockpostvo}{}  
105 \renewcommand*\{\\stocklargecrownvo}{}  
106 \renewcommand*\{\\stocklargepostvo}{}  
107 \renewcommand*\{\\stocksmalldemyvo}{}  
108 \renewcommand*\{\\stockdemyvo}{}  
109 \renewcommand*\{\\stockmediumvo}{}  
110 \renewcommand*\{\\stocksmaillroyalvo}{}  
111 \renewcommand*\{\\stockroyalvo}{}  
112 \renewcommand*\{\\stocksperroyalvo}{}  
113 \renewcommand*\{\\stockimperialvo}{}  
114 \renewcommand*\{\\pagepottvo}{}  
115 \renewcommand*\{\\pagefoolscapvo}{}  
116 \renewcommand*\{\\pagecrownvo}{}  
117 \renewcommand*\{\\pagepostvo}{}  
118 \renewcommand*\{\\pagelargecrownvo}{}  
119 \renewcommand*\{\\pagelargepostvo}{}  
120 \renewcommand*\{\\pagesmalldemyvo}{}  
121 \renewcommand*\{\\pagedemyvo}{}  
122 \renewcommand*\{\\pagemediumvo}{}  
123 \renewcommand*\{\\pagesmaillroyalvo}{}  
124 \renewcommand*\{\\pageroyalvo}{}  
125 \renewcommand*\{\\pagesperroyalvo}{}  
126 \renewcommand*\{\\pageimperialvo}{}  
127  
128 \renewcommand*\{\\memfontfamily}{}  
129 \renewcommand*\{\\memfontenc}{}  
130 \renewcommand*\{\\memfontpack}{}  
131  
132 \renewcommand*\{\\anyptfilebase}{}  
133 \renewcommand*\{\\anyptsiz}{10}  
134  
135 \renewcommand*\{\\setstocksize}[2]{}  
136 \renewcommand*\{\\settrimmedsize}[3]{}  
137 \renewcommand*\{\\settrims}[2]{}  
138  
139 % \newlength{\lxvchars}  
140 % \setlength{\lxvchars}{305pt}  
141 % \newlength{\xlvchars}  
142 % \setlength{\xlvchars}{190pt}  
143 \renewcommand*\{\\setxlvchars}[1]{}
```

```
144 \renewcommand*{\setlxvchars}[1]{}
145
146 \renewcommand*{\settypeblocksize}[3]{}
147 \renewcommand*{\setlrmargins}[3]{}
148 \renewcommand*{\setlrmarginsandblock}[3]{}
149 \renewcommand*{\setbinding}[1]{}
150 \renewcommand*{\setulmargins}[3]{}
151 \renewcommand*{\setulmarginsandblock}[3]{}
152 \renewcommand*{\setcolsepandrulerule}[2]{}
153
154 \renewcommand*{\setheadfoot}[2]{}
155 \renewcommand*{\setheaderspaces}[3]{}
156 \renewcommand*{\setmarginnotes}[3]{}
157 \renewcommand*{\setfootins}[2]{}
158 \renewcommand*{\checkandfixthelayout}[1][]{}
159 \renewcommand*{\checkthelayout}[1]{}
160 \renewcommand*{\fixthelayout}(){}
161 %
162 % \newlength{\stockheight}
163 % \newlength{\trimtop}
164 % \newlength{\trimedge}
165 % \newlength{\stockwidth}
166 % \newlength{\spinemargin}
167 % \newlength{\foremargin}
168 % \newlength{\uppermargin}
169 % \newlength{\headmargin}
170 %
171 \renewcommand*{\typeoutlayout}){}
172 \renewcommand*{\typeoutstandardlayout}){}
173 \renewcommand*{\settypeoutlayoutunit}[1]({})
174 \renewcommand*{\fixpdflayout}){}
175 \renewcommand*{\fixdvipslayout}){}
176
177 \renewcommand*{\medievalpage}[1][]{}
178 \renewcommand*{\isopage}[1][]{}
179 \renewcommand*{\semiisopage}[1][]{}
180
181 \renewcommand{\setpagebl}[3]{}
182 \renewcommand{\setpageml}[3]{}
183 \renewcommand{\setpagetl}[3]{}
184 \renewcommand{\setpagebm}[3]{}
185 \renewcommand{\setpagefr}[3]{}
186 \renewcommand{\setpagemr}[3]{}
187 \renewcommand{\setpagebr}[3]{}
188 \renewcommand{\setpagebm}[3]{}
189 \renewcommand{\setpagecc}[3]{}
```

## § 629.4 Text and fonts

```

190 \let\miniscule\tiny
191 \let\HUGE\Huge
192
193 \renewcommand*{\abnormalparskip}[1]{}
194 \renewcommand*{\nonzeroparskip}{}
195 \renewcommand*{\traditionalparskip}{}
196
197 \let\onelineskip\baselineskip
198
199 \let\OnehalfSpacing\onehalfspacing
200 \let[DoubleSpacing\doublespacing
201 \renewcommand*{\setPagenoteSpacing}[1]{}
202 \renewcommand*{\setFloatSpacing}[1]{}

203 \renewcommand{\SingleSpacing}{\@ifstar\singlespacing\singlespacing}
204 \let\setSingleSpace\SetSingleSpace
205 \let\SingleSpace\singlespace
206 \let\endSingleSpace\endsingleSpace
207 \let\Spacing\spacing
208 \let\endSpacing\endspacing
209 \let\OnehalfSpace\onehalfspace
210 \let\endOnehalfSpace\endonehalfspace
211 \csletcs{OnehalfSpace*}{onehalfspace}
212 \csletcs{endOnehalfSpace*}{endonehalfspace}
213 \let\DoubleSpace\doublespace
214 \let\endDoubleSpace\enddoublespace
215 \csletcs{DoubleSpace*}{doublespace}
216 \csletcs{endDoubleSpace*}{enddoublespace}
217 \renewcommand*{\setDisplayskipStretch}[1]{}
218 \renewcommand*{\memdisplayskipstretch}{}%
219 \renewcommand*{\noDisplayskipStretch}{}%
220 \renewcommand*{\memdisplayskip}{}%
221
222 \renewcommand*{\midsloppy}{}%
223 \renewenvironment*{\midsloppypar}{}{}%
224
225 \renewcommand*{\sloppybottom}{}%

```

## § 629.5 Titles

```

226 \csletcs{titlingpage*}{titlingpage}
227 \csletcs{endtitlingpage*}{endtitlingpage}
228 \let\titlingpageend\relax
229 \newcommand{\titlingpageend}[2]{}%
230 \let\andnext\and
231 \renewcommand*{\thanksmarkstyle}[1]{}%
232
233 \renewcommand{\thanksfootmark}{%
234     \thanksscript{\tamark}%
235 }
236
237 % \newlength{\thanksmarksep} already provided by memoir

```

238 \renewcommand\titlingpageend[2]{}

## § 629.6 Abstracts

239 % \newlength{\absindent}  
 240 % \newlength{\absparsep}  
 241 \renewcommand\*\{\abstractcol}{  
 242 \renewcommand\*\{\abstractintoc}{  
 243 \renewcommand\*\{\abstractnum}{  
 244 \renewcommand\*\{\abstractrunin}{

## § 629.7 Document divisions

\book \* (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}  
 245 \DeclareDocumentCommand{\book}{s d() o o d() m}{%  
 246 \LWR@section{#1}{#3}{#6}{book}%
 247 }  
  
 248 \def\@apppage{%
 249 \part\*\{\appendixpagename}%
 250 }
 251 \renewcommand\mempreaddappagetotohook{}  
 252 \renewcommand\mempostaddappagetotohook{}  
 253
 254 \def\@sapppage{%
 255 \part\*\{\appendixpagename}%
 256 }  
  
 257 \DeclareDocumentCommand{\mainmatter}{s}{%
 258 \booltrue{LWR@mainmatter}%
 259 }
 260
 261 \DeclareDocumentCommand{\frontmatter}{s}{%
 262 \boolfalse{LWR@mainmatter}%
 263 }  
  
 264 \renewcommand\*\{\raggedbottomsection}{}
 265 \renewcommand\*\{\normalbottomsection}{}
 266 \renewcommand\*\{\bottomsectionskip}{}
 267 \renewcommand\*\{\bottomsectionpenalty}{}
 268 \csletcs{\appendixpage}{\appendixpage}
 269 \renewcommand\*\{\namedsubappendices}{}
 270 \renewcommand\*\{\unnamedsubappendices}{}
 271 \renewcommand\*\{\beforebookskip}{}
 272 \renewcommand\*\{\afterbookskip}{}
 273 \renewcommand\*\{\beforepartskip}{}
 274 \renewcommand\*\{\afterpartskip}{}
 275 \renewcommand\*\{\midbookskip}{}
 276 \renewcommand\*\{\midpartskip}{}
 277 \renewcommand\*\{\printbookname}{}
 278 \renewcommand\*\{\booknamefont}{}
 279 \renewcommand\*\{\booknamenum}{}
 280 \renewcommand\*\{\printbooknum}{}

```
281 \renewcommand*\{\booknumfont}{}  
282 \renewcommand*\{\printpartname}{}  
283 \renewcommand*\{\partnamefont}{}  
284 \renewcommand*\{\partnamenum}{}  
285 \renewcommand*\{\printpartnum}{}  
286 \renewcommand*\{\partnumfont}{}  
287 \renewcommand*\{\printbooktitle}[1]{}  
288 \renewcommand*\{\booktitlefont}{}  
289 \renewcommand{\printparttitle}[1]{}  
290 \renewcommand*\{\parttitlefont}{}  
291 \renewcommand*\{\bookpageend}{}  
292 \renewcommand*\{\bookblankpage}{}  
293 \renewcommand*\{\nobookblankpage}{}  
294 \renewcommand*\{\partpageend}{}  
295 \renewcommand*\{\partblankpage}{}  
296 \renewcommand*\{\nopartblankpage}{}  
297 \RenewDocumentCommand{\newleadpage}{s o m m}{}% todo  
298 \RenewDocumentCommand{\renewleadpage}{s o m m}{}% todo  
299 \renewcommand*\{\leadpagetoclevel}{chapter}  
300  
301 \renewcommand*\{\openright}{}  
302 \renewcommand*\{\openleft}{}  
303 \renewcommand*\{\openany}{}  
304 \renewcommand*\{\clearforchapter}{}  
305 \renewcommand*\{\memendofchapterhook}{}  
306 \renewcommand*\{\chapterheadstart}{}  
307 % \newlength{\beforechapskip}  
308 \renewcommand*\{\afterchapternum}{}  
309 % \newlength{\midchapskip}  
310 \renewcommand*\{\afterchaptertitle}{}  
311 % \newlength{\afterchapskip}  
312 \renewcommand*\{\printchaptername}{}  
313 \renewcommand*\{\chapnamefont}{}  
314 \renewcommand*\{\chapernamenum}{}  
315 \renewcommand*\{\printchapternum}{}  
316 \renewcommand*\{\chapnumfont}{}  
317 \renewcommand{\printchaptertitle}[1]{}  
318 \renewcommand*\{\chaptilefont}{}  
319 \renewcommand*\{\printchapternonum}{}  
320 \renewcommand*\{\indentafterchapter}{}  
321 \renewcommand*\{\noindentafterchapter}{}  
322 \renewcommand*\{\insertchapterspace}{}  
323  
324 \renewcommand*\{\chapterstyle}[1]{}  
325 \renewcommand{\makechapterstyle}[2]{}  
326 \renewcommand*\{\chapindent}{}  
327 \let\chapterprecis\cftchapterprecis  
328 \let\chapterprecishere\cftchapterprecishere  
329 \let\chapterprecistoc\cftchapterprecistoc  
330 \renewcommand*\{\precisfont}{}  
331 \renewcommand*\{\prechapterprecis}{}  
332 \renewcommand*\{\postchapterprecis}{}  
333 \renewcommand{\precistotext}[1]{}  
334 \renewcommand*\{\precistocfont}{}  
335 \renewcommand*\{\precistocformat}{}  
336
```

```
336 % \newlength{\prechapterprecissshift}
337
338 \renewcommand*{\setbeforesecskip}[1]{}
339 \renewcommand*{\setaftersecskip}[1]{}
340 \renewcommand*{\setsecindent}[1]{}
341 \renewcommand*{\setsecheadstyle}[1]{}
342 \renewcommand*{\setbeforesubsecskip}[1]{}
343 \renewcommand*{\setaftersubsecskip}[1]{}
344 \renewcommand*{\setsubsecindent}[1]{}
345 \renewcommand*{\setsubsecheadstyle}[1]{}
346 \renewcommand*{\setbeforesubsubsecskip}[1]{}
347 \renewcommand*{\setaftersubsubsecskip}[1]{}
348 \renewcommand*{\setsubsubsecindent}[1]{}
349 \renewcommand*{\setsubsubsecheadstyle}[1]{}
350 \renewcommand*{\setbeforeparaskip}[1]{}
351 \renewcommand*{\setafterparaskip}[1]{}
352 \renewcommand*{\setparaindent}[1]{}
353 \renewcommand*{\setparaheadstyle}[1]{}
354 \renewcommand*{\setbeforesubparaskip}[1]{}
355 \renewcommand*{\setaftersubparaskip}[1]{}
356 \renewcommand*{\setsubparaindent}[1]{}
357 \renewcommand*{\setsubparaheadstyle}[1]{}
358 \renewcommand{@hangfrom}[1]{#1}
359 \renewcommand{sethangfrom}[1]{}
360 \renewcommand{setsecnumformat}[1]{}
361
362 \renewcommand*{\hangsecnum}{}
363 \renewcommand*{\defaultsecnum}{}
364
365 \renewcommand*{\sechook}{}
366 \renewcommand*{\setsechook}[1]{}
367 \renewcommand*{\subsechook}{}
368 \renewcommand*{\setsubsechook}[1]{}
369 \renewcommand*{\subsubsechook}{}
370 \renewcommand*{\setsubsubsechook}[1]{}
371 \renewcommand*{\parahook}{}
372 \renewcommand*{\setparahook}[1]{}
373 \renewcommand*{\subparahook}{}
374 \renewcommand*{\setsubparahook}[1]{}
375
376 \RenewDocumentCommand{\plainbreak}{s m}{\begin{center}~\end{center}}
377
378 \RenewDocumentCommand{\fancybreak}{s +m}{%
379     \begin{center}#2\end{center}%
380 }
381
382 \RenewDocumentCommand{\plainfancybreak}{s m m +m}{%
383     \begin{center}#4\end{center}%
384 }
385
386 \RenewDocumentCommand{\pfbreak}{s}{%
387     \begin{center}%
388         \pfbreakdisplay
389     \end{center}%
390 }
```

```
391  
392 % \newlength{\pfbreakskip}  
393 \renewcommand{\pfbreakdisplay}{*\quad*\quad*}  
394  
395 \renewcommand{\makeheadstyles}[2]{}  
396 \renewcommand*{\headstyles}[1]{}
```

## § 629.8 Pagination and headers

```
397 \renewcommand*{\savepagenumber}{}  
398 \renewcommand*{\restorepagenumber}{}  
399 \renewcommand*{\uppercaseheads}{}  
400 \renewcommand*{\nouppercaseheads}{}  
401  
402 \renewcommand*{\bookpagemark}[1]{}  
403 \renewcommand*{\partmark}[1]{}  
404 \renewcommand*{\bibmark}{}  
405 \renewcommand*{\indexmark}{}  
406 \renewcommand*{\glossarymark}{}  
407  
408 \LWR@origpagestyle{empty}  
409 \renewcommand*{\ps@empty}{}  
410 \renewcommand*{\makepagestyle}[1]{}  
411 \renewcommand*{\emptypshook}{}%  
412 % \renewcommand*{\empty@oddhead}{}  
413 % \renewcommand*{\empty@oddfoot}{}  
414 % \renewcommand*{\empty@evenhead}{}  
415 % \renewcommand*{\empty@evenfoot}{}  
416 \renewcommand*{\@oddhead}{}  
417 \renewcommand*{\@oddfoot}{}  
418 \renewcommand*{\@evenhead}{}  
419 \renewcommand*{\@evenfoot}{}  
420 \renewcommand*{\aliaspagestyle}[2]{}  
421 \renewcommand*{\copypagestyle}[2]{}  
422  
423 \renewcommand*{\makeevenhead}[4]{}  
424 \renewcommand*{\makeoddhead}[4]{}  
425 \renewcommand*{\makeevenfoot}[4]{}  
426 \renewcommand*{\makeoddfoot}[4]{}  
427 \renewcommand*{\makerunningwidth}[3]{}  
428 % \newlength{\headwidth}  
429 \renewcommand*{\makeheadrule}[3]{}  
430 \renewcommand*{\makefootrule}[3]{}  
431 \renewcommand*{\makeheadfootruleprefix}[3]{}  
432 % \newlength{\normalrulethickness}  
433 % \setlength{\normalrulethickness}{.4pt}  
434 % \newlength{\footruleheight}  
435 % \newlength{\footruleskip}  
436 \renewcommand*{\makeheadposition}[5]{}  
437 \renewcommand{\makepsmarks}[2]{}  
438 \renewcommand*{\makeheadfootstrut}[3]{}  
  
439 \renewcommand{\createmark}[5]{\csdef{#1mark}{1}{}}  
440 \renewcommand{\createplainmark}[3]{\csdef{#1mark}{}}
```

---

```

441 \renewcommand{\memUhead}{1}{}
442 \renewcommand*{\clearplainmark}{1}{}
443 \renewcommand*{\clearmark}{1}{}
444 \renewcommand{\addtopsmarks}{3}{}
445 \renewcommand{\ifonlyfloats}{2}{#2}
446 \renewcommand*{\mergepagefloatstyle}{3}{}
447
448 \renewcommand*{\framepichead}{}
449 \renewcommand*{\framepictextfoot}{}
450 \renewcommand*{\framepichook}{}
451 \renewcommand*{\showheadfootlocoff}{}
452 \renewcommand*{\showtextblocklocoff}{}

```

## § 629.9 Paragraphs and lists

```

453 \renewcommand{\hangfrom}{1}{#1}
454 \let\centerfloat\centering
455 \renewcommand*{\raggedyright}{1}[]{}
456 % \newlength{\ragrparindent}
457 \renewcommand{\sourceatright}{2}[]{\attribution{#2}}
458 \let\memorigdbs\LWR@endofline
459 \let\memorigpar\par
460 \let\atcentercr\LWR@endofline
461
462 \renewcommand*{\linenottooshort}{1}[]{}
463 \renewcommand*{\russianpar}{}
464 \renewcommand*{\lastlinerulefill}{}
465 \renewcommand*{\lastlineparrule}{}
466 \renewcommand*{\justlastraggedleft}{}
467 \renewcommand*{\raggedrightthenleft}{}
468 \renewcommand*{\leftcenterright}{}
469
470 \renewcommand{\leftspringright}{4}{%
471   \begin{minipage}{#1\linewidth}#3\end{minipage}\qquad%
472   \begin{minipage}{#2\linewidth}\begin{flushright}#4\end{flushright}\end{minipage}%
473 }
474
475 \renewenvironment*{blockdescription}
476 {\LWR@descriptionstart\LWR@origdescription}
477 {\enddescription}
478
479 \renewcommand*{\blockdescriptionlabel}{1}{\textbf{\#1}}
480 \renewenvironment*{labelled}{1}{\begin{description}}{\end{description}}
481 \renewenvironment*{flexlabelled}{6}{\begin{description}}{\end{description}}
482 \renewcommand*{\tightlists}{}
483 \renewcommand*{\defaultlists}{}
484 \RenewDocumentCommand{\firmlists}{s}{}
485 \renewcommand*{\firmlist}{}
486 \renewcommand*{\tightlist}{}
487 \renewcommand*{\zerotrivseps}{}
488 \renewcommand*{\savetrivseps}{}
489 \renewcommand*{\restoretrevseps}{}

```

## § 629.10 Contents lists

```
490 \csletcs{tableofcontents*}{tableofcontents}
491 \csletcs{listoffigures*}{listoffigures}
492 \csletcs{listoftables*}{listoftables}
493 \renewenvironment{KeepFromToc}{}{}
494 \renewcommand*\onecoltocetc(){}
495 \renewcommand*\twocoltocetc(){}
496 \renewcommand*\ensureonecol(){}
497 \renewcommand*\restorefromonecol(){}
498 \renewcommand*\doccoltocetc(){}
499
500 \renewcommand{\tocheadstart}){}
501 \renewcommand{\printtictitle}[1]{}}
502 \renewcommand{\tocmark}{}}
503 \renewcommand{\aftertictitle}{}}
504 \renewcommand{\lofheadstart}{}}
505 \renewcommand{\printloftitle}[1]{}}
506 \renewcommand{\lofmark}{}}
507 \renewcommand{\afterloftitle}{}}
508 \renewcommand{\lotheadstart}{}}
509 \renewcommand{\printlottitle}[1]{}}
510 \renewcommand{\lotmark}{}}
511 \renewcommand{\afterlottitle}{}}
512
513 \renewcommand*\setpnumwidth}[1]{}}
514 \renewcommand*\setrmarg}[1]{}}
515 \renewcommand*\cftbookbreak}{}}
516 \renewcommand*\cftpartbreak}{}}
517 \renewcommand*\cftchapterbreak}{}}

518 % \newlength{\cftbeforebookskip}
519 % \newlength{\cftbookindent}
520 % \newlength{\cftbooknumwidth}
521 \renewcommand*\cftbookfont}{}}
522 \renewcommand*\cftbookname}{}}
523 \renewcommand*\cftbookpresnum}{}}
524 \renewcommand*\cftbookaftersnum}{}}
525 \renewcommand*\cftbookaftersnumb}{}}
526 \renewcommand*\cftbookleader}{}}
527 \renewcommand*\cftbookdotsep}{1}
528 \renewcommand*\cftbookpagefont}{}}
529 \renewcommand*\cftbookafterpnum}{}}
530 \renewcommand*\cftbookformatpnum}[1]{}}
531 \renewcommand*\cftbookformatpnumhook}[1]{}}
```

Part is already defined by tocloft.

```
532 % \newlength{\cftbeforechapterskip}
533 % \newlength{\cftchapterindent}
534 % \newlength{\cftchapternumwidth}
535 \renewcommand*\cftchapterfont}{}}
536 \renewcommand*\cftchaptername}{}}
537 \renewcommand*\cftchapterpresnum}{}}
538 \renewcommand*\cftchapteraftersnum}{}}
539 \renewcommand*\cftchapteraftersnumb}{}}
540 \renewcommand*\cftchapterleader}{}}
541 \renewcommand*\cftchapterdotsep}{1}
```

```
542 \renewcommand*\{\cftchapterpagefont\}{}  
543 \renewcommand*\{\cftchapterafterpnum\}{}  
544 \renewcommand*\{\cftchapterformatpnum\}[1]{}  
545 \renewcommand*\{\cftchapterformatpnumhook\}[1]{}  
  
546 % \newlength{\cftbeforesections skip}  
547 % \newlength{\cftsection indent}  
548 % \newlength{\cftsectionnumwidth}  
549 \renewcommand*\{\cftsectionfont\}{}  
550 \renewcommand*\{\cftsectionname\}{}  
551 \renewcommand*\{\cftsectionpresnum\}{}  
552 \renewcommand*\{\cftsectionaftersnum\}{}  
553 \renewcommand*\{\cftsectionaftersnumb\}{}  
554 \renewcommand*\{\cftsectionleader\}{}  
555 \renewcommand*\{\cftsectiondotsep\}{1}  
556 \renewcommand*\{\cftsectionpagefont\}{}  
557 \renewcommand*\{\cftsectionafterpnum\}{}  
558 \renewcommand*\{\cftsectionformatpnum\}[1]{}  
559 \renewcommand*\{\cftsectionformatpnumhook\}[1]{}  
  
560 % \newlength{\cftbeforesubsections skip}  
561 % \newlength{\cftsubsection indent}  
562 % \newlength{\cftsubsectionnumwidth}  
563 \renewcommand*\{\cftsubsectionfont\}{}  
564 \renewcommand*\{\cftsubsectionname\}{}  
565 \renewcommand*\{\cftsubsectionpresnum\}{}  
566 \renewcommand*\{\cftsubsectionaftersnum\}{}  
567 \renewcommand*\{\cftsubsectionaftersnumb\}{}  
568 \renewcommand*\{\cftsubsectionleader\}{}  
569 \renewcommand*\{\cftsubsectiondotsep\}{1}  
570 \renewcommand*\{\cftsubsectionpagefont\}{}  
571 \renewcommand*\{\cftsubsectionafterpnum\}{}  
572 \renewcommand*\{\cftsubsectionformatpnum\}[1]{}  
573 \renewcommand*\{\cftsubsectionformatpnumhook\}[1]{}  
  
574 % \newlength{\cftbeforesubsubsections skip}  
575 % \newlength{\cftsubsubsection indent}  
576 % \newlength{\cftsubsubsubsectionnumwidth}  
577 \renewcommand*\{\cftsubsubsectionfont\}{}  
578 \renewcommand*\{\cftsubsubsectionname\}{}  
579 \renewcommand*\{\cftsubsubsectionpresnum\}{}  
580 \renewcommand*\{\cftsubsubsectionaftersnum\}{}  
581 \renewcommand*\{\cftsubsubsectionaftersnumb\}{}  
582 \renewcommand*\{\cftsubsubsectionleader\}{}  
583 \renewcommand*\{\cftsubsubsectiondotsep\}{1}  
584 \renewcommand*\{\cftsubsubsectionpagefont\}{}  
585 \renewcommand*\{\cftsubsubsectionafterpnum\}{}  
586 \renewcommand*\{\cftsubsubsectionformatpnum\}[1]{}  
587 \renewcommand*\{\cftsubsubsectionformatpnumhook\}[1]{}  
  
588 % \newlength{\cftbeforeparagraphskip}  
589 % \newlength{\cftp paragraph indent}  
590 % \newlength{\cftp paragraphnumwidth}  
591 \renewcommand*\{\cftp paragraphfont\}{}  
592 \renewcommand*\{\cftp paragraphname\}{}  
593 \renewcommand*\{\cftp paragraphpresnum\}{}  
594 \renewcommand*\{\cftp paragraphaftersnum\}{}  
595 \renewcommand*\{\cftp paragraphaftersnumb\}{}  
596 \renewcommand*\{\cftp paragraphdotsep\}{1}
```

```
594 \renewcommand*\{cftparagraphaftersnum}{}  
595 \renewcommand*\{cftparagraphaftersnumb}{}  
596 \renewcommand*\{cftparagraphleader}{}  
597 \renewcommand*\{cftparagraphdotsep}{1}  
598 \renewcommand*\{cftparagraphpagefont}{}  
599 \renewcommand*\{cftparagraphafterpnum}{}  
600 \renewcommand*\{cftparagraphformatpnum}[1]{}  
601 \renewcommand*\{cftparagraphformatpnumhook}[1]{}  
  
602 % \newlength{\cftbeforesubparagraphskip}  
603 % \newlength{\cftsubparagraphindent}  
604 % \newlength{\cftsubparagraphnumwidth}  
605 \renewcommand*\{cftsubparagraphfont}{}  
606 \renewcommand*\{cftsubparagraphname}{}  
607 \renewcommand*\{cftsubparagraphpresnum}{}  
608 \renewcommand*\{cftsubparagraphaftersnum}{}  
609 \renewcommand*\{cftsubparagraphaftersnumb}{}  
610 \renewcommand*\{cftsubparagraphleader}{}  
611 \renewcommand*\{cftsubparagraphdotsep}{1}  
612 \renewcommand*\{cftsubparagraphpagefont}{}  
613 \renewcommand*\{cftsubparagraphafterpnum}{}  
614 \renewcommand*\{cftsubparagraphformatpnum}[1]{}  
615 \renewcommand*\{cftsubparagraphformatpnumhook}[1]{}  
  
616 % \newlength{\cftbeforefigureskip}  
617 % \newlength{\cftfigureindent}  
618 % \newlength{\cftfigurenumwidth}  
619 \renewcommand*\{cftfigurefont}{}  
620 \renewcommand*\{cftfigurename}{}  
621 \renewcommand*\{cftfigurepresnum}{}  
622 \renewcommand*\{cftfigureaftersnum}{}  
623 \renewcommand*\{cftfigureaftersnumb}{}  
624 \renewcommand*\{cftfigureleader}{}  
625 \renewcommand*\{cftfiguredotsep}{1}  
626 \renewcommand*\{cftfigurepagefont}{}  
627 \renewcommand*\{cftfigureafterpnum}{}  
628 \renewcommand*\{cftfigureformatpnum}[1]{}  
629 \renewcommand*\{cftfigureformatpnumhook}[1]{}  
  
630 % \newlength{\cftbeforesubfigureskip}  
631 % \newlength{\cftsubfigureindent}  
632 % \newlength{\cftsubfigurenumwidth}  
633 \newcommand*\{cftsubfigurefont}{}  
634 \newcommand*\{cftsubfigurename}{}  
635 \newcommand*\{cftsubfigurepresnum}{}  
636 \newcommand*\{cftsubfigureaftersnum}{}  
637 \newcommand*\{cftsubfigureaftersnumb}{}  
638 \newcommand*\{cftsubfigureleader}{}  
639 \newcommand*\{cftsubfiguredotsep}{1}  
640 \newcommand*\{cftsubfigurepagefont}{}  
641 \newcommand*\{cftsubfigureafterpnum}{}  
642 \newcommand*\{cftsubfigureformatpnum}[1]{}  
643 \newcommand*\{cftsubfigureformatpnumhook}[1]{}  
  
644 % \newlength{\cftbeforetablesip}  
645 % \newlength{\cfttableindent}
```

```
646 % \newlength{\cfttablenumwidth}
647 \renewcommand*{\cfttablefont}{}
648 \renewcommand*{\cfttablename}{}
649 \renewcommand*{\cfttablepresnum}{}
650 \renewcommand*{\cfttableaftersnum}{}
651 \renewcommand*{\cfttableaftersnumb}{}
652 \renewcommand*{\cfttableleader}{}
653 \renewcommand*{\cfttabledotsep}{1}
654 \renewcommand*{\cfttablepagefont}{}
655 \renewcommand*{\cfttableafterpnum}{}
656 \renewcommand*{\cfttableformatpnum}[1]{}
657 \renewcommand*{\cfttableformatpnumhook}[1]{}

658 % \newlength{\cftbeforesubtableskip}
659 % \newlength{\cftsubtableindent}
660 % \newlength{\cftsubtablenumwidth}
661 \newcommand*{\cftsubtablefont}{}
662 \newcommand*{\cftsubtablename}{}
663 \newcommand*{\cftsubtablepresnum}{}
664 \newcommand*{\cftsubtableaftersnum}{}
665 \newcommand*{\cftsubtableaftersnumb}{}
666 \newcommand*{\cftsubtableleader}{}
667 \newcommand*{\cftsubtabledotsep}{1}
668 \newcommand*{\cftsubtablepagefont}{}
669 \newcommand*{\cftsubtableafterpnum}{}
670 \newcommand*{\cftsubtableformatpnum}[1]{}
671 \newcommand*{\cftsubtableformatpnumhook}[1]{}

672 \renewcommand*{\booknumberline}[1]{}
673 \renewcommand*{\partnumberline}[1]{}
674 \renewcommand*{\chapternumberline}[1]{}
675 \renewcommand*{\numberlinehook}[1]{}
676 % \renewcommand*{\cftwhatismyname}{}
677 \renewcommand*{\booknumberlinehook}[1]{}
678 \renewcommand*{\partnumberlinehook}[1]{}
679 \renewcommand*{\chapternumberlinehook}[1]{}
680 \renewcommand{\numberlinebox}[2]{}
681 \renewcommand{\booknumberlinebox}[2]{}
682 \renewcommand{\partnumberlinebox}[2]{}
683 \renewcommand{\chapternumberlinebox}[2]{}
684 %
685 % \newlength{\cftparskip}
686 \renewcommand*{\cftpagenumbersoff}[1]{}
687 \renewcommand*{\cftpagenumberson}[1]{}
688 \renewcommand*{\cftlocalchange}[3]{}
689 \renewcommand*{\cftaddtitleline}[4]{}
690 \renewcommand*{\cftaddnumtitleline}[4]{}
691 \renewcommand{\cftinsertcode}[2]{}
692 \renewcommand{\cftinserthook}[2]{}
693 \renewcommand{\settocpreprocessor}[2]{}
694 \DeclareRobustCommand{\cftpagenumbersoff}[1]{}
695 \DeclareRobustCommand{\cftpagenumberson}[1]{}
```

## § 629.11 **Floats and captions**

\@xfloat

\@xdblfloat Reestablish lwarf's takeover the float handing, which memoir tried to grab:

```

696 \AtBeginDocument{%
697 \def\xfloat #1[#2]{%
698   \LWR@floatbegin{#1}[#2]
699   \normalsize
700   \nameuse{#1adjustment}%
701   \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%
702 }%
703 \def\xdblfloat #1[#2]{%
704   \LWR@floatbegin{#1}[#2]
705   \normalsize
706   \nameuse{#1adjustment}%
707   \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%
708 }%
709 }

```

\newfloat [*1: within*] [*2: type*] [*3: ext*] [*4: capname*]

```

710 \RenewDocumentCommand{\newfloat}{o m m m}{%
711   \def\LWR@tempone{#4}%
712   \def\LWR@temptwo{\nameuse{#2name}}%
713   \ifdefequal{\LWR@tempone}{\LWR@temptwo}{% recursive name, already defined
714     \IfValueTF{#1}{%
715       {\DeclareFloatingEnvironment[fileext=#3,within=#1]{#2}}%
716       {\DeclareFloatingEnvironment[fileext=#3]{#2}}%
717     }{% not recursive name
718     \IfValueTF{#1}{%
719       {\DeclareFloatingEnvironment[fileext=#3,within=#1,name={#4}]{#2}}%
720       {\DeclareFloatingEnvironment[fileext=#3,name={#4}]{#2}}%
721     }%
722   }

```

**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.

```

722   \cslet{listof#2s}\relax%
723   \cslet{listof#2es}\relax%
724 }

```

\newlistof [*within*] [*type*] [*ext*] [*listofname*]

Emulated through the `\newfloat` mechanism. Note that `memoir` uses a different syntax than `tocloft` for the name.

```

725 \RenewDocumentCommand{\newlistof}{o m m m}{%
726 {%
727   \IfValueTF{#1}{%
728     {\newlistentry[#1]{#2}{#3}{0}}%
729     {\newlistentry[#2]{#3}{0}}%
730   \namedef{ext@#2}{#3}%
731   \ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
732   \setcounter{#3depth}{1}%
733   \namedef{#3mark}{}%
734   \namedef{#2}{\listof[#2]{#4}}%
735   \namedef{@cftmake#3title}{}%
736   \ifundefined{cftbefore#3titleskip}{%
737     \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
738   }

```

```

738      \expandafter\newlength\csname cftafter#3titleskip\endcsname%
739      }{ }%
740      \@namedef{cft#3titlefont}{ }%
741      \@namedef{cftafter#3title}{ }%
742      \@namedef{cft#3prehook}{ }%
743      \@namedef{cft#3posthook}{ }%
744 }

745 \renewcommand{\setfloatadjustment}[2]{}

```

Borrowed from the lwarp version of keyfloat:

```

746 \NewDocumentEnvironment{KFLTmemoir@marginfoat}{O{-1.2ex} m}
747 {%
748   \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{ }{marginblock}%
749   \renewcommand*{\@capttype}{#2}%
750 }
751 {%
752   \endLWR@BlockClassWP%
753 }
754
755 \DeclareDocumentEnvironment{marginfigure}{o}
756 { \begin{KFLTmemoir@marginfoat}{figure} }
757 { \end{KFLTmemoir@marginfoat} }

758 \DeclareDocumentEnvironment{margintable}{o}
759 { \begin{KFLTmemoir@marginfoat}{table} }
760 { \end{KFLTmemoir@marginfoat} }

762 \renewcommand{\setmarginfoatcaptionadjustment}[2]{}
763 \renewcommand{\setmpjustification}[2]{}
764 \renewcommand*{\mpjustification}{}%
765 \renewcommand*{\setfloatlocations}[2]{}
766 \DeclareDocumentCommand{\suppressfloats}{o} {}
767 \renewcommand*{\FloatBlock}{}%
768 \renewcommand*{\FloatBlockAllowAbove}{}%
769 \renewcommand*{\FloatBlockAllowBelow}{}%
770 \renewcommand*{\setFloatBlockFor}{}%
771
772 \renewcommand{\captiontitlefinal}[1]{}
773
774 \renewcommand{\flegtable}{\tablename}%
775 \renewcommand{\flegfigure}{\figurename}%
776 \renewcommand{\flegtoctable}{}%
777 \renewcommand{\flegtocfigure}{}%

778 \renewcommand{\makesubfloatcaption}[2]{%
779   \minipagefullwidth
780   \begin{minipage}{\linewidth}%
781     #1 \ignorespaces #2 \unskip%
782   \end{minipage}
783 }
784
785 \renewcommand*{\tightsubcaptions}{}%

```

```
786 \renewcommand*{\loosesubcaptions}{}
787
788 \renewcommand*{\subcaptionsize}[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 }
```

\sidenamelegend does not appear to use the toc argument.

```
820 \renewenvironment{sidenamelegend}[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 }
```

## § 629.12 Footnotes and page notes

```
849 \renewcommand*\{\feetabovefloat}{}
850 \renewcommand*\{\feetbelowfloat}{}
851 \renewcommand*\{\feetatbottom}{}
852
853 \renewcommand*\{\verbfootnote}[2][]{%
854     \PackageError{l warp,memoir}%
855     {Verbatim footnotes are not yet supported by l warp}%
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{l warp,memoir}%
867     {Memoir footnote series are not yet supported by l warp}%
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*\{\setsidefooheight}[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` print 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}%
942     \def\@currentlabel{\@firstoftwo#1}%
943     \def\cref{\@currentlabel{%
944       [pagenote][\@secondoftwo#1][]\@firstoftwo#1}%
945     }%
946   }{%
947   \pnoteanchor{#4}%
948   \pageinnotes{#3}%
949   \pnotetext%
950 }

```

### § 629.13 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(){}

```

### § 629.14 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*\printPoemTitlenonum{}%

```

---

```

975 \renewcommand*\{\printPoemTitlenum\}{}  

976 \renewcommand*\{\afterPoemTitlenum\}{}  

977 \renewcommand*\{\printPoemTitletitle\}[1]{}  

978 \renewcommand*\{\afterPoemTitle\}{}  

979 \newlength{\midpoemtitleskip}  

980 \renewcommand*\{\PoemTitlenumfont\}{}  

981 \renewcommand*\{\PoemTitlefont\}{}  


```

### § 629.15 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*\{\bvtopmidhook\}{}  

999 \renewcommand*\{\bvdrrulehook\}{}  

1000 \renewcommand*\{\bvleftsidehook\}{}  

1001 \renewcommand*\{\bvrightrightsidehook\}{}  

1002 \renewcommand*\{\bvxperpagetrue\}{}  

1003 \renewcommand*\{\bvxperpagefalse\}{}  

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*\{\bvnumbersinside\}{}  

1011 \renewcommand*\{\bvnumbersoutside\}{}  


```

### § 629.16 Cross referencing

```

1012 \renewcommand*\{\fref\}[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*\{\$ref}[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\titleref\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}{}%

```

### § 629.17 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@m{\@idxfile}{#1}{\thepage}}%
1050         {\string\@wrindexm@m{\@idxfile}{#1}{\arabic{LWR@autoindex}}}%
1051     \endgroup
1052     \@esphack}%

```

\@wrspindexhyp \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\@wrspindexhyp#1|||\{%
1054     \addtocounter{LWR@autoindex}{1}%
1055     \label{LWRindex-\arabic{LWR@autoindex}}%
1056 %     \ifshowindexmark\@showidx{#1}\fi
1057     \protected@write\@auxout{%
1058         {\string\@wrindexm@m{\@idxfile}{#1}{\@nameuse{the\@sptheadidx}}}%
1059         {\string\@wrindexm@m{\@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 \renewcommand*{\xindyindex}{}%
```

### § 629.18 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][]{}

```

### § 629.19 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{\midbicaption}[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 }
1167
1168 \renewcommand{\newfixedcaption}[3][\caption]{%
1169   \renewcommand{#2}{\def@\capttype{#3}{#1}}
1170 \renewcommand{\renewfixedcaption}[3][\caption]{%
1171   \renewcommand{#2}{\def@\capttype{#3}{#1}}
1172 \renewcommand{\providefixedcaption}[3][\caption]{%
1173   \providecommand{#2}{\def@\capttype{#3}{#1}}
1174
1175 \renewcommand{\bitwounumcaption}[6][]{%
1176   \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1177   \addtocounter{@capttype}{-1}%
1178   \begingroup%
1179   \csdef{@capttype name}{#4}%
1180   \ifblank{#5}{\caption{#6}}{\caption[#5]{#6}}%
1181   \endgroup%
1182   \ifblank{#1}{}{\label{#1}}%
1183 }
1184
1185 \LetLtxMacro\bionenumcaption\bitwounumcaption% todo
1186
1187 \renewcommand{\bicaption}[5][]{%
1188   \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1189   \begin{LWR@figcaption}% later becomes \caption*
1190   \LWR@isolate{#4} % space
1191   \thechapter.\the\value{@capttype}\CaptionSeparator\LWR@isolate{#5}%
1192   \end{LWR@figcaption}%
1193   \ifblank{#1}{}{\label{#1}}%
1194 }
1195
1196 \renewcommand{\bicontcaption}[3]{%
1197   \contcaption{#1}%
1198   \begingroup%
1199   \csdef{@capttype name}{#2}%
1200   \contcaption{#3}%

```

```

1201      \endgroup%
1202 }

1203 % only in ccaption, not in memoir:
1204 % \LetLtxMacro\longbitwonumcaption\bitwonumcaption%
1205 % \LetLtxMacro\longbionenumcaption\bitwonumcaption%
1206 % \LetLtxMacro\longbicaption\bicaption%

```

Patches for subfloats to support additional **lwarp** labels:

```

1207 \renewcommand{\@memsubbody}{%
1208   \bgroup
1209   \let\label=\memsub@label
1210   \ifdonemaincaption\else
1211     \advance\csname c@\@capttype\endcsname\@ne
1212   \fi
1213   % \refstepcounter{sub@\capttype}\@contkeep%
1214 %   \leavevmode%           lwarp
1215   \@ifnextchar[%
1216     {\@memsubfig}%
1217     {\@memsubfig[\@empty]}}
1218
1219 \renewcommand{\@memcontsubbody}{%
1220   \bgroup
1221   \let\label=\memsub@label
1222   \@contset
1223   % \refstepcounter{sub@\capttype}\@contkeep%
1224 %   \leavevmode%           lwarp
1225   \@ifnextchar[%
1226     {\@memsubfig}%
1227     {\@memsubfig[\@empty]}}
1228
1229
1230 \long\def\@memsubfloat#1[#2][#3]#4{%
1231 %   \tempcnta=\@ne
1232 %   \if@tightsubcap
1233 %     \if@minipage
1234 %       \tempcnta=\z@
1235 %     \else
1236 %       \ifdim\lastskip=\z@
1237 %         \tempcnta=\@ne
1238 %       \else
1239 %         \tempcnta=\tw@
1240 %       \fi
1241 %     \fi
1242 %   \fi
1243 %   \if@contbotsub
1244 %     \def\subfig@top{\subfloattopskip}%
1245 %     \def\subfig@bottom{\subfloatbottomskip}%
1246 %   \else
1247 %     \def\subfig@top{\subfloatbottomskip}%
1248 %     \def\subfig@bottom{\subfloattopskip}%
1249 %   \fi
1250 %   \setbox\tempboxa\hbox{#4}%
1251 %   \tempdima=\wd\tempboxa
1252 %   \vbox

```

```

1253 \bgroup%
1254   \mem@step@subcounter%
1255 %   \vbox
1256   \LWR@stoppars%
1257   \minipagefullwidth%           l warp
1258   \begin{minipage}{\linewidth}%    l warp
1259   \bgroup
1260 %     \ifcase\@tempcnta
1261 %       \@minipagefalse
1262 %       \or
1263 %         \vspace{\subfig@top}
1264 %       \or
1265 %         \ifdim \lastskip=\z@ \else
1266 %           \tempskipb\subfig@top\@xaddvskip
1267 %         \fi
1268 %       \fi
1269   \if@contbotsub
1270     #4% \box@\tempboxa
1271   \egroup
1272   \ifx \empty#3\relax \else
1273     \vskip\subfloatcapskip
1274     \@memsubcaption{#1}{#2}{#3}%
1275   \fi
1276 \else
1277   \ifx \empty#3\relax \else
1278     \@memsubcaption{#1}{#2}{#3}%
1279   \vskip\subfloatcapskip
1280   \vskip\subfloatcaptionadj
1281   \fi\egroup
1282   #4% \box@\tempboxa
1283 \fi
1284 %   \vspace{\subfig@bottom}
1285 \end{minipage}%                  l warp
1286 \LWR@startpars%                l warp
1287 \egroup
1288 \egroup
1289 }

```

## § 629.20 Final patchwork

```

1290 \newlistof{tableofcontents}{toc}{\contentsname}
1291 \newlistof{listoffigures}{lof}{\listfigurename}
1292 \newlistof{listoftables}{lot}{\listtablename}

```

File 524 **l warp-common-multimedia.sty**

## § 630 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.

\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 \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}{\Vviewport}
35   }{%
36     \begin{BlockClass}[\LWR@multimedia@printsize\ margin:auto]{\Vviewport}
37   }

```

Paragraph tags are unnecessary for the A/v tags.

```
38 \LWR@stopars
```

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@orignewline

```

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     \ifstreq{\#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         \ifstreq{\#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{}\textquotedbl\ % space
80         type=\textquotedbl{}\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@multimediac.

\LWR@multimedia@percenterror

```

108 \newcommand*{\LWR@multimedia@percenterror}{%
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@multimediac [⟨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@multimediac}[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@stoppars%
```

Record the desired size.

```

124      \setlength{\LWR@multimedia@width}{0pt}%
125      \setlength{\LWR@multimedia@height}{0pt}%
126      \setkeys*{\LWR@multimedia}{#1}%
```

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}{} unknown format
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@multimediacatcode%
144 }
```

---

### File 525 lwarf-common-mathjax-letters.sty

## § 631 Package **common-mathjax-letters**

Pkg Common code used by a number of packages to generate Greek math characters for  
lwarf-common-mathjax-letters MATHJAX.

for HTML output: 1 \ProvidesPackage{lwarf-common-mathjax-letters}[2020/08/10]

```
\LWR@mathjax@addletter * {\langle 2: capitalize name? \rangle} {\langle 3: prefix \rangle} {\langle 4: postfix \rangle} {\langle 5: name \rangle} {\langle 6: 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\LWR@tempone{\LWRtexttitlecase{#5}}\%}
7     {\edef\LWR@tempone{#5}\%}
8   \xdef\LWR@customizedMathJax{%
9     \LWR@customizedMathJax\%
10    \LWRbackslash\%
11    \LWRbackslash newcommand\LWRleftbrace\LWRbackslash\%
12    #3\% prefix
13    \LWR@tempone%name
14    #4\% postfix
15    \LWRrightbrace\LWRleftbrace\%
16  }%
17  \IfBooleanTF{#1}{%
18    \xdef\LWR@customizedMathJax{%
19      \LWR@customizedMathJax\%
20      \LWRbackslash mathit\LWRleftbrace\%
21      \LWRbackslash unicode\LWRleftbrace x\#6\LWRrightbrace\%
22      \LWRrightbrace\%
23    }%
24  }{%
25    \xdef\LWR@customizedMathJax{%
26      \LWR@customizedMathJax\%
27      \LWRbackslash unicode\LWRleftbrace x\#6\LWRrightbrace\%
28    }%
29  }%
30  \xdef\LWR@customizedMathJax{%
31    \LWR@customizedMathJax\%
32    \LWRrightbrace\backslash\LWRbackslash)\par\%
33  }%
34 }
```

```
* {\langle 2: prefix \rangle} {\langle 3: postfix \rangle}
```

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}{gamma}{03B3}
39   \LWR@mathjax@addletter{#1}{#2}{#3}{digamma}{03DD}
40   \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{03B4}
41   \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{03F5}
42   \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{03B5}
43   \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{03B6}
44   \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{03B7}
45   \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{03B8}
46   \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{03D1}
```

```

47  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{03B9}
48  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{03BA}
49  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varkappa}{03F0}
50  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{03BB}
51  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{03BC}
52  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{03BD}
53  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{03BE}
54  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{03BF}
55  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{03C0}
56  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varpi}{03D6}
57  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{03C1}
58  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varrho}{03F1}
59  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{03C3}
60  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varsigma}{03C2}
61  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{03C4}
62  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{03C5}
63  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{03D5}
64  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varphi}{03C6}
65  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{03C7}
66  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{03C8}
67  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{03C9}
68 }

```

\* {<2: prefix>} {<3: postfix>}

Star to capitalize the macro names.

Adds `\CustomizeMathjax` expressions to define a set of macros for Greek letters, uppercase upright.

```

69 \NewDocumentCommand{\LWR@mathjax@addgreek@u@up}{s m m}{
70   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{0391}
71   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{0392}
72   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{0393}
73   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{digamma}{03DC}
74   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{0394}
75   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{0395}
76   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{0396}
77   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{0397}
78   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{0398}
79   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{03F4}
80   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{0399}
81   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{039A}
82   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{039B}
83   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{039C}
84   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{039D}
85   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{039E}
86   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{039F}
87   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{03A0}
88   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varpi}{03D6}
89   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{03A1}
90   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{03A3}
91   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{03A4}
92   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{03A5}
93   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{03A6}
94   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{03A7}

```

```

95   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{03A8}
96   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{03A9}
97 }

```

\* {⟨2: prefix⟩} {⟨3: postfix⟩}

\LWR@mathjax@addgreek@l@it  
Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase italic.

```

98 \NewDocumentCommand{\LWR@mathjax@addgreek@l@it}{s m m}{
99   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{1D6FC}
100  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{1D6FD}
101  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{1D6FE}
102  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{digamma}{03DD}
103  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{1D6FF}
104  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{1D716}
105  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varepsilon}{1D700}
106  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{1D701}
107  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{1D702}
108  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{1D703}
109  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{1D717}
110  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{1D704}
111  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{1D705}
112  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varkappa}{1D718}
113  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{1D706}
114  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{1D707}
115  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{1D708}
116  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{1D709}
117  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{1D70A}
118  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{1D70B}
119  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varpi}{1D71B}
120  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{1D70C}
121  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varrho}{1D71A}
122  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{1D70E}
123  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varsigma}{1D70D}
124  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{1D70F}
125  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{1D710}
126  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{1D719}
127  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varphi}{1D711}
128  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{1D712}
129  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{1D713}
130  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{1D714}
131 }

```

\* {⟨2: prefix⟩} {⟨3: postfix⟩}

\LWR@mathjax@addgreek@u@it  
Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase italic.

```

132 \NewDocumentCommand{\LWR@mathjax@addgreek@u@it}{s m m}{
133   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{1D6E2}
134   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{1D6E3}
135   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{1D6E4}

```

```

136  \LWR@mathjax@addletter*{\#1}{\#2}{\#3}{digamma}{03DC}
137  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{1D6E5}
138  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{1D6E6}
139  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{1D6E7}
140  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{1D6E8}
141  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{1D6E9}
142  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{1D6F3}
143  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{1D6EA}
144  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{1D6EB}
145  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{1D6EC}
146  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{1D6ED}
147  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{1D6EE}
148  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{1D6EF}
149  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{1D6F0}
150  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{1D6F1}
151  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{1D6F2}
152  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{1D6F4}
153  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{1D6F5}
154  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{1D6F6}
155  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{1D6F7}
156  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{1D6F8}
157  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{1D6F9}
158  \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{1D6FA}
159 }

```

\* {<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.

```

160 \NewDocumentCommand{\LWR@mathjax@addgreek@l@bfit}{s m m}{
161   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{1D736}
162   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{1D737}
163   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{1D738}
164   \LWR@mathjax@addletter*{\#1}{\#2}{\#3}{digamma}{03DD}
165   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{1D739}
166   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{1D750}
167   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varepsilon}{1D73A}
168   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{1D73B}
169   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{1D73C}
170   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{1D73D}
171   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{1D751}
172   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{1D73E}
173   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{1D73F}
174   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varkappa}{1D752}
175   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{1D740}
176   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{1D741}
177   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{1D742}
178   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{1D743}
179   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{1D744}
180   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{1D745}
181   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varpi}{1D755}
182   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{1D746}
183   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varrho}{1D754}

```

```

184   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{1D748}
185   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varsigma}{1D747}
186   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{1D749}
187   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{1D74A}
188   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{1D753}
189   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varphi}{1D74B}
190   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{1D74C}
191   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{1D74D}
192   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{1D74E}
193 }
```

\* {<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.

```

194 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfit}{s m m}{
195   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{1D71C}
196   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{1D71D}
197   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{1D71E}
198   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{digamma}{03DC}
199   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{1D71F}
200   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{1D720}
201   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{1D721}
202   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{1D722}
203   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{1D723}
204   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{1D72D}
205   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{1D724}
206   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{1D725}
207   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{1D726}
208   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{1D727}
209   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{1D728}
210   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{1D729}
211   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{1D72A}
212   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{1D72B}
213   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{1D72C}
214   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{1D72E}
215   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{1D72F}
216   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{1D730}
217   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{1D731}
218   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{1D732}
219   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{1D733}
220   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{1D734}
221 }
```

\* {<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.

```

222 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfup}{s m m}{
223   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{1D6A8}
224   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{1D6A9}
```

```

225   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{1D6AA}
226   \LWR@mathjax@addletter*{\#1}{\#2}{\#3}{digamma}{03DC}
227   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{1D6AB}
228   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{1D6AC}
229   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{1D6AD}
230   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{1D6AE}
231   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{1D6AF}
232   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{1D6B9}
233   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{1D6B0}
234   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{1D6B1}
235   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{1D6B2}
236   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{1D6B3}
237   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{1D6B4}
238   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{1D6B5}
239   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{1D6B6}
240   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{1D6B7}
241   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{1D6B8}
242   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{1D6BA}
243   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{1D6BB}
244   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{1D6BC}
245   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{1D6BD}
246   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{1D6BE}
247   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{1D6BF}
248   \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{1D6C0}
249 }

```

{*prefix*}

Adds \CustomizeMathjax expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

250 \NewDocumentCommand{\LWR@mathjax@addlatin@u@bfit}{m}{
251   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}A\}{1D468}
252   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}B\}{1D469}
253   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}C\}{1D46A}
254   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}D\}{1D46B}
255   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}E\}{1D46C}
256   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}F\}{1D46D}
257   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}G\}{1D46E}
258   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}H\}{1D46F}
259   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}I\}{1D470}
260   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}J\}{1D471}
261   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}K\}{1D472}
262   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}L\}{1D473}
263   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}M\}{1D474}
264   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}N\}{1D475}
265   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}O\}{1D476}
266   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}P\}{1D477}
267   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}Q\}{1D478}
268   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}R\}{1D479}
269   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}S\}{1D47A}
270   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}T\}{1D47B}
271   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}U\}{1D47C}
272   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}V\}{1D47D}
273   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}W\}{1D47E}
274   \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{}X\}{1D47F}

```

```

275   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{Y}{1D480}
276   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{Z}{1D481}
277 }

```

$\langle prefix \rangle$

Adds `\CustomizeMathjax` expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

278 \NewDocumentCommand{\LWR@mathjax@addlatin@l@bfit}{m}{
279   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{a}{1D482}
280   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{b}{1D483}
281   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{c}{1D484}
282   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{d}{1D485}
283   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{e}{1D486}
284   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{f}{1D487}
285   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{g}{1D488}
286   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{h}{1D489}
287   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{i}{1D48A}
288   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{j}{1D48B}
289   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{k}{1D48C}
290   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{l}{1D48D}
291   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{m}{1D48E}
292   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{n}{1D48F}
293   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{o}{1D490}
294   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{p}{1D491}
295   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{q}{1D492}
296   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{r}{1D493}
297   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{s}{1D494}
298   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{t}{1D495}
299   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{u}{1D496}
300   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{v}{1D497}
301   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{w}{1D498}
302   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{x}{1D499}
303   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{y}{1D49A}
304   \LWR@mathjax@addletter{\BooleanFalse}{#1}{}{z}{1D49B}
305 }

```

```
306 \end{warpMathJax}
```

File 526 **lwarp-common-mathjax-newpxtxmath.sty**

§ 632 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}[2020/08/31]

For MATHJAX:

```
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
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}}}}
11
12 \CustomizeMathJax{\let\llbracket[]% single only}
13 \CustomizeMathJax{\let\rrbracket[]% single only}
14 \CustomizeMathJax{\let\lBrack=\llbracket}% single only
15 \CustomizeMathJax{\let\rBrack=\rrbracket}% single only
16 \CustomizeMathJax{\let\smlbrace{}}
17 \CustomizeMathJax{\let\smrbrace{}}
18 \CustomizeMathJax{\newcommand{\P}{\mathrel{\!\!unicode{x02AEB}}}}
19 \CustomizeMathJax{\newcommand{\n}{\mathrel{\!\!\not\!unicode{x02AEB}}}}
20 \CustomizeMathJax{\newcommand{\Lambda}{\lambda}}
21     \mathord{\LWRoverlaysymbols{\raise{.5ex}{-}}{\lambda}}
22 }
23 \CustomizeMathJax{\newcommand{\LambdaDash}{\mathord{\!\!unicode{x019B}}}}
24 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\!\!unicode{x01B5}}}}
25 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\!\!unicode{x212B}}}}
26 \CustomizeMathJax{\newcommand{\Euler}{\mathord{\!\!unicode{x2107}}}}
27 \CustomizeMathJax{\newcommand{\transp}{\mathord{\!\!unicode{xFF34}}}}
28 \CustomizeMathJax{\newcommand{\hermtransp}{\mathord{\!\!unicode{xFF28}}}}
29 \CustomizeMathJax{\let\htransp=\hermtransp}
30 \CustomizeMathJax{\newcommand{\circledplus}{\mathbin{\!\!unicode{x2295}}}}
31 \CustomizeMathJax{\newcommand{\circledminus}{\mathbin{\!\!unicode{x2296}}}}
32 \CustomizeMathJax{\newcommand{\circledtimes}{\mathbin{\!\!unicode{x2297}}}}
33 \CustomizeMathJax{\newcommand{\circleddot}{\mathbin{\!\!unicode{x2299}}}}
34 \CustomizeMathJax{\let\overgroup\overparen}
35 \CustomizeMathJax{\let\overgroupr\overrightarrow}
36 \CustomizeMathJax{\let\undergroup\underparen}
37 \CustomizeMathJax{\let\undergroupl\overleftarrow}
38 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\!\!unicode{x2218}}{\overgroup{#1}}}}
39 \CustomizeMathJax{\let\widearc\overparen}
40 \CustomizeMathJax{\let\wideOarc\overrightarrow}
41 \CustomizeMathJax{\newcommand{\LWRvstar}[2]{\overrightarrow{#1}_{#2}}}
42 \CustomizeMathJax{\newcommand{\vv}{\ifstar{\LWRvstar}{\overrightarrow{}}}}
43 %
44 \CustomizeMathJax{\let\smallintsl\smallint}
45 \CustomizeMathJax{\newcommand{\smallintsl}{\mathop{\!\!unicode{x222C}}}}
46 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\!\!unicode{x222D}}}}
47 \CustomizeMathJax{\newcommand{\smalliiiintsl}{\mathop{\!\!unicode{x2A0C}}}}
48 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\!\!unicode{x222E}}}}
49 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\!\!unicode{x222F}}}}
50 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\!\!unicode{x2230}}}}
51 \CustomizeMathJax{\newcommand{\smallvarointclockwisesl}{\mathop{\!\!unicode{x2232}}}}
52 \CustomizeMathJax{\newcommand{\smallointctrclockwisesl}{\mathop{\!\!unicode{x2233}}}}
53 \CustomizeMathJax{\newcommand{\smallsumintsl}{\mathop{\!\!unicode{x2A0B}}}}
54 \CustomizeMathJax{\newcommand{\smallfintsl}{\mathop{\!\!unicode{x2A0F}}}}
55 \CustomizeMathJax{\newcommand{\smallqintsl}{\mathop{\!\!unicode{x2A16}}}}
56 %
```

```
57 \CustomizeMathJax{\let\smallintup\smallint}
58 \CustomizeMathJax{\newcommand{\smallintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222C\}}}}
59 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222D\}}}}
60 \CustomizeMathJax{\newcommand{\smalliiiintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0C\}}}}
61 \CustomizeMathJax{\newcommand{\smalllointup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222E\}}}}
62 \CustomizeMathJax{\newcommand{\smallloointup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222F\}}}}
63 \CustomizeMathJax{\newcommand{\smallloiiintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2230\}}}}
64 \CustomizeMathJax{\newcommand{\smallvarointclockwiseup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2232\}}}}
65 \CustomizeMathJax{\newcommand{\smallointctr-clockwiseup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2233\}}}}
66 \CustomizeMathJax{\newcommand{\smallsumintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0B\}}}}
67 \CustomizeMathJax{\newcommand{\smallfintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0F\}}}}
68 \CustomizeMathJax{\newcommand{\smallsqintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A16\}}}}
69 %
70 \CustomizeMathJax{\newcommand{\iint}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222C\}}}}
71 \CustomizeMathJax{\newcommand{\iiint}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222D\}}}}
72 \CustomizeMathJax{\newcommand{\iiiint}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0C\}}}}
73 \CustomizeMathJax{\newcommand{\oint}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222F\}}}}
74 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2230\}}}}
75 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2232\}}}}
76 \CustomizeMathJax{\newcommand{\ointctr-clockwise}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2233\}}}}
77 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0B\}}}}
78 \CustomizeMathJax{\newcommand{\fint}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0F\}}}}
79 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A16\}}}}
80 %
81 \CustomizeMathJax{\let\intsl\int}
82 \CustomizeMathJax{\newcommand{\iintsl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222C\}}}}
83 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222D\}}}}
84 \CustomizeMathJax{\newcommand{\iiiintsl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0C\}}}}
85 \CustomizeMathJax{\let\ointsl\oint}
86 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222F\}}}}
87 \CustomizeMathJax{\newcommand{\oiointsl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2230\}}}}
88 \CustomizeMathJax{\newcommand{\varointclockwisesl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2232\}}}}
89 \CustomizeMathJax{\newcommand{\ointctr-clockwisesl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2233\}}}}
90 \CustomizeMathJax{\newcommand{\sumintsl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0B\}}}}
91 \CustomizeMathJax{\newcommand{\fintsl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0F\}}}}
92 \CustomizeMathJax{\newcommand{\sqintsl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A16\}}}}
93 %
94 \CustomizeMathJax{\let\intup\int}
95 \CustomizeMathJax{\newcommand{\iintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222C\}}}}
96 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222D\}}}}
97 \CustomizeMathJax{\newcommand{\iiiintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0C\}}}}
98 \CustomizeMathJax{\let\ointup\oint}
99 \CustomizeMathJax{\newcommand{\ointup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222F\}}}}
100 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2230\}}}}
101 \CustomizeMathJax{\newcommand{\varointclockwiseup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2232\}}}}
102 \CustomizeMathJax{\newcommand{\ointctr-clockwiseup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2233\}}}}
103 \CustomizeMathJax{\newcommand{\sumintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0B\}}}}
104 \CustomizeMathJax{\newcommand{\fintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0F\}}}}
105 \CustomizeMathJax{\newcommand{\sqintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A16\}}}}
106 %
107 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A03\}}}}
108 \CustomizeMathJax{\newcommand{\bignplus}{%
109   \mathop{\text{\LWRoverlaysymbols}}\{\\text{\scriptsize\texttt{unicode}}\{xFF0B\}\\text{\scriptsize\texttt{unicode}}\{x22C2\}\}%
110 }%
111 \CustomizeMathJax{\let\bigcapplus\bignplus}
```

```
112 \CustomizeMathJax{\newcommand{\bigcupplus}{\mathop{\backslash unicode{x2A04}}}}
113 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\backslash unicode{x2A05}}}}
114 \CustomizeMathJax{\newcommand{\bigsqcapplus}{%
115     \mathop{\backslash LWRoverlaysymbols{\backslash unicode{xFF0B}}{\backslash unicode{x2A05}}}}
116 }}
117 \CustomizeMathJax{\newcommand{\bigsqcupplus}{%
118     \mathop{\backslash LWRoverlaysymbols{\backslash unicode{xFF0B}}{\backslash unicode{x2A06}}}}
119 }}
120 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\backslash unicode{x2A09}}}}
121 \CustomizeMathJax{\let\varprod\bigtimes}
122 %
123 \CustomizeMathJax{\newcommand{\mappedfrom}{\mathrel{\backslash unicode{x021A4}}}}
124 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\backslash unicode{x021A4}}}}
125 \CustomizeMathJax{\newcommand{\longmappedfrom}{\mathrel{\backslash unicode{x027FB}}}}
126 %
127 \CustomizeMathJax{\newcommand{\Mapsto}{\mathrel{\backslash unicode{x02907}}}}
128 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\backslash unicode{x027FE}}}}
129 \CustomizeMathJax{\newcommand{\Mappedfrom}{\mathrel{\backslash unicode{x02906}}}}
130 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathrel{\backslash unicode{x02906}}}}
131 \CustomizeMathJax{\newcommand{\Longmappedfrom}{\mathrel{\backslash unicode{x27FD}}}}
132 %
133 \CustomizeMathJax{\newcommand{\mmapsto}{\mathrel{\backslash unicode{x02905}}}}
134 \CustomizeMathJax{\newcommand{\longmmapsto}{\mathrel{\backslash unicode{x02905}}}}
135 \CustomizeMathJax{\newcommand{\mmappedfrom}{\mathrel{\backslash unicode{x021A4}}}}% x02B36
136 \CustomizeMathJax{\newcommand{\longmmappedfrom}{\mathrel{\backslash unicode{x021A4}}}}% x02B36
137 %
138 \CustomizeMathJax{\newcommand{\Mmapsto}{\mathrel{\backslash unicode{x02907}}}}
139 \CustomizeMathJax{\newcommand{\Longmmapsto}{\mathrel{\backslash unicode{x027FE}}}}
140 \CustomizeMathJax{\newcommand{\Mmappedfrom}{\mathrel{\backslash unicode{x02906}}}}
141 \CustomizeMathJax{\newcommand{\Longmmappedfrom}{\mathrel{\backslash unicode{x27FD}}}}
142 %
143 \CustomizeMathJax{\newcommand{\medcirc}{\mathbin{\backslash unicode{x025CB}}}}
144 \CustomizeMathJax{\newcommand{\medbullet}{\mathbin{\backslash unicode{x025CF}}}}
145 \CustomizeMathJax{\newcommand{\varparallel}{\mathrel{\backslash unicode{x02AFD}}}}
146 \CustomizeMathJax{\newcommand{\varparallelinv}{\mathrel{\backslash unicode{x244A}}}}
147 \CustomizeMathJax{\newcommand{\nvarparallel}{\mathrel{\backslash LWRoverlaysymbols{-}{\backslash unicode{x02AFD}}}}}
148 \CustomizeMathJax{\newcommand{\nvarparallelinv}{\mathrel{\backslash LWRoverlaysymbols{-}{\backslash unicode{x244A}}}}}
149 %
150 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{:approx}}}
151 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{:sim}}}
152 \CustomizeMathJax{\newcommand{\Colonapprox}{\mathrel{\backslash unicode{x2237}\approx}}}
153 \CustomizeMathJax{\newcommand{\Colonsim}{\mathrel{\backslash unicode{x2237}\sim}}}
154 %
155 \CustomizeMathJax{\newcommand{\multimapinv}{\mathrel{\backslash unicode{x027DC}}}}
156 \CustomizeMathJax{\newcommand{\multimapboth}{\mathrel{\backslash unicode{x029DF}}}}
157 \CustomizeMathJax{\newcommand{\multimapdot}{\mathrel{-!\bullet}}}
158 \CustomizeMathJax{\newcommand{\multimapdotinv}{\mathrel{\bullet!-}}}
159 \CustomizeMathJax{\newcommand{\multimapdotboth}{\mathrel{\bullet\!\!-\!\!\!\bullet}}}
160 \CustomizeMathJax{\newcommand{\multimapdotbothA}{\mathrel{\backslash unicode{x022B6}}}}
161 \CustomizeMathJax{\newcommand{\multimapdotbothB}{\mathrel{\backslash unicode{x22B7}}}}
162 %
163 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\backslash unicode{x22AB}}}}
164 \CustomizeMathJax{\newcommand{\VvDash}{\mathrel{\backslash unicode{x22AA}}}}
165 %
166 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\backslash unicode{x02AB3}}}}
```

```
167 \CustomizeMathJax{\newcommand{\succceqq}{\mathrel{\text{\scriptsize\texttt{\\unicode{x02AB4}}}}}}
168 %
169 \CustomizeMathJax{\newcommand{\nprecsim}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x0227E}}}}}}}
170 \CustomizeMathJax{\newcommand{\nsuccsim}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x0227F}}}}}}}
171 \CustomizeMathJax{\newcommand{\nlesssim}{\mathrel{\text{\scriptsize\texttt{\\unicode{x02274}}}}}}
172 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\text{\scriptsize\texttt{\\unicode{x02275}}}}}}
173 \CustomizeMathJax{\newcommand{\nlessapprox}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x02A85}}}}}}}
174 \CustomizeMathJax{\newcommand{\ngtrapprox}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x02A86}}}}}}}
175 %
176 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x0227C}}}}}}}
177 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x0227D}}}}}}}
178 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\text{\scriptsize\texttt{\\unicode{x02279}}}}}}
179 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\text{\scriptsize\texttt{\\unicode{x2278}}}}}}
180 \CustomizeMathJax{\newcommand{\nbumpeq}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x0224F}}}}}}}
181 \CustomizeMathJax{\newcommand{\nBumpeq}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x0224E}}}}}}}
182 %
183 \CustomizeMathJax{\newcommand{\nbacksim}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x0223D}}}}}}}
184 \CustomizeMathJax{\newcommand{\nbacksimeq}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x022CD}}}}}}}
185 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\text{\scriptsize\texttt{\\unicode{x226D}}}}}}
186 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\text{\scriptsize\texttt{\\unicode{x2262}}}}}}
187 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\text{\scriptsize\texttt{\\unicode{x2249}}}}}}
188 %
189 \CustomizeMathJax{\newcommand{\nll}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x0226A}}}}}}}
190 \CustomizeMathJax{\newcommand{\ngg}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x0226B}}}}}}}
191 \CustomizeMathJax{\newcommand{\nthickapprox}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\mathbf{\{\\unicode{x02248}\}}}}}}}}
192 %
193 } }
194 \CustomizeMathJax{\newcommand{\napproxeq}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x0224A}}}}}}}
195 \CustomizeMathJax{\newcommand{\nprecapprox}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x02AB7}}}}}}}
196 \CustomizeMathJax{\newcommand{\nsuccapprox}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x02AB8}}}}}}}
197 \CustomizeMathJax{\newcommand{\npreceqq}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x02AB3}}}}}}}
198 \CustomizeMathJax{\newcommand{\nsuccceqq}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x02AB4}}}}}}}
199 \CustomizeMathJax{\newcommand{\nsimeq}{\mathrel{\text{\scriptsize\texttt{\\unicode{x02244}}}}}}
200 %
201 \CustomizeMathJax{\newcommand{\nSubset}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x022D0}}}}}}}
202 \CustomizeMathJax{\newcommand{\nSupset}{\mathrel{\text{\scriptsize\texttt{\\LWRoverlaysymbols{/}{\\unicode{x022D1}}}}}}}
203 \CustomizeMathJax{\newcommand{\nsqsubseteq}{\mathrel{\text{\scriptsize\texttt{\\unicode{x022E2}}}}}}
204 \CustomizeMathJax{\newcommand{\nsqsupseteq}{\mathrel{\text{\scriptsize\texttt{\\unicode{x022E3}}}}}}
205 %
206 \CustomizeMathJax{\newcommand{\coloneqq}{\mathrel{\text{\scriptsize\texttt{\\unicode{x02254}}}}}}
207 \CustomizeMathJax{\newcommand{\eqqcolon}{\mathrel{\text{\scriptsize\texttt{\\unicode{x02255}}}}}}
208 \CustomizeMathJax{\newcommand{\Coloneqq}{\mathrel{\text{\scriptsize\texttt{\\unicode{x02A74}}}}}}
209 \CustomizeMathJax{\newcommand{\Eqqcolon}{\mathrel{=\!\\text{\scriptsize\texttt{\\unicode{x2237}}}}}}
210 \CustomizeMathJax{\newcommand{\Coloneq}{\mathrel{\text{\scriptsize\texttt{\\unicode{x2237}-}}}}}
211 \CustomizeMathJax{\newcommand{\Eqcolon}{\mathrel{-\\text{\scriptsize\texttt{\\unicode{x2237}}}}}}
212 %
213 \CustomizeMathJax{\newcommand{\lvec}[1]{\mathord{\overset{\text{\scriptsize\texttt{\\unicode{x02190}}}{\#1}}}}}
214 \CustomizeMathJax{\newcommand{\lrvec}[1]{\mathord{\overset{\text{\scriptsize\texttt{\\unicode{x2194}}}{\#1}}}}}
215 \CustomizeMathJax{\newcommand{\harpoonacc}[1]{\mathord{\overset{\text{\scriptsize\texttt{\\unicode{x021C0}}}{\#1}}}}}
216 \CustomizeMathJax{\newcommand{\lharpoonacc}[1]{\mathord{\overset{\text{\scriptsize\texttt{\\unicode{x021BC}}}{\#1}}}}}
217 \CustomizeMathJax{\newcommand{\lrlharpoonacc}[1]{\mathord{\overset{\text{\scriptsize\texttt{\\unicode{x0294E}}}{\#1}}}}}
218 \CustomizeMathJax{\newcommand{\barbar}[1]{\mathord{\overset{=}{\#1}}}}
219 \CustomizeMathJax{\newcommand{\bartilde}[1]{\mathord{\overset{\text{\scriptsize\texttt{\\simeq}}}{\#1}}}}
220 \CustomizeMathJax{\newcommand{\barhat}[1]{\mathord{\overset{\text{\scriptsize\texttt{\\hat{\bar}}}{\#1}}}}}
221 \CustomizeMathJax{\newcommand{\tildebar}[1]{\mathord{\overset{\text{\scriptsize\texttt{\\eqsim}}}{\#1}}}}
```

```
222 \CustomizeMathJax{\newcommand{\tilde{tilde}}[1]{\mathord{\overset{\approx}{#1}}}}
223 \CustomizeMathJax{\newcommand{\tilde{hat}}[1]{\mathord{\hat{\tilde{#1}}}}}
224 \CustomizeMathJax{\newcommand{\hat{bar}}[1]{\mathord{\bar{\hat{#1}}}}}
225 \CustomizeMathJax{\newcommand{\hat{tilde}}[1]{\mathord{\tilde{\hat{#1}}}}}
226 \CustomizeMathJax{\newcommand{\hat{hat}}[1]{\mathord{\hat{\hat{#1}}}}}
227
228 \CustomizeMathJax{\newcommand{\cdotB}{\mathord{\boldsymbol{\cdot}}}}
229 \CustomizeMathJax{\newcommand{\cdotBB}{\mathord{\text{\scriptsize{\texttt{x2022}}}}}}
230 \CustomizeMathJax{\newcommand{\circS}{\mathord{\boldsymbol{\circ}}}}
231 \CustomizeMathJax{\newcommand{\bulletSSS}{\bullet}}
232 \CustomizeMathJax{\newcommand{\bulletSS}{\mathord{\text{\scriptsize{\texttt{x025CF}}}}}}
233 \CustomizeMathJax{\newcommand{\bulletS}{\mathord{\text{\scriptsize{\texttt{x02B24}}}}}}
234 \CustomizeMathJax{\newcommand{\primeS}{\prime}}
235
236 \CustomizeMathJax{\newcommand{\strictif}{\mathrel{\text{\scriptsize{\texttt{x0297D}}}}}}% right fish tail
237 \CustomizeMathJax{\newcommand{\strictfi}{\mathrel{\text{\scriptsize{\texttt{x0297C}}}}}}% left fish tail
238 \CustomizeMathJax{\newcommand{\strictiff}{%
239     \mathrel{\text{\scriptsize{\texttt{x0297C}}}}\!\!\!\mathrel{\text{\scriptsize{\texttt{x0297D}}}}}}%
240 }}% left/right fish tails
241 \CustomizeMathJax{\newcommand{\invamp}{\mathbin{\text{\scriptsize{\texttt{x0214B}}}}}}
242 \CustomizeMathJax{\newcommand{\lbag}{\mathopen{\text{\scriptsize{\texttt{x027C5}}}}}}
243 \CustomizeMathJax{\newcommand{\rbag}{\mathclose{\text{\scriptsize{\texttt{x027C6}}}}}}
244 \CustomizeMathJax{\newcommand{\Lbag}{\mathopen{\text{\large{\text{\scriptsize{\texttt{x027C5}}}}}}}}
245 \CustomizeMathJax{\newcommand{\Rbag}{\mathclose{\text{\large{\text{\scriptsize{\texttt{x027C6}}}}}}}}
246 \CustomizeMathJax{\newcommand{\circledless}{\mathrel{\text{\scriptsize{\texttt{x029C0}}}}}}
247 \CustomizeMathJax{\newcommand{\circledgtr}{\mathrel{\text{\scriptsize{\texttt{x029C1}}}}}}
248 \CustomizeMathJax{\newcommand{\circledwedge}{%
249     \mathbin{\text{\LWRoverlaysymbols{\text{\scriptsize{\texttt{x025EF}}}}\text{\scriptsize{\texttt{x02227}}}}}}}}%
250 }}%
251 \CustomizeMathJax{\newcommand{\circledvee}{%
252     \mathbin{\text{\LWRoverlaysymbols{\text{\scriptsize{\texttt{x025EF}}}}\text{\scriptsize{\texttt{0x02228}}}}}}}}%
253 }}%
254 \CustomizeMathJax{\newcommand{\circledbar}{\mathbin{\text{\scriptsize{\texttt{x029B6}}}}}}
255 \CustomizeMathJax{\newcommand{\circledbslash}{\mathbin{\text{\scriptsize{\texttt{x029B8}}}}}}
256
257 \CustomizeMathJax{\newcommand{\lJoin}{\mathrel{\text{\scriptsize{\texttt{x22C9}}}}}}
258 \CustomizeMathJax{\newcommand{\rJoin}{\mathrel{\text{\scriptsize{\texttt{x22CA}}}}}}
259 \CustomizeMathJax{\newcommand{\lrlJoin}{\mathrel{\text{\scriptsize{\texttt{x2A1D}}}}}}
260 \CustomizeMathJax{\newcommand{\openJoin}{\mathrel{\text{\scriptsize{\texttt{x2AA4}}}}}}% overlapping <
261
262 \CustomizeMathJax{\newcommand{\lrtimes}{\mathrel{\text{\scriptsize{\texttt{x2A1D}}}}}}
263 \CustomizeMathJax{\newcommand{\opentimes}{\mathrel{\text{\scriptsize{\texttt{x2AA4}}}}}}% overlapping >
264 \CustomizeMathJax{\newcommand{\Diamondblack}{\mathord{\text{\scriptsize{\texttt{x025C6}}}}}}
265 \CustomizeMathJax{\newcommand{\nplus}{\mathrel{\text{\LWRoverlaysymbols{+}\text{\scriptsize{\texttt{x02229}}}}}}}
266 \CustomizeMathJax{\newcommand{\nsqsubset}{\mathrel{\text{\LWRoverlaysymbols{/}\text{\scriptsize{\texttt{x0228F}}}}}}}
267 \CustomizeMathJax{\newcommand{\nsqsupset}{\mathrel{\text{\LWRoverlaysymbols{/}\text{\scriptsize{\texttt{x02290}}}}}}}}
268 \CustomizeMathJax{\newcommand{\dasharrow}{\mathrel{\text{\scriptsize{\texttt{x021E2}}}}}}
269 \CustomizeMathJax{\newcommand{\dashleftrightarrow}{\mathrel{\text{\scriptsize{\texttt{x021E0}}}\!\!\mathrel{\text{\scriptsize{\texttt{x021E2}}}}}}}}
270 \CustomizeMathJax{\newcommand{\leftsquigarrow}{\mathrel{\text{\scriptsize{\texttt{x021DC}}}}}}
271 \CustomizeMathJax{\newcommand{\ntwoheadrightarrow}{\mathrel{\text{\scriptsize{\texttt{x02900}}}}}}
272 \CustomizeMathJax{\newcommand{\ntwoheadleftarrow}{\mathrel{\text{\scriptsize{\texttt{x02B34}}}}}}
273 \CustomizeMathJax{\newcommand{\boxast}{\mathbin{\text{\scriptsize{\texttt{x029C6}}}}}}
274 \CustomizeMathJax{\newcommand{\boxbslash}{\mathbin{\text{\scriptsize{\texttt{x29C5}}}}}}
275 \CustomizeMathJax{\newcommand{\boxbar}{\mathbin{\text{\scriptsize{\texttt{x025EB}}}}}}
276 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\text{\scriptsize{\texttt{x029C4}}}}}}
```

```
277  
278 \CustomizeMathJax{\newcommand{\Wr}{\mathbin{\!{\scriptsize \text{\texttt{unicode{x02240}}}\!\!{\scriptsize \text{\texttt{unicode{x02240}}}}}}}  
279  
280 % defined above:  
281 % \CustomizeMathJax{\newcommand{\lambdaslash}{\mathord{\!{\scriptsize \text{\texttt{unicode{x00023}}}}}}}  
282 % \CustomizeMathJax{\newcommand{\lambdaabar}{\mathord{\!{\scriptsize \text{\texttt{unicode{x00023}}}}}}}  
283  
284 \CustomizeMathJax{\newcommand{\varclubsuit}{\mathord{\!{\scriptsize \text{\texttt{unicode{x02667}}}}}}}  
285 \CustomizeMathJax{\newcommand{\vardiamondsuit}{\mathord{\!{\scriptsize \text{\texttt{unicode{x02666}}}}}}}  
286 \CustomizeMathJax{\newcommand{\varheartsuit}{\mathord{\!{\scriptsize \text{\texttt{unicode{x02665}}}}}}}  
287 \CustomizeMathJax{\newcommand{\varspadesuit}{\mathord{\!{\scriptsize \text{\texttt{unicode{x02664}}}}}}}  
288  
289 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x021D7}}}}}}}  
290 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x021D8}}}}}}}  
291 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x021D6}}}}}}}  
292 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x021D9}}}}}}}  
293 \CustomizeMathJax{\newcommand{\Top}{\mathord{\!{\scriptsize \text{\texttt{unicode{x02AEA}}}}}}}  
294 \CustomizeMathJax{\newcommand{\Bot}{\mathord{\!{\scriptsize \text{\texttt{unicode{x02AEB}}}}}}}  
295  
296 \CustomizeMathJax{\newcommand{\Leadstoext}{\mathrel{\!{\scriptsize \text{\texttt{unicode{FF5E}}}}}}}  
297  
298 \CustomizeMathJax{\newcommand{\sqcupplus}{\mathbin{\!{\scriptsize \text{\texttt{LWRoverlaysymbols{+}{\scriptsize \text{\texttt{unicode{x02294}}}}}}}}}}  
299 \CustomizeMathJax{\newcommand{\sqcapplus}{\mathbin{\!{\scriptsize \text{\texttt{LWRoverlaysymbols{+}{\scriptsize \text{\texttt{unicode{x02293}}}}}}}}}  
300  
301 \CustomizeMathJax{\newcommand{\boxright}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x025A1}}}\!\!{\scriptsize \text{\texttt{unicode{x02192}}}}}}}}  
302 \CustomizeMathJax{\newcommand{\boxleft}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x02190}}}\!\!{\scriptsize \text{\texttt{unicode{x025A1}}}}}}}}  
303 \CustomizeMathJax{\newcommand{\boxdotright}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x022A1}}}\!\!{\scriptsize \text{\texttt{unicode{x02192}}}}}}}}  
304 \CustomizeMathJax{\newcommand{\boxdotleft}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x02190}}}\!\!{\scriptsize \text{\texttt{unicode{x022A1}}}}}}}}  
305  
306 \CustomizeMathJax{\newcommand{\Diamondright}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x025C7}}}\!\!{\scriptsize \text{\texttt{unicode{x02192}}}}}}}}  
307 \CustomizeMathJax{\newcommand{\Diamondleft}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x02190}}}\!\!{\scriptsize \text{\texttt{unicode{x025C7}}}}}}}}  
308 \CustomizeMathJax{\newcommand{\Diamonddotright}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x027D0}}}\!\!{\scriptsize \text{\texttt{unicode{x02192}}}}}}}}  
309 \CustomizeMathJax{\newcommand{\Diamonddotleft}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x02190}}}\!\!{\scriptsize \text{\texttt{unicode{x027D0}}}}}}}}  
310  
311 \CustomizeMathJax{\newcommand{\boxRight}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x025A1}}}\!\!{\scriptsize \text{\texttt{unicode{x021D2}}}}}}}}  
312 \CustomizeMathJax{\newcommand{\boxLeft}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x021D0}}}\!\!{\scriptsize \text{\texttt{unicode{x025A1}}}}}}}}  
313 \CustomizeMathJax{\newcommand{\boxdotRight}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x022A1}}}\!\!{\scriptsize \text{\texttt{unicode{x021D2}}}}}}}}  
314 \CustomizeMathJax{\newcommand{\boxdotLeft}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x021D0}}}\!\!{\scriptsize \text{\texttt{unicode{x022A1}}}}}}}}  
315  
316 \CustomizeMathJax{\newcommand{\DiamondRight}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x025C7}}}\!\!{\scriptsize \text{\texttt{unicode{x021D2}}}}}}}}  
317 \CustomizeMathJax{\newcommand{\DiamondLeft}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x021D0}}}\!\!{\scriptsize \text{\texttt{unicode{x025C7}}}}}}}}  
318 \CustomizeMathJax{\newcommand{\DiamonddotRight}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x027D0}}}\!\!{\scriptsize \text{\texttt{unicode{x021D2}}}}}}}}  
319 \CustomizeMathJax{\newcommand{\DiamonddotLeft}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x021D0}}}\!\!{\scriptsize \text{\texttt{unicode{x027D0}}}}}}}}  
320 \CustomizeMathJax{\newcommand{\Diamonddot}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x027D0}}}}}}}  
321  
322 \CustomizeMathJax{\newcommand{\circleright}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x025CB}}}\!\!{\scriptsize \text{\texttt{unicode{x02192}}}}}}}}  
323 \CustomizeMathJax{\newcommand{\circleleft}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x02190}}}\!\!{\scriptsize \text{\texttt{unicode{x025CB}}}}}}}}  
324 \CustomizeMathJax{\newcommand{\circledotright}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x02299}}}\!\!{\scriptsize \text{\texttt{unicode{x02192}}}}}}}}  
325 \CustomizeMathJax{\newcommand{\circledotleft}{\mathrel{\!{\scriptsize \text{\texttt{unicode{x02190}}}\!\!{\scriptsize \text{\texttt{unicode{x02299}}}}}}}}  
326 \CustomizeMathJax{\let\circledotright\circledotright  
327 \CustomizeMathJax{\let\circledotleft\circledotleft}  
328  
329 \CustomizeMathJax{\newcommand{\multimapbothvert}{%  
330     \mathrel{\overset{\!{\scriptsize \text{\texttt{unicode{x025CB}}}}}{\underset{\!{\scriptsize \text{\texttt{unicode{x025CB}}}}}{|}}}}%  
331 }}
```

```
332 \CustomizeMathJax{\newcommand{\multimapdotbothvert}{%
333   \mathrel{\overset{\text{\scriptsize\texttt{unicode{x025CF}}}}{\underset{\text{\scriptsize\texttt{unicode{x025CF}}}}{|}}}}%
334 }%
335 \CustomizeMathJax{\newcommand{\multimapdotbothBvert}{%
336   \mathrel{\overset{\text{\scriptsize\texttt{unicode{x025CF}}}}{\underset{\text{\scriptsize\texttt{unicode{x025CB}}}}{|}}}}%
337 }%
338 \CustomizeMathJax{\newcommand{\multimapdotbothAvert}{%
339   \mathrel{\overset{\text{\scriptsize\texttt{unicode{x025CB}}}}{\underset{\text{\scriptsize\texttt{unicode{x025CF}}}}{|}}}}%
340 }%
341
342 \CustomizeMathJax{\newcommand{\dlb}{\mathopen{\text{\scriptsize\texttt{unicode{x027E6}}}}}}
343 \CustomizeMathJax{\newcommand{\drb}{\mathopen{\text{\scriptsize\texttt{unicode{x027E7}}}}}}
344
345 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
346 \LWR@mathjax@addgreek@u@up*{}{up}
347 \LWR@mathjax@addgreek@u@up*{}{up}{}{up}
348 \LWR@mathjax@addgreek@l@up{up}{}{up}
349 \LWR@mathjax@addgreek@l@up*{}{up}
350 \LWR@mathjax@addgreek@u@it*{}{it}
351 \LWR@mathjax@addgreek@l@it*{}{it}
352
353 % only newtxmath, not newpxmath:
354 \LWR@mathjax@addgreek@u@it*{}{it}{}{it}
355 \LWR@mathjax@addgreek@l@it*{}{it}{}{it}
356
357 \CustomizeMathJax{\newcommand{\varg}{g}}
358 \CustomizeMathJax{\newcommand{\vary}{y}}
359 \CustomizeMathJax{\newcommand{\varv}{v}}
360 \CustomizeMathJax{\newcommand{\varw}{w}}
361
362 \CustomizeMathJax{\newcommand{\nexistsAlt}{\mathord{\text{\scriptsize\texttt{unicode{x02204}}}}}}
363 \CustomizeMathJax{\newcommand{\existsAlt}{\mathord{\text{\scriptsize\texttt{unicode{x02203}}}}}}
364 \CustomizeMathJax{\newcommand{\forallAlt}{\mathord{\text{\scriptsize\texttt{unicode{x02200}}}}}}
365 \CustomizeMathJax{\newcommand{\emptysetAlt}{\mathord{\text{\scriptsize\texttt{unicode{x02205}}}}}}
366
367 \CustomizeMathJax{\newcommand{\uppartial}{\mathord{\text{\scriptsize\texttt{unicode{x02202}}}}}}
368
369 \CustomizeMathJax{\let\varmathbb\mathbb}
370 \CustomizeMathJax{\let\vmathbb\mathbb}
371 \CustomizeMathJax{\let\vvmathbb\mathbb}
372
373 \CustomizeMathJax{\let\smallprod\prod}
374 \CustomizeMathJax{\let\smallsum\sum}
375 \CustomizeMathJax{\let\smallcoprod\coprod}
376
377 \CustomizeMathJax{\newcommand{\openbox}{\mathord{\text{\scriptsize\texttt{unicode{x25FD}}}}}}
378 \CustomizeMathJax{\let\textsquare\openbox}
379
380 % only newtxmath, not newpxmath:
381 \ifdef{\iftx@BI}{%
382   \iftx@BI
383     \LWR@mathjax@addlatin@u@bfit{BI}
384     \LWR@mathjax@addlatin@l@bfit{BI}
385   \fi
386 }{}
```

```
387
388 % for newpxmath:
389 \CustomizeMathJax{\newcommand{\mathsterling}{\mathord{\text{\scriptsize{\texttt{unicode{x000A3}}}}}}
390 \CustomizeMathJax{\newcommand{\mathcent}{\mathord{\text{\scriptsize{\texttt{unicode{x000A2}}}}}}
391
392 \end{warpMathJax}
```

---

File 527 **lwarp-common-mathjax-overlaysymbols.sty**

§ 633      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

## § 634 Chg Hist

---

For the most recent changes, see page [1258](#).

v0.10	General: 2016/03/08 Initial version . . . 1	Test Suite: Assigned cleveref name for Test Float. . . . . 1	
v0.11	General: 2016/03/11 . . . . . 1	Test Suite: Floatrow . . . . . 1	
	Added section: Operating-System portability. . . . . 224		
	Added section: Selecting the operating system. . . . . 115		
	Test Suite: MS-WINDOWS in README.txt . . . . . 1		
	Test Suite: Images and index in README.txt . . . . . 1		
v0.12	\LWR@newhtmlfile: Bugfix: toc with numbered files. . . . . 386	General: 2016/04/06 . . . . . 1	
	General: 2016/03/14 . . . . . 1	Added. . . . . 796	
	Global: Uses \p@{type} in float captions. . . . . 1	Ampersand (&): Fixed handling when passed as an argument. . . . . 442	
	Test Suite: Sub-figures . . . . . 1	Docs: Added warning icons for items needing special attention. . . . . 202	
v0.13	\CaptionSeparator: Fix for newer babel package. . . . . 512	Docs: Clarify print/HTML output. . . . . 116	
	\LWR@LwarpStart: \up and \fup . . . . . 405	Docs: Moved the supported features table to the introduction. . . . . 64	
	General: 2016/03/24 . . . . . 1	Files: lwarp_formal.css added. . . . . 1	
	Fix dollar-redefined bug for newer package. . . . . 1098	Fix: steps counter . . . . . 796	
	Removed package: subfig . . . . . 1	Fixed & handling. . . . . 794	
	Test Suite: Ordinals, Subcaption . . . . . 1	Test Suite: test_suite_formal.css file added. . . . . 1	
v0.14	\LWR@htmlsectionfilename: Fix: Links to home page. . . . . 340	v0.16	General: 2016/04/11 . . . . . 1
	General: 2016/03/31 . . . . . 1	\titlingpage: Improved print-output spacing. . . . . 414	
	floatrow: Added. . . . . 792	xfrac: Adjusted for the use of any font. . . . . 1160	
	Docs: Commands for a successful HTML conversion. . . . . 120	Added XeLaTeX, LuaLaTeX support. . . . . 203	
	Docs: Commands into a warpprint environment. . . . . 117	Docs: Font and UTF-8 support. . . . . 98	
	Docs: Newclude limitations. . . . . 173	Docs: Moved location of \usepackage{lwarp}. . . . . 101	
	Docs: Table: Cross-referencing data structures. . . . . 496	Docs: Text not converting. . . . . 194	
	Docs: Table: Float data structures. . . . . 508	Lwarp no longer selects fonts. . . . . 98, 235	
	Docs: Trademarks section. . . . . 199	Removed package: suffix . . . . . 1	
	Docs: Troubleshooting cross-references. . . . . 194	Test Suite: Improved titlingpage. . . . . 414	
		Test Suite: Lwarp no longer selects fonts. . . . . 1	
		Test Suite: Supports XeLaTeX, LuaLaTeX. . . . . 1	
v0.17	\LWR@htmlsectionfilename: Fix: Links when entire doc is one HTML page. . . . . 340	v0.17	\LWR@htmlsectionfilename: Fix: Links when entire doc is one HTML page. . . . . 340
	General: 2016/04/14 . . . . . 1	mdframed: Added. . . . . 901	
	mdframed: Added. . . . . 901	Test Suite: Fix: Print-version front-matter page numbers. . . . . 1	

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\LWR@newhtmlfile: sideroc after title,	
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escape underscores. . . . .	339
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\LWR@htmlelementclass: Added optional style. . . . .	353
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\LWR@hyperindexrefsubtwo: Print mode provided in case hyperref not used. . . . .	532
\LWR@longtabledatacaptiontag: Fix: Pars in captions. . . . .	479
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# 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.

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