

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 70 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 [1298](#).

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

- `MATHJAX`
 - `fourier`, `libertinust1math`, `newpxmath`, `newtxmath`, `newtxsf`, `unicode-math`: Added `MATHJAX \left/\right.` support for additional delimiters.
- `packages`
 - `textpos`: Updated to v1.10.
 - `xcolor`: Fixed optional args for `\fcolorbox` and related.
 - Added `fverextra`, `minted`.

v0.891: `MATHJAX` additions and improvements.

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

v0.89: Additional `MATHJAX` support.

- `core`
 - Adapted to upcoming L^AT_EX kernel changes.
 - Allows load of `amsmath` before `l warp`.
- `l warpmk`
 - Also removes `*.bbl` when cleaning aux files.
- `MATHJAX`
 - `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.
 - Now has programmed support for more than 500 packages and classes, of which more than 60 also support MATHJAX.
- core**
 - Fixed: `\ref*`, and also added MATHJAX emulation.
 - If starting a new paragraph, `\hrulefill` creates a `<div>` with a thin horizontal line across the page. Use instead of `\hrule`.
 - Fixed: Use `\chaptername` where appropriate.
 - Fixed: Inline links causing extraneous paragraphs.
- l warpmk**
- indexing**
 - Added `l warpmk -v` to print the version number.
 - Added the `IndexRef` option to control the display of index entries. See section 7.5.
 - Added `\IndexPageSeparator` and `\IndexRangeSeparator` for custom index styles.
 - Added support for `gindex`, `xindex`.
 - Verified to work as-is with `varindex`.
- packages**
 - `cleveref`, `varioref`: Fix for starred macros.
 - `varioref`: Removed page-related text from HTML output.
 - `xfakebold`: Updated to v0.08, using `pdfrender`.
 - `caption`, `scrextend`: Fixed `\caption*`.
 - Added `fbox`, `shadethm`, `tcolorbox`, `termcal`, `thmbox`, `thmtools`.
- v0.87:** MATHJAX, bibliography packages.
- core**
 - Added boolean `FixSmallCaps` for fonts which render small caps as all caps.
 - Fixed `\bibliography` to use the HTML version's `.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.
- MATHJAX**
- ⚠️ Removed**
- \DeclareIfstar**
- packages**
 - `physics`: Now supports the MATHJAX v3 extension.
 - `mathtools`: Improved `\underbrakcet`, `\overbracket` for MATHJAX.
 - `nccmath`: Improved `\underrel` for MATHJAX.
 - `mhchem`: Now supports the MATHJAX v3 extension for `\ce` inside math.
 - `cancel`: Now supports the MATHJAX v3 extension.

- embrac: Neutralized kerning for improved HTML conversion.
- Added `citeref`, `drftcite`, `jurabib`, `multibib`, `splitbib`.
- Verified to work as-is with `bibtopic`, `collref`, `mciteplus`.

v0.86: MATHJAX major updates.

- | | |
|-----------------------|---|
| <code>core</code> | <ul style="list-style-type: none"> • Fixed: Filename if named files with *, parens, period in section name. • Fixed: Labels in <code>eqnarray</code>, <code>latextimage</code>. |
| <code>MATHJAX</code> | <ul style="list-style-type: none"> • Updated to MATHJAX v3. New repository. • Fixed forward references for MATHJAX. • Improved MATHJAX equation number formatting, now compatible with <code>amsmath \numberwithin</code> for chapters, sections, subsections, as well as <code>amsmath subequations</code>. See section 8.7.5. • Added <code>\DeclareIfstar</code> to define starred L^AT_EX macros in MATHJAX. See section 8.7.5. • Generates an error if <code>\MathJaxFilename</code> file does not exist. |
| <code>packages</code> | <ul style="list-style-type: none"> • <code>mathtools</code>, <code>nccmath</code>, <code>physics</code>: Added starred macros for MATHJAX. • <code>nccmath</code>: Fixed <code>\nr</code>, <code>\displaybreak</code> for MATHJAX. • <code>xcolor</code>: Fixed <code>\textcolor</code> with <code>babel-french</code>. |

v0.85: fontspec

- | | |
|--|--|
| <code>packages</code> | <ul style="list-style-type: none"> • <code>fontspec</code>: Fixed core font change macros for world languages. |
| ⚠ <code>acro formats</code> | <ul style="list-style-type: none"> • <code>acro</code>: Due to v3 changes, when defining acronym formats, use <code>\textbf</code> instead of <code>\bfseries</code>, etc. • Fixed <code>idxlayout</code>, <code>mathools</code>, <code>titlesec</code>, <code>url</code>. |

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

- | | |
|--|--|
| <code>docs</code> | <ul style="list-style-type: none"> • Added documentation of <code>BlockClass</code> and <code>\InlineClass</code> for css <code><div></code>s and <code></code>s. See section 7.8. • Added <code>\LinkPrevious</code>, <code>\LinkNext</code> page links. See section 7.6. • Added <code>\FirstPageBottom</code>. Home page no longer shares <code>\PageBottom</code>. See section 7.6. |
| ⚠ <code>home page footer changed</code> | <ul style="list-style-type: none"> • Improved coexistence with <code>comment</code>, support for nested environments. • No longer requires but still supports the <code>caption</code> package. • Improved filenames and HTML titles when using special characters. |
| <code>core</code> | <ul style="list-style-type: none"> • Change: Append <code>-0</code> to section named <code>Index</code> previously <code>_index</code> to distinguish from <code>index.html</code> • Fixed style tags for <code>\multicolumn</code>, <code>\multirow</code>. • Fixed spacing in tabbing. • Fixed <code>latextimage</code> for: <code>quote</code>, <code>quotation</code>, <code>verse</code>, <code>center</code>, <code>flushleft</code>, <code>flushright</code>, <code><par></code> tags, packages <code>verbatim</code>, <code>alltt</code>, <code>epigraph</code>. • Fixed <code>textcomp</code> due to integration into L^AT_EX kernel. • Fixed <code>\itshape</code>, etc. Adapted to L^AT_EX <code>fontaxes</code> integration. |

- Fixed `\@fnsymbol`.
- Warns about section names with dollar-delimited math.
- Warns about a `` containing a float, caption, section, `mdframed`, or other `<div>` object.
- Only warn about X~~E~~TEX logo and graphics if actually used `\Xe`.
- `l warpmk clean` also removes `comment_*.cut`.
- `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`, `axessibiliy`, `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`, `returntoregrid`, `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`, `rmathtbr`, `subsubscripts`, `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^AT_EX 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^AT_EX 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^AT_EX 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 L^AT_EX 2019/10 release.

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

- MATHJAX**
- MATHJAX: Updated to v2.7.6.

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

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

v0.75: keyfloat, wrapfig

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

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

docs

- Added to the tutorial the section [What next?](#). See section [5.19](#).
- Added documentation about localization options. See section [7.1](#).
- Added documentation about accessibility options. See section [7.2](#).
- Renamed and updated HTML alt text macros:

⚠ HTML alt text changed names

Old	New
(hard coded as “image”)	\ImageAltText
\mathimagename	\MathImageAltText
\packagediagramname	\PackageDiagramAltText

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

svg math

- Adjusted \LateximageFontSize default from .75 to 1.
- Fix: Font control for SVG math.

misc

- Fix: Ignores negative \hspace.
- Warning if SideTOCDepth < FileDepth.

lwarpmk

- *lwarpmk*: `lwarpmk clean` removes additional files.
- *lwarpmk*: `lwarpmk epstopdf` and `lwarpmk pdftosvg` now honor directories.

packages

- lyluatex: Split images by system or per fullpage, improved margins and scaling.
- Tested to work as-is with `mathspec`, `unicode-math`.

v0.73: \include, memoir, koma-script, caption, xy, datatool, music scores.

packages

- Fix for \include.
- Warning for a tabular inside a ``.
- \color: Added HTML support for rules and frames, but not inline text. Use \textcolor if possible.
- Improved many HTML tags, reducing *tidy* warnings. See Change History.
- 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.

- **veronotes**: 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 ⇒ **lwarfmk cleanimages**

and

Enter ⇒ **lwarfmk limages**

- 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 `lwarf`. See section 13.1.
- `lwarfmk`: If file `lwarfmk.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 `lwarpmk limages` until recompile first.
- Fix: If Computer Modern font is used, ensures `cm-super` or `lmodern` is used.
- Fixes for `\makebox`.
- Fixes for `\parbox` inside a ``.
- MATHJAX: Updated to v2.7.5. Loads the `autoload-all.js` extension. Added `\MathJaxFilename` to select custom scripts.
- packages
 - `textcomp`, `xunicode`: Fix for `\textinterrobang`.
 - `mhchem`: Works with MATHJAX. See section 380.
 - `changes`: Updated to v3.1.2.
 - Added `autonum`, `changefont`, `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`.
- packages
 - `array`, `longtable`: Fix for `\tabularnewline`.
 - `tabularx`, `tabulary`: Fix to require the `array` package.
 - `supertabular`, `xtab`: Fix to clear caption after use.
 - `graphics`: Added a warning if used the `\includegraphics scale` option.
 - `multirow`: Added an error if didn't use `\mrowcell` or `\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 academicicons, 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

lateximage

⚠ existing projects

- 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.

- 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.

- 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

⚠ Possible filename changes

WINDOWS

floats

lists, table notes

tabular

indexing

minipage

colors

HTML

docs

- Added `\FilenameLimit` to control the maximum length of the filenames generated by `l warp`.

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

- Fix for `lwarpmk cleanimages` with `WINDOWS`.

- Fixes for floats in the home page.

- Improved css for definition lists, table notes.

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

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

- `\minipagefullwidth`: Fix for global changes.

- Added `\UseMinipageWidths` and `\IgnoreMinipageWidths`. See section 8.3.3.

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

- Improved `HTML` output formatting.

- Added discussion regarding invalid `HTML`. See section 8.1.1.

- Added discussion regarding math in section names, `\imagegraphics scale` option. See section 6.

- Added discussion regarding international languages in section names. See section 8.14.

packages

- `caption`: Fix for options clash.
- `xr, xr-hyper`: Now compatible.
- `subcaption`: Improved horizontal spacing.
- `multicol`: Fix for minipage inside `multicols`.
- `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.

Japanese

- Added `ltj*` classes, `bounddvi, gentombow, lltext, plarydshln, plex, plectarydshln, plectcolortbl, pxatbegshi, pxeveryshi, pxftnright, pxjahyper, tascmac`.
- Verified to work with `plarray, plautopatch, plectarray, plextdearray, pxgentombow, plsiunitx, pxpdfpages, pxpgfrcs, pxpgfmark`.

packages

- Added support for `fontspec \textsi` and `\sisshape`.
- Added `multicol`'s `\docolaction`.
- Added `embrac, footnoterange, multicolrule, versonotes`.

v0.64: Koma-Script, Japanese, Chinese.

- Japanese
 - Added `utarticle` and related classes.
 - Improved `ujarticle` and related classes.
- Chinese
 - Fix for `biblatex` with CTEX and other classes.
- Koma-Script
 - Fixes for `scrlayer`, `scrlayer-scrpage`.
 - `addlines`: Updated to v0.3.
 - Added `bsheaders`, `gmeometric`, `marginal`, `rmpage`, `scrpage2`.
- packages

v0.63: mdframed, Chinese, Japanese, Korean

- localization
 - Added `\linkhomename`: A user-definable name for the **Home** link.
 - Documented `\sidetocname`: A user-definable name for the sidetoc.
 - Fix: `\LinkHome` for print output.
- fixes
- optimizations
 - Moved package load checks to the `l warp` core to reduce the number of `l warp-*` files.
- packages
 - `mdframed`: Fix with `amsthm`, improved titles and font control. Improved rule widths.
- Chinese
 - Fixes for `xeCJK`.
 - Added `xpinyin`, `zhlineskip`.
 - Verified to work with `cjkpunct`, `upzhangsoku`, `zhspacing`.
- Japanese
 - Verified to work with `zxjatype`, `l uatexja`, `l uatexja-fontspec`.
 - Added `bxjsarticle` and related classes.
 - Added `ltjsarticle` and related classes.
 - Added `pLATEX`, `upLATEX`, `ujarticle` and related classes.
 - Prevented `utarticle` and related classes.
 - Prevented `bxckatype`.
- Korean
 - Verified to work with `kotex`, `xetexko`, `l uatexko`.

v0.62: MiK \bar{T} E \bar{X} docs, HTML title, CTEX, xeCJK, bitpattern.

- docs
 - Docs: Setting a UTF-8 locale. See section [9.8](#).
 - MiK \bar{T} E \bar{X} : Docs for *MiK \bar{T} E \bar{X} 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](#).
- MiK \bar{T} E \bar{X}
- HTML `<title>`
- fixes
 - Fix for package options handling.
 - Fixes for horizontal white space between `fminipage`, `fcolorminipage`, `colorboxBlock`, `fcolorboxBlock`.
 - Logos: Fix for X \bar{T} E \bar{X} logo, improved css, made robust, improved search-engine optimization.
 - `\\\[$1]`: Additional HTML `
` if $\$1 > 0$ pt.
 - Fixes for `\includgraphics` filename, and with `FormatWP`.
 - Fix: css for `\textup`.

- Fix: Added `\sllshape`.
- Chinese packages**
- Added `ctex` package and related classes, `xeCJK`.
 - Prevented `CJK`, `CJKutf8` unless `xeCJK`, `ctex` are used.
 - `chemfig`: Docs for new macro `\polymerdelim`.
 - `asymptote`: Docs for compilation.
 - `chngpage`: Fix to load `l warp-changepage`.
 - `algorithm2e`: Fix with non-book classes.
 - `register`: Updated to v1.8.
 - `nicefrac`: Improved font control and css, honors nice and ugly.
 - `units`: Improved font control and css, honors tight and loose.
 - `xfrac`: Improved css.
 - `textcomp` and `xunicode`: Fix conflicts with `\textcircled`.
 - `ulem`: Improved compatibility with `CJKulem`, `lateximage`.
 - `MathJax` and `siunitx`: Removed inoperable extension.
 - Added `bitpattern`, `pdfcomment`, `pdfmarginpar`, `tram`, `unitsdef`, `xexchangebar`.
 - 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](#).
 - Added options to specify the shell commands to execute for `l warpmk print` and `l warpmk html`, allowing the use of `l warp` with `perltx`, `pythontex`, etc. If not specified, these are set automatically depending on the LATEX engine, `--shell-escape`, and `l warp` options. See section [9](#).
 - Changed macro names to match `\displaymathother`, `\displaymathnormal`:

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

- custom compiling**
- ⚠ changed names**
- 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`, `psfragx`, `pstool`.
 - Added `copyrightbox`, `pdfprivacy`, `thinsp`, `threadcol`, `uspace`.
 - Added `chkfloat`, `cmdtrack`, `dprogress`, `lua-visual-debug`, `refcheck`, `srcltx`, `srtex`, `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

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


```
l warpmk 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.
- latemxmk*
 - Fix for --shell-escape with *latemxmk*.
- 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`.
 - Added information about setting up a development version of `l warp`.
- docs

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

⚠ Reset the configuration

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which *lwarpmk* may then be used with the new configuration files.
- *lwarpmk*: Added the `-p` option to specify the project name.
- *lwarpmk*: Now uses *makeglossaries* for glossary generation, allowing the processing of multiple glossaries at once.
- Added lwarf option `GlossaryCmd` to specify the shell command used by `lwarpmk printglossary` and `lwarpmk htmglossary`. 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 lwarf options `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to specify shell commands used by `lwarpmk printindex`, `lwarpmk htmlindex`, and `latexmk`. May be preset with the `makeindex` or `xindy` lwarf options. See section 7.5.
- Added lwarf options `makeindex` and `xindy` to set `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to sensible values for a typical single index. See section 7.5.
- Added lwarf option `makeindexStyle` to tell *lwarpmk* to use a custom style instead of *lwarf.ist*. See section 8.6.20.
- Fix for index entries with `\see`, `\seealso`, `\emph`, `\textbf`, etc.
- Replaced each `\csuse` with `\@nameuse` for improved error detection.
- Additional internal print/HTML macro selection improvements.
- Fix: `\printindex` finishes pending `\index` writes first.
- Fixes for *memoir*: `makeidx`, `ccaption`, multiple indexes, `\specialindex`.
- Fixes for *komascript*: Indexing improvements.
- Added `imakeidx`, `index`, `repeatindex`, `splitidx`.
- Added `attachfile`, `attachfile2`, `intopdf`, `pdfpages`, `pdfx`.
- Added `cases`.
- Tested to work as-is: `notes2bib`, `hvindex`.

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

MathJax

math macros

dynamic math

⚠ new name

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

- latextimage alt tags**
 - Improved localization for `latextimage` 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:

$$(-xy- \text{ diagram})$$

See section [7.6](#).
 - Fix: Improved print/HTML macro selection.
 - misc. fixes**
 - Fix: `\href` text catcodes.
 - Fix: `\subref` text.
 - Fixes: Colored `\rule` and `\boxframe`.
 - packages**
 - `float, rotfloat`: Adds support for float styles `ruled` and `boxed`.
 - `float`: Fix: Do not create `\l@<type>` until `\listof` is used.
 - `marginnote`: Fix: Long optional argument.
 - `ellipsis`: Adds `\midwordellipsis`.
 - `breakurl`: Fix for text catcodes.
 - Added `algorithm2e, register, ltablex, xltabular, xellipsis, trimclip, errata, vowel, xpiano`.
 - Prevents `glossary`.
 - Tested to work as-is with `gauss, phonrule, piano, Slunits, tikzcodeblocks`.
- v0.56:** Shell escape, tabular packages.
- 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](#).
 - Added support for `--shell-escape`. See section [7.3](#).
 - tabular**
 - Added support for `array w` and `W` columns.
 - Fix: `\multicolumn` parameter handling.
 - Added support for double `\hlines`, `\midrules`, and vertical rules.
 - Added support for `arydshln` dashed lines with `HTML tabular`, but reverts to plain rules for `latextimage` and `SVG math array`.
 - misc. fixes**
 - Fix: `\thinspace`.
 - Fix: `paralist` compact environments.
 - packages**
 - Added `parnotes, quoting, lua-check-hyphen, toccenter, underscore`.
 - Added `bibunits`.
 - Tested to work as-is with `babelbib, bodegraph, fast-diagram, nicematrix, structmech`.

v0.55: Various fixes.

- | | |
|------------|--|
| misc fixes | <ul style="list-style-type: none"> Fix: Extraneous space in file links, which also prevented <i>Calibre</i> EPUB conversions. Fix: Float optional argument regression. Fix: \ForceHTMLTOC with \phantomsection. Fix: Overfull boxes in lateximages. Fix: QED symbols in lateximage. |
| packages | <ul style="list-style-type: none"> koma-script: Fix: Figure with \centering, etc. Added clrdblpg. |

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

⚠ Reset the configuration

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

lwarfmk

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

BiBTeX

- lwarfmk*: Improved error message if configuration file does not exist.

polyglossia

- Added documentation for avoiding error with BibTeX and \etalchar. See section 8.6.9.
- Added documentation regarding polyglossia. See section 8.15.4.

macros in section names

document encoding

⚠ New and revised encoding options

- Renamed and added package options:

Old Package Option	New Package Option
xdyFilename	xindyStyle
IndexLanguage	xindyLanguage
–	xindyCodepage
–	pdftotextEnc

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

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

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

misc. fixes

- tikz: \pgfpicture, fit, align, font.
- ragged2e: \centering etc.
- hyperref: \hypertarget was creating duplicate of \label.
- hyperref: Active chars inside \hyperref, \hyperlink.
- hyperref: \ref inside \hyperlink caused a nested HTML link.
- glossaries: Fix when not using babel or polyglossia.

- `textcomp`: `\textperthousand`.
- L^AT_EX core verse environment: line spacing.
-  **packages**
- Removed `\citetitle`, adjusted `\attribution`.
- `memoir`: Minor update for v3.7g.
- Added `inputenx`, `bibunits`, `chngpage`, `forest`, `magaz`, `gridset`.
- Prevents loading `ae`, `aecc`, `t1enc`, and `wasysym`.

v0.53: Improved image checks.

- lwarpmk***
- `lwarpmk`: Added a warning about corrupted images due to the need to recompile the document one more time.
 - `lwarpmk`: Added the `lwarpmk cleanimages` command.
 - Added documentation for `lwarpmk cleanimages` and `lwarpmk 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 X_EL^AT_EX or L^Au_LAT_EX 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](#)

[misc. fixes](#)

- MathJax now handles `\ensuremath` in expressions.
- 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^AT_EX 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^AT_EX to provide for every HTML-related possibility, and HTML cannot exactly render every possible L^AT_EX 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^AT_EX 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^AT_EX, `lwarp` has some advantages over other methods of HTML conversion. T_EX itself is still used, allowing a wider range of T_EX trickery to be understood. Lua expressions are still available with LuaT_EX. Entire categories of L^AT_EX packages work as-is when used with `lwarp`: definitions, file handling, utilities, internal data structures and calculations, specialized math-mode typesetting for various fields of science and engineering, and anything generating plain-text output. Blocks of PDF output may be automatically converted to svg images while using the same font and spacing as the original print document, directly supporting Tikz and picture. Numerous packages are easily adapted for HTML versions, either by loading and patching the originals, or by creating nullified or emulated replacements, and all without resorting to external programming. As a result, several hundred packages have already been adapted (table 2), and an uncounted number more work as-is.

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

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

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

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

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

Furthermore, SVG images allow math to be presented with the same precise formatting as in the print version. Math is accompanied by `<alt>` tags holding the LATEX source for the expression, allowing it to be copy/pasted into other documents.³ 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.⁴ 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.

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

³There seems to be some debate as to whether MathML is actually an improvement over 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!

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

2.1 Typesetting conventions

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

Table 1: Typesetting conventions

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

2.2 Supported packages and features

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

Package names are colored according to their support level:

name: Supported as-is.

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

name: Emulated for HTML output.

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

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

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

MJ: Ignored by MATHJAX, but may be used in the document source.

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

Category	Status and supported features.
Engines:	DVI L ^A T _E X, pdfL ^A T _E X, X _E L ^A T _E X, LuaL ^A T _E X, upL ^A T _E X
Compiling:	<i>latexmk</i> , <i>perltex</i> , <i>pythontex</i> , <i>make</i> , etc.
Classes:	article, book, report, scrartcl, scrbook, scrreprt, memoir, CJK-related as listed below.
Koma-script:	<i>scrextend</i> , <i>scrhack</i> , <i>scrlayer</i> . Others as listed below.
Memoir:	memhfixc
Languages:	<i>babel</i> , <i>polyglossia</i> , <i>cjkpunct</i> , <i>xeCJK</i> .
Chinese:	C _T E _X , <i>ctex</i> , <i>upzhkinsoku</i> , <i>xpinyin</i> , <i>zhlineskip</i> , <i>zhspacing</i> .
Japanese:	upL ^A T _E X, LuaT _E X-ja, gentombow, <i>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, tocbibind, 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, collref, drftcite, hypernat, jurabib, mcite, mciteplus, multibib, natbib, notes2bib, splitbib, showtags.

l warp Supported Functions — continued

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

l warp Supported Functions — continued

Category	Status
Units and fractions:	<code>nicefrac</code> ^{MJ} , <code>Slunits</code> ^{MJ} , <code>siunitx</code> ^{MJ} , <code>units</code> ^{MJ} , <code>unitsdef</code> , <code>xfrac</code> ^{MJ} .
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</code> ^{MJ} , <code>arydshln</code> ^{MJ} , <code>bigdelim</code> ^{MJ} , <code>bigstrut</code> ^{MJ} , <code>booktabs</code> ^{MJ} , <code>colortbl</code> , <code>ctable</code> , <code>diagbox</code> , <code>hhline</code> ^{MJ} , <code>longtable</code> , <code>ltablex</code> , <code>ltxttable</code> , <code>multirow</code> ^{MJ} , <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>fysize</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 ^A T _E X environments, <code>enumerate</code> , <code>enumitem</code> , <code>eqlist</code> , <code>hang</code> , <code>listliketab</code> , <code>paralist</code> .
Environments:	Standard L ^A T _E 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>fvextra</code> , <code>moreverb</code> , <code>shortvrb</code> , <code>verbatim</code> .

l warp Supported Functions — continued

Category	Status
Frames:	<code>boxedminipage</code> , <code>boxedminipage2e</code> , <code>fancybox</code> , <code>fbox</code> ^{MJ} , <code>framed</code> , <code>mdframed</code> , <code>niceframe</code> , <code>shadow</code> , <code>tcolorbox</code> ^{MJ} , <code>verbbars</code> .
Multi-columns:	<code>adjmulticol</code> , <code>multicol</code> , <code>multicolrule</code> , <code>vwcol</code> .
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> ^{MJ} , <code>ellipsis</code> , <code>embrac</code> , <code>enparen</code> , <code>hyphenat</code> , <code>lettrine</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> ^{MJ} , <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:	<code>HTML</code> 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>\&</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> . Also see the math section for math and MATHJAX support for math font packages.

l warp Supported Functions — continued

Category	Status
Symbols:	Native LATEX diacriticals, <code>academicons</code> , <code>amssymb^{MJ}</code> , <code>bbding</code> , <code>chemgreek</code> , <code>dingbat</code> , <code>euro</code> , <code>eurosym</code> , <code>fontawesome</code> , <code>fontawesome5</code> , <code>gensymb^{MJ}</code> , <code>latexsym^{MJ}</code> , <code>marvosym</code> , <code>mathcomp^{MJ}</code> , <code>mathpazo^{MJ}</code> , <code>mathptmx^{MJ}</code> , <code>metalogo</code> , <code>metalogox</code> , <code>pifont</code> , <code>pxfonts^{MJ}</code> , <code>textalpha</code> , <code>textcomp</code> , <code>textgreek</code> , <code>txfonts^{MJ}</code> , <code>typicons</code> , <code>upgreek^{MJ}</code> , <code>xunicode</code> .
Files:	<code>attachfile</code> , <code>attachfile2</code> , <code>hyperxmp</code> , <code>inputrc</code> , <code>intopdf</code> , <code>pdfpages</code> , <code>pdffx</code> , <code>xmpincl</code> .
Science and engineering:	<code>algorithm2e</code> , <code>algorithmicx</code> , <code>ar^{MJ}</code> , <code>askmaps</code> , <code>axodraw2</code> , <code>bitpattern</code> , <code>blochsphere</code> , <code>bodegraph</code> , <code>bohr</code> , <code>bytefield</code> , <code>chemfig</code> , <code>chemformula</code> , <code>chemgreek</code> , <code>chemmacros</code> , <code>chennum</code> , <code>circuitikz</code> , <code>econometrics^{MJ}</code> , <code>elements</code> , <code>englc^{MJ}</code> , <code>fast-diagram</code> , <code>ghsystem</code> , <code>hepnicenames</code> , <code>heppennames</code> , <code>hepunits^{MJ}</code> , <code>karnaughmap</code> , <code>karnaugh-map</code> , <code>listings</code> , <code>listingsutf8</code> , <code>linop</code> , <code>mhchem^{MJ}</code> , <code>minted</code> , <code>pgfgantt</code> , <code>phfqt</code> , <code>physics^{MJ}</code> , <code>physunits^{MJ}</code> , <code>qcircuit</code> , <code>register</code> , <code>simpler-wick</code> , <code>slashed^{MJ}</code> , <code>steinmetz^{MJ}</code> , <code>structmech</code> , <code>struktex</code> , <code>tikz-karnaugh</code> , <code>tikzcodeblocks</code>
Arts and humanities:	<code>foreign</code> , <code>forest</code> , <code>lyluatex</code> , <code>musicography</code> , <code>nameauth</code> , <code>octave</code> , <code>phonrule</code> , <code>piano</code> , <code>schemata</code> , <code>semantic-markup</code> , <code>tikz-dependency</code> , <code>vowel</code> , <code>xpiano</code>
Calendars:	<code>termcal</code>
Admonitions:	<code>awesonebox</code> , <code>notes</code> .
Editorial:	<code>changebar</code> , <code>changelog</code> , <code>changes</code> , <code>easy-todo</code> , <code>easyReview</code> , <code>ed</code> , <code>errata</code> , <code>fixme</code> , <code>fixmetodonotes</code> , <code>pdfcomment^{MJ}</code> , <code>pdfmarginpar</code> , <code>todo</code> , <code>todonotes</code> , <code>tram</code> , <code>xchangebar</code> .
Accessibility:	<code>accessibility^{MJ}</code> , <code>accsupp^{MJ}</code> , <code>axessibility^{MJ}</code> , <code>pdfcomment^{MJ}</code> , <code>tagpdf</code> .
Package handling:	<code>catoptions</code> .
Debug:	<code>chkfloat</code> , <code>cmdtrack</code> , <code>dprogress</code> , <code>lua-visual-debug</code> , <code>refcheck</code> , <code>srcltx</code> , <code>srctex</code> , <code>vpe</code> , <code>xbmks</code> .

l warp Supported Functions — continued

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

3 Alternatives

Summarized below are several other ways to convert a L^AT_EX or other document to HTML. Where an existing L^AT_EX document is to be converted to HTML, lwarf 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 lwarf 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^AT_EX 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 lwarf 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^AT_EX syntax into HTML. Search for each on CTAN (<http://ctan.org>).

Prog `Hevea` **H^Ev^Fa:** <http://hevea.inria.fr/> (not on CTAN)
Prog `TtH` **T_TH:** <http://hutchinson.belmont.ma.us/tth/>
Prog `GELLMU` **GELLMU:** <http://www.albany.edu/~hammond/gellmu/>
Prog `LaTeXML` **L^ATeXML:** <http://dlmf.nist.gov/LaTeXML/>
Prog `Plastex` **PlasTeX:** <https://github.com/tiarno/plastex>
Prog `LaTeX2HTML` **L^ATeX2HTML:** <http://www.latex2html.org/>
and <http://ctan.org/pkg/latex2html>.
Prog `TeX2page` **TeX2page:** <http://ds26gte.github.io/tex2page/index.html>

Finally, GladTeX may used to directly insert L^AT_EX 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>

<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*™.

3.8 Comparisons

AsciiDoc, Pandoc, and various other markup languages typically have a syntax which tries to be natural and human-readable, but the use of advanced features tends to

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

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

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

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

4 Installation

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

Detailed installation instructions follow.

Table 3: Required software programs

Provided by your L^AT_EX distribution:

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

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

The l warp package: This package.

The *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^TE_X 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^AT_EX code. On a MiK^TE_X system, *Perl* may need to be installed first.

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

POPPLE_R PDF utilities:

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

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

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

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

From POPPLER: poppler.freedesktop.org.

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

Enter ⇒ **brew install poppler**

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

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

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

Perl:

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

strawberryperl.com (recommended), perl.org

Automatically downloaded from the internet as required:

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

4.1 Installing the l warp package

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

Pre-installed: Try entering into a command line:

Enter ⇒ **kpsewhich l warp.sty**

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

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_TE_X, try updating the *miktex-misc* package. This may install the *lwarpmk* executable for you.

Otherwise, continue with the following:

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

Enter ⇒ **kpsewhich lwarpmk.lua**

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

4. Create *lwarpmk*:

Unix: Create a symbolic link and make it executable:

- (a) Locate the *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_TE_X: Create a new *lwarpmk.bat* file:

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

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

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

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

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

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

4.2.1 Using a local copy of *lwarpmk*

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

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

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

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

Unix:

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

Enter ⇒ `chmod 0755 lwarpmk.lua`

- (b) Compile documents with

Enter ⇒ `./lwarpmk.lua html`

Enter ⇒ `./lwarpmk.lua print`

etc.

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

WINDOWS:

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

Enter ⇒ `texlua lwarpmk.lua html`

Enter ⇒ `texlua lwarpmk.lua print`

etc.

Or:

Enter ⇒ `lwarpmk html`

Enter ⇒ `lwarpmk print`

etc.

4.3 Installing additional utilities

To test for the existence of the additional utilities:

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

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

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

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

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

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

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

To install the POPPLER utilities to a MACOS machine:

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

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

2. Install the POPPLER utilities:

Enter ⇒ **brew install poppler**

To install the POPPLER utilities to a WINDOWS machine:

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

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

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

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

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

5 Tutorial

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

Need help?

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

5.1 Starting a new project

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

Copy from the documentation PDF:

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

Copy from the `lwarp` documentation directory:

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

Enter ⇒ `texdoc -l lwarp_tutorial.txt`

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

⚠ **Bad formatting!**

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

3. Compile the project:

Enter ⇒ `pdflatex tutorial.tex`
(several times)

(`xelatex` or `lualatex` may be used as well. `lwarp` also supports DVI `latex` for use with .eps images.)
4. View the resulting `tutorial.pdf` with a PDF viewer.

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

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

Figure 1: tutorial.tex listing

Note: There are two pages!

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

\documentclass{book}

\usepackage{iftex}

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

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

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

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

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

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

```

\begin{document}

\maketitle % Or titlepage/titlingpage environment.

% An article abstract would go here.

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

\chapter{First chapter}

\section{A section}

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

\subsection{A subsection}

See \cref{fig:withtext}.

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

\section{Some math}

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

followed by display math:  

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

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

\end{document}

```

Table 4: Configuration files created by print version

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

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

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

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

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

.css files: 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.⁵

5. Process the index.⁶ ⁷

Enter ⇒ **`lwarpmk printindex`**

6. Recompile again to include the index.

Enter ⇒ **`lwarpmk print`**

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

Enter ⇒ **`lwarpmk print1`**

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

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

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

⁷Also see section 8.6.15 for index options.

5.3 Compiling the HTML version with *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^AT_EX to process `tutorial_html.tex` to create `tutorial_html.pdf`.
- (b) *pdftotext* is then used to convert to the file `tutorial_html.html`. This file is a plain-text file containing HTML tags and content for the entire document.
- (c) *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`⁸, `Some-math.html`, and the document's index in `_Index.html`.⁹

2. View the HTML page in a web browser.

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

math

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

3. Force a recompile:

Enter ⇒ **lwarpmk again**

Enter ⇒ **lwarpmk html**

Enter ⇒ **lwarpmk print**

4. Process the HTML index and recompile:¹⁰¹¹

Enter ⇒ **lwarpmk htmlindex**

Enter ⇒ **lwarpmk html**

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

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

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

Enter ⇒ **lwarpmk html1**

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

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

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

¹¹Also see section 8.6.15 for index options.

5.4 Generating the svg images

math as svg images By default lwarf represents math as svg images, with the L^AT_EX source included in alt attributes. In this way, the math is displayed as it was drawn by L^AT_EX, and the L^AT_EX 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^AT_EX source.

⚠️ adding/removing

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

recompile first

Before attempting to create the svg image files, **lwarpmk** verifies that the HTML version of the document exists and has correct internal image references.¹² If it is necessary to recompile the document's HTML version one more time, **lwarpmk** usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the L^AT_EX 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^AT_EX 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^AT_EX source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as picture and Tikz require one image file each. For a document with a large amount of math, see section 5.5 to use MATHJAX instead.

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

5.5 Using MATHJAX for math

math with MATHJAX Math may also be represented using the MATHJAX JAVASCRIPT project.

1. In the tutorial's source code, uncomment the `mathjax` package option for `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^AT_EX utility used to monitor changes in source files and recompile as needed.

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

`latexmk, % Use latexmk to compile.`

2. Recompile the printed version of the document.

Enter ⇒ **`lwarpmk print`**

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

3. Recompile the document.

Enter ⇒ **`lwarpmk print`**

and/or

Enter ⇒ **`lwarpmk html`**

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

Enter ⇒ **`lwarpmk print1`**

and/or

Enter ⇒ **`lwarpmk html1`**

forced single-pass recompile

5.9 Using X_ELATEX or LuaLATEX

X_ELATEX 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_ELATEX 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^AT_EX provides redefinable names for various objects, and lwarp adds a few more. Use \renewcommand to change these.

\abstractname: This macro is honored by lwarp.

\linkhomename: Displayed by the link to the homepage.

\linkpreviousname: Displayed by the link to the previous page

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

\sidetocname: Displayed at the head of the sidetoc.

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

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

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

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

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

Package options:

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

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

pdftotextEnc: To adjust the encoding of *pdftotext*.

7 Additional details

7.1 Localization

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

7.2 Accessibility

lwarp provides several methods for improving access to the document using tools such as text-only browsers, copy/paste, text-to-speech readers, or Braille readers. 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^AT_EX math expression in the alt text, so that the L^AT_EX expression may be copied and pasted to another document as plain text.

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

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

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

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

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

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

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

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

See section 7.6.

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

7.3 Shell escape

Opt `--shell-escape` Some documents require the use of an external program, which is allowed when using the `--shell-escape` command-line option. When the document is first compiled manually, and also whenever the print version is recompiled, 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^EL^AT^EX and L^AU^AL^ET^EX users must use the `fontspec` package. Do NOT use `fontenc`!

Place `fontspec` or `fontenc`, `xunicode`, and other font and UTF-8 related commands after the `\documentclass` command and before `\usepackage{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^EL^AT^EX or L^AU^AL^ET^EX:

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_EL_AT_EX or L_AU_L_AT_EX and fontspec along with traditional font packages such as txfonts, newtxtext, etc. This is required to turn off the monospaced font's ligatures with fontspec after loading the traditional font packages. Monospaced output ligatures must be turned off to produce the correct HTML characters.

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

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

After 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 lwarpmk print .
HTMLLatexCmd	The shell commands for lwarpmk html .
For indexing (section 8.6.15) and glossaries (section 8.6.12):	
makeindex	Use <i>makeindex</i> to generate indices.
makeindexStyle	Set a custom style for <i>makeindex</i> .
xindy	Use <i>xindy</i> to generate indices.
xindyStyle	Set a custom style for <i>xindy</i> .
xindyLanguage	The <i>xindy</i> language option used for index generation.
xindyCodepage	The <i>xindy</i> codepage option used for index generation.
xindex	Use <i>xindex</i> to generate indices.
xindexConfig	Set a custom configuration file for <i>xindex</i> .
PrintIndexCmd	Shell commands executed by lwarpmk printindex .
HTMLIndexCmd	Shell commands executed by lwarpmk htmlindex .
LatexmkIndexCmd	Shell commands executed by <i>latexmk</i> .
IndexRef	How to format index links.
GlossaryCmd	Shell command executed by lwarpmk printglossary and lwarpmk htmlglossary .
Seldom necessary:	
OSWindows	Force compatibility with MS-WINDOWS.
pdftotextEnc	Set the encoding for <i>pdftotext</i> .
lwarpmk	Generate a local copy of <i>lwarpmk.lua</i> .
Used internally by lwarp:	
warpprint	Generate print output, and also generate configuration files.
warpHTML	Generate HTML output.
BaseJobname	The \jobname to use. Set to the \jobname of the printed version even while generating HTML.

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^AT_EX 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^AT_EX engine and the use of `--shell-escape`.

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

Opt `makeindexStyle` **makeindexStyle:** If you wish to use a custom `.ist` file for index generation, see section 8.6.20.
Default: `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>	<small>(<i>makeindex</i>)</small>
<code>xindy -M lwarf.xdy -L english -C utf8</code>	<small>(<i>xindy</i>)</small>

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^AT_EX stack depths.

Ctr SideTOCDepth
Default: 1

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

sidetoc

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

It is recommended to set:

SideTOCDepth=FileDepth

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^AT_EX output. *lwarp_sagebrush.css* is a semi-fancy colored style as shown in this tutorial. Change it to *lwarp_formal.css* for a more formal look, or comment out the \CSSFilename command to see the default. \CSSFilename may be used before each file break to set the css for individual pages of the website.

\MathJaxFilename
Default: lwarp_mathjax.txt

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

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

\HTMLLanguage
Default: en-US

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

\HTMLTitle
Default: \thetitle

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

\HTMLTitleBeforeSection
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-2.¹³

```
\usepackage[
    HomeHTMLFilename=index,
    HTMLFilename={node-}
]{lwarp}
\boolfalse{FileSectionNames}
```

Named HTML sections, no prefix:

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

```
\usepackage[
    HomeHTMLFilename=index,
    HTMLFilename={}
]{lwarp}
\booltrue{FileSectionNames}
```

Named HTML sections, with prefix:

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

```
\usepackage[
    HomeHTMLFilename=mywebsite,
    HTMLFilename={mywebsite-}
]{lwarp}
\booltrue{FileSectionNames}
```

¹³See \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^AT_EX 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 . \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^AT_EX print-formatted PDF generation, or to HTML generation, or to HTML with MATHJAX.

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

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

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

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

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

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

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

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

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

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

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

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

```
\warpprintonly {\langle actions\rangle}
```

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

```
\warpHTMLonly {\langle actions\rangle}
```

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

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

⚠ \end{warpMathJax}
⚠ nesting

7.11 Commands to be placed into the warpprint environment

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

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

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

Also see section 13: Troubleshooting.

7.12 Title page

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

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

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

⚠️ **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 {\langle author \rangle}`

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

`\date {\langle date \rangle}`

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

`\thanks {\langle text \rangle}`

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

7.13 HTML page meta descriptions

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

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

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

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

```
\HTMLDescription{}
```

7.14 HTML homepage meta title

\HTMLTitle {*<title>*}

Default: \HTMLtitle{\thetitle}

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

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

7.15 HTML page meta author

\HTMLAuthor {*<author>*}

Default: \HTMLAuthor{\theauthor}

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

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

8 Special cases and limitations

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

Need help?

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

8.1 Things to avoid

In the document, avoid the following:



options with braces

Package options: Package options may cause problems with lwarf, 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 lwarf:
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{lwarf}
...
\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^AT_EX, but invalid HTML. An example is a tabular inside \textbf, since HTML does not allow a table inside a span. l warp will create the table, and the browser may support it, but the result is technically invalid.

8.2 Formatting

8.2.1 Text formatting

⚠ \bfseries, etc. \textbf, etc. are supported, but \bfseries, etc. work only in some situations.

⚠ HTML special chars &, <, and > have special meanings in HTML. If \&, \textless, and \textgreater are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.

program listings For program listings, the listings package is supported, and its literate option is used to convert &, <, and > to proper HTML entities.

verbatim The various verbatim-related environments do not convert &, <, and >, so care must be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

8.2.2 Small caps

Bool FixSmallCaps Some fonts, such as erewhon, utopia, or 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 pdfotext, and thus usually appear as a single space.

\rule \rule is converted to an HTML rule of the same dimensions, of the currently selected

text color.

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

8.2.4 Text alignment

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

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

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

8.2.5 Accents

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

8.2.6 textcomp package

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

8.2.7 Superscripts and other non-math uses of math mode

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

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

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

8.2.9 Filenames and URLs in lists or footnotes

filename underscore Escape underscores in the filenames:

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

8.2.10 relsize package

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

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

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

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

8.3 Boxes and minipages

8.3.1 Marginpars

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

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

8.3.2 Save Boxes

 **HTML corrupted**

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

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

8.3.3 Minipages

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

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

\newline between them.

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

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

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

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

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

⚠ tabular, multicol Inside a tabular or multicol 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.

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

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

8.3.4 Side-by-side minipages

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

8.3.5 Framed minipages and other environments

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

\fbox
 \fboxBlock
 Env fminipage

For a framed object, options include:

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

For inline text:

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

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^AT_EX code, the result in HTML is problematic since a table is a <div> not a , so use \fboxBlock around a tabular, or else place the tabular inside a minipage, or use fminipage, described next. Also see below regarding the “Misplaced alignment tab character &.” error.

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 619 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 247 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 509.

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 738 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^AT_EX footnote code, although with its own \box to avoid the L^AT_EX 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** 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 **\published and \subtitle** 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 LATEX commands to create the titles, allowing other packages to work with it.

\triangle 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^AT_EX document, including native L^AT_EX capabilities, a number of packages and classes, the possible availability of shell escape and *latexmk*, and the need to process print and HTML versions. *lwarf* attempts to provide easy recompilation of indexes along with the rest of the document, but the various indexing options must be set correctly. Numerous examples are given below. Some differ in minor details, so the important parts are highlighted in red, and options are in green.

Once set up properly, the entire document may be recompiled with **lwarpmk print** and **lwarpmk html**. In some cases, it will also be necessary to compile the indexes with **lwarpmk printindex** and **lwarpmk htmlindex**. A recompile may then be forced with **lwarpmk print1** and **lwarpmk html1**.

manual processing The user may continue to process indexes manually or by shell script without the use of *lwarpmk*, but adjustments will be required to process HTML indexes as well. In general, *.idx and *.ind files will be accompanied by *_html.idx and *_html.ind files.

custom index style If using a custom indexing style file, see sections 8.6.20 to 8.6.22.

link appearance To control how the index links appear in the HTML output, see the `IndexRef` option in section 7.5, page 108.

source code See section 77 for *lwarf*'s core index and glossary code, section 324 for `index`, section 525 for `splitidx`, section 323 for `imakeidx`, section 574 for `tocbibind`, and section 639.17 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} <optional>
```

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 639.17 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>
]{lwarf}
...
\xindyindex
\makeindex
```

The usual .idx and .ind files will be used, along with the lwarf.xdy style file.

lwarfmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarfmk printindex
Enter ⇒ lwarfmk htmlindex
```

to compile the indexes.

For multiple indexes with memoir and xindy, using latexmk:

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

```
\documentclass{memoir}
\usepackage[
    xindy,
    xindyLanguage=english,                                     <optional>
    xindyCodepage=utf8,                                       <optional>
    latexmk
]{lwarf}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

lwarfmk 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 lwarf is loaded:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
...
\usepackage{lwarf}
```

- 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 lwarf.xdy for \textbf and \textit as examples.

8.6.24 Index positions, toc, tocbibind

- placement and toc options** An index may be placed inline with other HTML text, or on its own HTML page:

Pkg makeidx **Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a L^AT_EX document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname} or chapter
\printindex
```

Pkg makeidx **On its own HTML page, with a manual toc entry:**

```
\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname} or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex
```

Pkg tocbibind **Inline, with an automatic toc entry:**

The *tocbibind* package may be used to automatically place an entry in the toc.

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex

Pkg tocbibind On its own HTML page, with an automatic TOC entry:
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex
```

Opt [tocbibind] numindex numbered index section Use the `tocbibind numindex` option to generate a numbered index. Without this option, the index heading has no number.

Other packages, such as `imakeidx`, may also have options for including the index in the Table of Contents.

Pkg tocloft If using `tocloft` with `tocbibind`, `anonchap`, `fncychap`, or other packages which change chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.



tocloft & other packages

8.7 Math

8.7.1 Math in section names



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

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

8.7.2 Rendering tradeoffs

Math rendering Math may be rendered as SVG graphics or using the MATHJAX JavaScript display engine.

SVG files Rendering math as images creates a new SVG file for each expression, except that an MD5 hash is used to combine identical duplicates of the same inline math expression into a single file, which must be converted to SVG only once. Display math is still handled as individual files, since it may contain labels or references which are likely to change.

SVG inline The SVG images are currently stored separately, but they could be encoded in-line directly into the HTML document. This may reduce the number of files and potentially speed loading the images, but slows the display of the rest of the document before the images are loaded.

- PNG files** Others L^AT_EX-to-HTML converters have used PNG files, sometimes pre-scaled for print resolution but displayed on-screen at a scaled down size. This allows high-quality print output at the expense of larger files, but SVG files are the preferred approach for scalable graphics.
- MathML** Conversion to MathML might be a better approach, among other things allowing a more compact representation of math than SVG drawings. Problems with MathML include limited browser support and some issues with the fine control of the appearance of the result. Also see section 10 regarding EPUB output with MATHJAX.

8.7.3 SVG option

SVG math option For SVG math, math is rendered as usual by L^AT_EX into the initial PDF file using the current font¹⁴, then is captured from the PDF and converted to SVG graphics via a number of utility programs. The SVG format is a scalable-vector web format, so math may be typeset by L^AT_EX with its fine control and precision, then displayed or printed at any size, depending on (sometimes broken) browser support. An HTML alt attribute carries the L^AT_EX code which generated the math, allowing copy/paste of the L^AT_EX math expression into other documents.

SVG image font size For the lateximage environment, the size of the math and text used in the SVG image may be adjusted by setting \LateximageFontSizeName to a font size name—*without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{\normalsize}
```

For inline SVG math, font size is instead controlled by \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^AT_EX code for the math expression. For AMS environments with multiple numbers in the same environment, only the first and last is copy/pasted, as a range. No tags are listed inside a starred AMS environment, although the \tag macro will still appear inside the L^AT_EX math expression.

⚠️ SVG math size, baseline SVG math sizing and baselines are improved if the graphics or graphicx package is loaded. An almost-invisible marker is placed at either end of the image to assist in cropping and computing the baseline. A warning is issued at the end of the compile if graphics or graphicx are not used.

⚠️ 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 MATHJAX (mathjax.org) L^AT_EX-math to HTML converter may be used to display math.

Prog MathJax

¹⁴See section 624 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 equation numbering system is ignored in favor of the LATEX internal system, seamlessly integrating with the rest of the HTML output, including any math appearing in non-MATHJAX SVG output.

8.7.5 Customizing MATHJAX

equation numbering

lwarp detects and adjusts MATHJAX equation numbering format for article and book style equations as well as amsmath \numberwithin for chapters, sections, and subsections. Custom equation number formats may be set as follows, for example:

```
\renewcommand*\theequation{\Alph{section}.\arabic{equation}}
\AtBeginDocument{
  \renewcommand*\theMathJaxsection{\Alph{section}.}
}
```

⚠ subequation

The amsmath subequations environment is supported, but only with \alpha subequation numbering.

global customizations

MATHJAX does not have preexisting support every possible math function. Additional MATHJAX function definitions may be defined in the preamble. These will be declared at the start of each HTML page, and thus will have a global effect across all HTML pages.

Examples:

```
\begin{warpMathJax}
\CustomizeMathJax{
  \newcommand{\expval}[1]{\langle #1 \rangle}
  \newcommand{\abs}[1]{\lvert #1 \rvert}
}
\CustomizeMathJax{\newcommand{\arcsinh}{\text{arcsinh}}}
\CustomizeMathJax{\newcommand{\arccosh}{\text{arccosh}}}
\CustomizeMathJax{\newcommand{\NN}{\mathbb{N}}}
\end{warpMathJax}
```

⚠ slow compilation

To avoid a slowdown in compile speed, use the warpMathJax environment to prevent its contents from being processed in print or SVG math output. Also, place each new definition inside its own \CustomizeMathJax. A warning to this effect is issued if an overly-long definition is attempted.

lwarp already provides MATHJAX customizations for some packages.

siunitx

When using siunitx, a similar process may be used to add custom units:

```
\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\myunit}{\mathrm{WXYZ}}}
\CustomizeMathJax{\newcommand{\umyunit}{\mathrm{\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 373, **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{\def\myname{\ifnextchar X \found\notfound}}
```

“X” may be a single ASCII character, or a hex number inside braces, ex:

```
\CustomizeMathJax{\def\myname{\ifnextchar{0x7B}\found\notfound}}
```

Use “(” or “{0x28}” for a left parenthesis, “{0x7B}” for a left brace, “{0x7D}” for a right brace, or “{0x5C}” for a backslash.

8.7.6 MATHJAX limitations

MATHJAX limitations Limitations when using `MATHJAX` include:

Prog MathJax

⚠ `\multicolumn`, `multirow`

- `MATHJAX` does not support `\multicolumn` or `multirow`. These may be used in text tabulars or SVG math, but in `MATHJAX` math arrays they are emulated. `\multicolumn` only fills a single cell, resulting in a short row. `\multirow` simply prints its text on the first line.

⚠ `footnotes`

- Footnotes are emulated when used inside a `MATHJAX` expression. For an equation with a single footnote, the correct footnote number is used. For non-equations, `\footnotename` is used instead, since the actual number cannot be tracked. See section 8.5.4 regarding the use of footnotes with `MATHJAX`.

⚠ `references`

- Inside a `MATHJAX` expression, references to equations work within the same HTML web page, but do not work when referring to an equation in a different

HTML web page. Outside of a MATHJAX expression, in the text body, references work as expected.

`lateximage`

- Math appearing inside a `lateximage`, and therefore also inside a Tikz or picture environment, is rendered as SVG math even if MATHJAX is used in the rest of the document.

`siunitx`

- For `siunitx`, see [siunitx package](#), section 8.7.12.

`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.

`\text`

- MATHJAX includes the `textmacros` extension, which supports various macros which are commonly used inside `\text`, such as `\textbf` and text accents. `Lwarp` supports this extension.

⚠ other macros and packages

- Many other math-related macros and packages are not directly supported by MATHJAX, including `\ensuremath` and occasionally-used macros such as `\relax`. While using MATHJAX, `l warp` provides emulation for many of these macros, as well as for footnotes and emulation for dozens of packages (see table 2). In many cases these emulations simply ignore the package in a source-compatible way. Others produce a result which represents the meaning, even if they don't look exact. Look up each package in this document for a description of the limitations of each.

8.7.7 Catcode changes

preamble macros with math

The math shift character \$ is not set for HTML output until after the preamble. Macros defined in the preamble which contain \$ must be enclosed between `\StartDefiningMath` and `\StopDefiningMath` to temporarily change to the HTML meaning of \$:

```
\StartDefiningMath
\newcommand{...}
\StopDefiningMath
```

As an alternative, use `\(` and `\)` instead of \$, in which case `\StartDefiningMath` and `\StopDefiningMath` are not necessary.

If a package defines macros using \$, it may be necessary to use `\StartDefiningMath` and `\StopDefiningMath` before and after loading the package.

8.7.8 Complicated inline math objects

`\inlinemathnormal` `\inlinemathother`

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.

changing contents

complicated 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.

8.7.9 Complicated display math objects

<code>\displaymathnormal</code>	By default, or when selecting <code>\displaymathnormal</code> , 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.
<code>\displaymathother</code> MathJAX unsupported complicated alt tag	When selecting <code>\displaymathother</code> , 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 <code>ntheorem</code>	This conversion is not total. Font control is via css, and the custom L ^A T _E X font settings are ignored.
⚠ <code>cref</code> reference format undefined	If the print version does not use <code>cleveref</code> , place all <code>\theoremstyle</code> and <code>\newtheorem</code> declarations in the preamble inside <code>\AtBeginDocument</code> . ¹⁵ For some theorems, it may also be required to add inside <code>\AtBeginDocument</code> something such as:

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

⚠ <code>Equation numbering</code>	<code>ntheorem</code> has a bug with equation numbering in $\mathcal{A}\mathcal{M}\mathcal{S}$ environments when the option <code>thref</code> is used. l warp does not share this bug, so equations with <code>\split</code> , etc, are numbered correctly with l warp’s HTML output, but not with the print output. It is recommended to use <code>cleveref</code> instead of <code>ntheorem</code> ’s <code>thref</code> option.
-----------------------------------	---

¹⁵l warp uses `cleveref` for the HTML conversion, and loads `cleveref` `\AtEndPreamble`, just before `\AtBeginDocument`.

8.7.11 mathtools package

Pkg mathtools showonlyrefs is disabled, as it conflicts with cleveref, which is used by lwarp. Equation numbers may not match the print version.

⚠️ equation numbering

⚠️ italic correction mathtic 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}.

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 l warp'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 l warp-`siunitx` code for examples.

- ⚠ unit spacing** • Units work better using `~` between units instead of using periods.
- ⚠ \square, \cubic** • To square or cube compound units, enclose the following compound units in braces:
`\cubic{\centi\meter}`
Single units do not require braces.

Also see [MATHJAX option](#), section 8.7.4.

8.7.13 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`.
- Pkg `nicefrac`

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 PDF to SVG To convert a PDF image to SVG, use the utility *pdftocairo*:

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 epstopdf package For EPS images converted to PDF using the package *epstopdf*, use

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

⚠ viewport

⚠ viewport units

If using the older *graphics* syntax, use both optional arguments for *\includegraphics*. A single optional parameter is interpreted as the newer *graphicx* syntax. Note that viewports are not supported by *lwarf*—the entire image will be shown.

For *\includegraphics*, avoid px and % units for width and height, or enclose them inside *warpHTML* environments. For font-proportional image sizes, use ex or em. For fixed-sized images, use cm, mm, in, pt, or pc. Use the keys *width=.5\linewidth*, or similar for *\textwidth* or *\textheight* to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the *scale* option, since it is not well supported by HTML browsers.

options *\includegraphics* accepts *width* and *height*, *origin*, *rotate* and *scale*, plus new *class* and *alt* keys.

HTML class With HTML output, *\includegraphics* accepts an optional *class=xyz* keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

HTML alt tags Likewise, the *\includegraphics alt* key adds an HTML alt tag to an image, and is

ignored for print output. If not assigned, each image is given an `alt` tag according to `\ImageAltText`.

\rotatebox `\rotatebox` accepts the optional `origin` key.

⚠ browser support `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The `css3` standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike L^AT_EX, 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:

```
\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 xcolor 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 ``. 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 .svg version, so use



convert to .svg

Enter ⇒ **l warpmk pdftosvg <listofPDFfiles>**

to generate .svg versions.

8.8.6 pstricks package

Pkg pstricks All pstricks content should be contained inside a pspicture environment.



use pspicture

8.8.7 pdftricks package

Pkg pdftricks The pdftricks image files <jobname>-fig*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:



Enter ⇒ **l warpmk pdftosvg <jobname>-fig*.pdf**

8.8.8 psfrag package

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

⚠ 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 l warp.



Tip: Use a mono-spaced font for the tags in the EPS file.

8.8.9 pstool package

Pkg pstool \graphicspath is ignored, and the file directory must be stated.

⚠ path and filename

The filename must not have a file extension.

Use

Enter ⇒ **l warpmk html**

followed by

Enter ⇒ **l warpmk l images**

8.8.10 asymptote package

Pkg asymptote To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex

l warpmk print
asy project-*.asy
l warpmk print1
l warpmk print1

l warpmk html
asy project_html-*.asy
l warpmk html1
l warpmk html1
l warpmk l images
```

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.

 **scaling**

8.8.12 Multimedia packages

Pkg multimedia The packages `multimedia`, `movie15`, and `media9` are supported.

Pkg movie15 `HTML5 <audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

Pkg media9

`HTML5 <embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by `HTML5`.)

For `media9`, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The `HTML` object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \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 `lateximages` do not yet work inside the environment.

 **math in tabbing** If math is used inside tabbing, place tabbing inside a `lateximage` environment, which will render the entire environment as a single `svg` image.

8.10 Tabular

8.10.1 tabular environment

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, `multirows`, `siunitx S` columns, or the packages `multirow`, `longtable`, `supertabular`, or `xtab`.

Defining macros and environments:

 **Misplaced alignment tab character &**

- When defining environments or macros which include `tabular` and instances of the `&` character, it may be necessary to make `&` active before the environment or macro is defined, then restore `&` to its default catcode after, using the following commands. These are 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, l warp'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 \\
}
{
\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.

⚠ `\warpprintonly`
⚠ Misplaced `\noalign`

- For `\toprule` and `\bottomrule`, when combined with a `\warpprint` or `\warpHTML` environment, if a “Misplaced `\noalign`” error occurs, change
`This & That \endhead`
to
`\warpprintonly{This & That \endhead}`
and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

Other:

`longtable` headings

⚠ `S` columns

- `tabularx` ignores the width, but `X` columns do produce paragraph columns or multicolumns.
- 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^AT_EX, a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a ``. If this situation is detected, a warning is printed instructing the user to isolate the `` using `\warpprintonly` or the `\warpprint` environment.

8.10.2 `multirow` package

`vposn`

`multirow` cells

colored cells

with `\multicolumn`

⚠ `\multicolumn` &
`\multirow`

- Note that recent versions of `multirow` include a new optional `vposn` argument.

- 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 & ...
```

- 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 399.2 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.

⚠ **skipped cells**

As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

```
... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

⚠ **MathJax**

- MATHJAX does not support `multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or SVG math.

8.10.3 longtable package

Pkg `longtable` Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```
\begin{longtable}{ [column specifiers] }
[ ... ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
    [ ... ] \endhead % or \endfirsthead
    [ ... ] \endfoot
    [ <lastfoot macros> ] \endlastfoot
}
... table contents ...
\warpHTMLonly{
    [ <lastfoot macros> ] % HTML last footer, without \endfoot
                           % or \endlastfoot.
}
\end{longtable}
```

⚠ **Misplaced `\noalign`** Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ **`\kill`** `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} ... \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ **`\latextimage`** `longtable` is not supported inside a `latextimage`.

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 {	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 585.1.

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 `lwarp`:

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

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
\captionsetup{font={it,small}}
```

- ⚠ **numbering** To ensure proper float numbering, set caption positions such as:

```
\captionsetup[figure]{position=bottom}
\captionsetup[subfigure]{position=bottom}
\captionsetup[table]{position=top}
\captionsetup[subtable]{position=top}
```

Similarly for `longtable`. These positions depend on where the user places the `\caption` command inside each float.

8.11.4 subfig package

Pkg subfig

- ⚠ **table numbering** To have correct sub table numbers:

```
\usepackage{caption}
\captionsetup[table]{position=top}
```

- ⚠ **lof/lotdepth** At present, the package options for `lofdepth` and `lotdepth` are not working. These counters must be set separately after the package has been loaded.

- ⚠ **horizontal spacing** In the document source, use `\hfill` and `\hspace*` between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

8.11.5 floatrow package

Pkg floatrow Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.

- ⚠ **Misplaced alignment tab character & subfig package** When combined with the `subfig` package, while inside a `subfloatrow` `\ffigbox` and `\ttabbox` must have the caption in the first of the two of the mandatory arguments.

- ⚠ **\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. lwarf will scale the HTML lengths appropriately.
- Use warpprint and warpHTML environments to select appropriate values for each case.
- Inside a warpHTML environment, manually change \FBwidth or \FBheight before the \ffigbox or \ttabbox. Use \FBwidth or \FBheight normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

8.11.6 keyfloat package

Pkg keyfloat If placing a \keyfig[H] inside a keywrap, use an absolute width for \keyfig, instead of \w-proportional widths. (The [H] option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the \w option.)

⚠️ keywrap

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

⚠️ captions

⚠️ options clash While emulating memoir, lwarf pre-loads a number of packages (section 639.1). 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 lwarf:

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarf}
...
\usepackage{package_name}
```

⚠️ version numbers

memoir emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since lwarf is intended to support the freestanding packages, which are often newer than the date declared by memoir, it is hoped that memoir will update and change its emulated version numbers to match.

`\label(bookmark){tag}` `\label` accepts an optional (bookmark) argument, but this is ignored in `HTML`.

 `comment` The `comment` environment is from the `comment` package, and thus requires that the `\begin` and `\end` each be on its own line:

```
\begin{comment}
This is a comment.
\end{comment}
```

`\newcomment` Comments defined with `\newcomment` use `memoir`'s defintions, 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` `lwarf` 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` 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.

 `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 `lwarfmk`. 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 defintions in the preamble inside `warpprint` environments, and then providing an `HTML` equivalent:

```
\begin{warpHTML}
\newcommand{\FrameTitle}[2]{%
  \textbf{\#2}
}

\newenvironment{framewithtitle}[2][\FrameFirst@Lab\ (cont.)]{%
  \begin{fminipage}{\linewidth}
    \textbf{\#2}
    \begin{minipage}{\linewidth}
}
{\end{minipage}\end{fminipage}%

\newcommand{\TitleFrame}[2]{%
  \par
  \textbf{\#1}\par
}
```

```

\fboxBlock{#2}
}

\newenvironment{titledframe}[2][\FrameFirst@Lab\ (cont.)]{%
  \par
  \textbf{#2}
  \begin{fminipage}{\linewidth}
}
{\end{fminipage}}
\end{warpHTML}

```

8.14 International languages

⚠ **section and file names**

If using *pdflatex* with the setting `\booltrue{FileSectionNames}`, non-ASCII text in section names can result in corrupted HTML file names. *pdflatex* may be used if setting `\boolfalse{FileSectionNames}`, in which case HTML file numbers will be generated.

For correct HTML file names, use *xelatex*, *lualatex*, or dedicated document classes / engines.

(As of this writing, this warning is only relevant to the *kotex* package.)

8.15 Miscellaneous packages

8.15.1 *verse* and *memoir*

Pkg *verse* When using *verse* or *memoir*, always place a `\\"` after each line.

Cls *memoir* `\attrib` The documentation for the *verse* and *memoir* packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. *lwarp* provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```

\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}

```

Len `\vleftskip` These lengths are used by *verse* and *memoir* to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLvleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any *verse* environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

⚠ **spacing**

Horizontal spacing relies on *pdftotext*'s ability to discern the layout (-layout option) 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

-  **verse margin** label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused `pdftotext` to shift everything over.

8.15.2 newclude package

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

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

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 `lwarp` is loaded:

```
\renewcommand*{\CaptionSeparator}{:~}
```

punctuation spaces Also when French is used, `lwarp` creates fixed-width space around punctuation by patching `\FBcolonspace`, `\FBthinspace`, `\FBguillspace`, `\FBmedkern`, `\FBthickkern`, `\FBtextellipsis`, and the tilde. If the user's document also changes these parameters, the user's changes should be placed inside a `warpprint` environment so that the user's changes do not affect the HTML output.

8.15.4 polyglossia package

Pkg `polyglossia` `lwarp` 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 `lwarp`.

8.15.5 todonotes and luatodonotes packages

Pkg todonotes
Pkg luatodonotes

The documentation for `todonotes` and `luatodonotes` have an example with a todo inside a caption. If this example does not work it will be necessary to move the todo outside of the caption.

8.15.6 fixme

Pkg fixme

External layouts (`\fxloadlayouts`) are not supported.

 external layouts

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after `fixme` is loaded:

```
\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

8.15.7 acro package

 formats

Define acronymn formats using `\textbf` instead of `\bfseries` etc.

8.15.8 chemfig package

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `\lateximage`:

```
\begin{latextimage}[-chemfig-~\PackageDiagramAltText]
\chemfig{...}
\polymerdelim[...]{...}
\end{latextimage}
```

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 380.

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`.

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

`HTMLLatexCmd` should be set to take `project_html.tex` and generate `project_html.pdf`. *lwarpmk* will then take `project_html.pdf` and automatically convert it and generate `project.html`.

9.2 Literal character macros

The *lwarp* package options are parsed by *TEX*, and so some characters require the use of a special macro to represent them. See table 9. `\LWRopquote` and `\LWRopseq` may be used to increase operating-system portability. `\jobname` must have `_html` appended for processing HTML. `\space` may be necessary between other macros.

 **macro not found** To use these macros, either `kvoptions-patch` must be loaded before *lwarp*:

```
\usepackage{kvoptions-patch}
\usepackage[
    PrintLatexCmd={ ... } ,
    HTMLLatexCmd={ ... }
]{lwarp}
```

Table 9: Literal character macros

Character	Macro	Comment
%	\LWRpercent	
\$	\LWRdollar	
&	\LWRamp	
%	\LWRhash	
\	\LWRbackslash	
' or "	\LWRopquote	Depends on the operating system.
& or &&	\LWRopseq	Depends on the operating system.
(space)	\space	Forces an extra space.
(jobname)	\jobname	Without file extension.

or \lwarpsetup must be used to set PrintLatexCmd and HTMLLatexCmd:

```
\usepackage[...]{lwarp}
\lwarpsetup{
  PrintLatexCmd=
  {
    latex tm \LWRopseq
    dvips -o tm-pics.ps tm.dvi \LWRopseq
    ps2pdf tm-pics.ps \LWRopseq
    pdflatex tm.tex
  },
  HTMLLatexCmd=
  {
    latex tm_html \LWRopseq
    dvips -o tm_html-pics.ps tm_html.dvi \LWRopseq
    ps2pdf tm_html-pics.ps \LWRopseq
    pdflatex tm_html.tex
  }
}
```

9.3 *latexmk*

Prog latexmk If *latexmk* is used for a project, it may be easiest to continue using it.

latexmk project.tex would create *project.pdf* as normal.

latexmk project_html.tex would create *project_html.pdf*, then

lwarpmk pdftohtml project_html.pdf would take *project_html.pdf* and convert it to *project.html*.

Pkg sagetex *latexmk* may simplify the use of packages such as `sagetex`.

9.4 perltex package

Pkg 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^LA_TE_X and *dita*a. To use Lu^AL_AT_EX 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 ⇒ lwarfmk cleanall
```

```
Enter ⇒ lwarfmk html
```

```
Enter ⇒ lwarfmk limages
```

to recompile with the FormatEPUB boolean turned on. Several changes are then made to the HTML output:

- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.

The resulting files will be ready to be loaded into an EPUB conversion program, such as the open-source program *Calibre* (<https://calibre-ebook.com/>).

⚠ search order

The EPUB conversion program must know what order the files are included. For lwarf projects, set the EPUB conversion software to do a breadth-first search of the files. For *Calibre*, this option is found in

Preferences → Plugins → File type plugins → HTML to Zip

⚠ encoding

Check the box Add linked files in breadth first order. Set the document encoding as utf-8, which is what lwarf generates for HTML, even if the original printed document uses some other encoding.

⚠ section breaks

The EPUB-conversion program must also know where the section breaks are located. For a list of lwarf's section headings, see table 11. For example, an article class document would break at \section, which is mapped to HTML heading level <h4>, whereas a book class document would break at \chapter, which is HTML heading level <h3>. For *Calibre*, this option is found in

Preferences → Conversion (Common Options) → Structure Detection → Detect chapters at (XPath expression)

Select the “magic wand” to the right of this entry box, and set the first entry

Match HTML tags with tag name:

to “h4”. (Or “h3” for document classes with \chapters.) The Detect chapters at field should then show

//h:h4 — or — //h:h3

This option is also available on the main tool bar at the Convert books button.

Once these settings have been made, the lwarf-generated HTML files may be loaded by *Calibre*, and then converted to an EPUB.

MATHJAX support

MATHJAX may be used in EPUB documents. Some e-readers include MATHJAX, but any given reader may or may not have a recent version, and may or may not include extensions such as support for siunitx.

lwarf adds some modifications to MathML to support equations numbered by chapter. These modifications may not be compatible with the e-reader's version of MATHJAX, so lwarf requests that a known version be loaded instead. In some cases chapter numbering of equations still doesn't work.

Until math support in EPUB documents is improved, it is recommended to use SVG images instead of MATHJAX, especially for equations numbered by chapter, or where siunitx support is important.

11 Word-processor conversion

lwarf may be told to modify its HTML output to make it easier to import the HTML document into a word processor. At the time of this writing, it seems that LibreOffice works best at preserving table layout, but it still has some limitations, such as an inability to automatically assign figure and table frames and captions according to user-selected HTML classes. lwarf provides some assistance in locating these frame boundaries, as shown below.

11.1 Activating word-processor conversion

A special boolean is provided to simplify the process of converting lwarf HTML output to EPUB:

FormatWP	
Bool FormatWP Default: false	Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments. Additionally, honors the booleans WPMarkFloats, WPMarkMinipages, WPMarkTOC, and WPMarkLOFT.

To help modify lwarf HTML output for easier import to a word processor, add

`\booltrue{FormatWP}`

to the project's source preamble after lwarf is loaded. The following changes are then made to the HTML output:

- 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 ====
or

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.

WPMarkMinipages

Bool WPMarkMinipages

Default: false

Adds

```
==== begin minipage ====
. . .
==== end minipage ===
```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

WPMarkTOC

Bool WPMarkTOC

Default: true

While formatting for word processors, adds

```
==== table of contents ===
```

where the Table of Contents would have been. This helps identify where to insert the actual TOC.

If set false, the actual TOC is printed instead.

WPMarkLOFT

Bool WPMarkLOFT

Default: false

While formatting for word processors, adds

```
==== list of figures ==== and/or
==== list of tables ====
```

where each of these lists would have been. This helps identify where to insert the actual lists.

If set false, the actual lists are printed instead.

WPMarkMath

siunitx

Bool WPMarkMath

Default: false

Prog TeXMaths

While formatting for word processors, prints math as L^AT_EX 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		<h6>	<h6>	<h5>

* For default depths when not FormatWP, see table 11 on page 204.

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 188.

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^AT_EX and HTML versions.

EQUATION NUMBERING
Equation numbering is not automatic, but the equation numbers in SVG math will match the L^AT_EX 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 l warp

locating something	To quickly find the source for a package in <code>l warp.dtx</code> , search for <code>*packagename</code> , such as <code>*siunitx</code> .
	Likewise, to quickly find the source for a file in <code>l warp.dtx</code> , search for <code>*filename</code> , such as <code>*l warp.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 LATEX 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 <code>svg</code> 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 `l warp` on a TeXLive system in a UNIX-like environment. Doing so allows anything requesting `l warp` to use the development version instead of whichever version is installed in TeXLive.

Create a development directory:

Place into this directory `l warp.dtx` and `l warp.ins`.

To create `l warp.sty`, execute

Enter ⇒ `pdflatex l warp.ins`

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

To create the initial documentation `l warp.pdf`, execute

Enter ⇒ `pdflatex l warp.dtx`

To make the development files visible to other projects:

Create the directory

```
/usr/local/texlive/texmf-local/tex/latex/local/l warp
```

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

```
rm l warp-*.sty
ln -s /path_to_dev_directory/l warp*.sty .
ln -s /path_to_dev_directory/l warp_baseline_marker.png .
ln -s /path_to_dev_directory/l warp_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 425 (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^AT_EX 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 l warp package error conditions and warnings

l warp 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 l warp. So far only Unix and Windows are supported.

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

Source name is set to l warp: l warp has recently been recompiled in this directory, which overwrote the project's configuration files. This also occurs if `lwarpmk` is executed in l warp's source directory.

Incorrect operating system: The configuratio file was set for a different operating system, perhaps due to sharing in a collaborative project.

Outdated configuration files: l warp has been updated since this projects 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: l warp cannot determing which engine is being used. Supported are DVI L^AT_EX, PDF L^AT_EX, XE^LL^AT_EX, L^AU^LTEX, and upL^AT_EX.

13.1.2 Image generation with `lwarpmk limages`

“Wait a moment for the images to complete before reloading page.”:

Images are generated by background tasks. If the document is reloaded before these tasks are complete, some images may not yet be generated. `lwarpmk` tries to wait for background tasks to complete before exiting.

HTML version does not exist: Images are extracted from the HTML version, which must be compiled before images are generated.

***-images.txt does not exist:** This file tells which images to extract from the HTML file. If the file does not exist, it may be that no SVG math or lateximages were used. If so, `lwarpmk limages` is not necessary.

Cross references are not correct: The document must have up-to-date cross references to locate the images to extract. A number of conditions may cause incorrect cross references.

“WARNING: Images will be incorrect.”: An image reference was not found. Recompile.

lwarpmk epstopdf * or **lwarpmk pdftosvg ***: Errors if filenames are not found.

13.1.3 Default bitmapped font

lwarf requires the use of a vector font. If lwarf detects that the document uses the default COMPUTER MODERN font, and the cm-super package is not installed, it is assumed that the font is bitmapped. An error is generated, along with the recommendation to install cm-super or use lmodern.

13.1.4 Packages

Loaded before lwarf: Some packages and classes must be loaded before lwarf. These include input and font encoding, morewrites and newclude, and a number of CJK-related packages and classes.

Loaded after lwarf: Most packages which are modified by lwarf must be loaded after lwarf.

Loaded never: Some packages do not work with lwarf. An error is generated, along with a list of alternatives to consider.

Specific packages: Some packages enforce a specific load order vs. certain other packages.

Patching error: lwarf tries to patch some packages using xpatch. If the original package has been updated more recently than lwarf, a patch may not work. It may be necessary to use an older version of the package until lwarf is updated.

longtable: lwarf’s longtable package issues detailed error messages regarding the use of the table headers and footers.

polyglossia: If used, an informative message is printed to instruct the user to be sure to set a language, without which an error will occur.

babel or polyglossia: An informative message is printed to note that not all 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: lwarf may generate file names from section names. While doing so, the filenames are simplified, and special characters and math are removed. If this process generates a duplicate filename, an error is generated, describing the filename and which section name generated it. A warning is issued if dollar-delimited math is used. Parenthesis-delimited math is recommended instead.

-  **HTML corrupted**
- 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^TE_X logo can use the reversed “E”.
 - “It is recommended to use [width=xx\linewidth] instead of [scale=yy]”:** Browser support of scale does not have the same effect as in L^AT_EX.

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^AT_EX 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 738 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 X₁⁴L_AT_EX or LuaL_AT_EX.

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.¹⁶ 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_AT_EX 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_AT_EX 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_AT_EX 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.

¹⁶This 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	
subparagraph	5	
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 188.

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{libgreek}{libertinust1math, newtx}
136 \LWR@earlyloadnever{newthm}{ntheorem}
137 \LWR@earlyloadnever{pdfcprot}{microtype}
138 \LWR@earlyloadnever{picinpar}{floatflt, wrapfig}
139 \LWR@earlyloadnever{picins}{floatflt, wrapfig}
140 \LWR@earlyloadnever{rplain}{fancyhdr}
141 \LWR@earlyloadnever{si}{siunitx}
142 \LWR@earlyloadnever{sistyle}{siunitx}
143 \LWR@earlyloadnever{slashbox}{diagbox}
144 \LWR@earlyloadnever{statex}{statex2}
145 \LWR@earlyloadnever{t1enc}{fontenc, inputenc, inputenx}
146 \LWR@earlyloadnever{ucs}{inputenc, inputenx}
147 \LWR@earlyloadnever{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}

```

The older CJK and CJKutf8 only work with xeCJK:

```

148 \@ifpackageloaded{xeCJK}{}{
149     \LWR@earlyloadnever{CJK}{ctex, xeCJK}
150     \LWR@earlyloadnever{CJKutf8}{ctex, xeCJK}
151 }

```

bxcjkjatype is based on CJK:

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

hangul is not in TeXLive, and is not tested:

```
153 \LWR@earlyloadnever{hangul}{kotex, xetexko, luatexko}
```

20.3 Enforcing package loading after l warp

Packages which should only be loaded after l warp are tested here to trip an error if they have already been loaded.

The following packages must be loaded after l warp:

```

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

```

```
158 \LWR@loadafter{a5comb}
159 \LWR@notmemoirloadafter{abstract}
160 \LWR@loadafter{academicons}
161 \LWR@loadafter{accents}
162 \LWR@loadafter{accessibility}
163 \LWR@loadafter{accsupp}
164 \LWR@loadafter{acro}
165 \LWR@loadafter{acronym}
166 \LWR@loadafter{adjmulticol}
167 \LWR@loadafter{addlines}
168 \LWR@loadafter{afterpage}
169 \LWR@loadafter{algorithm2e}
170 \LWR@loadafter{algorithmicx}
171 \LWR@loadafter{alltt}
172 % \LWR@loadafter{amsmath}% may be preloaded
173 % \LWR@loadafter{amsthm}% may be preloaded
174 \LWR@loadafter{anonchap}
175 \LWR@loadafter{anyfontsize}
176 \LWR@notmemoirloadafter{appendix}
177 \LWR@loadafter{ar}
178 \LWR@loadafter{arabicfront}
179 \LWR@notmemoirloadafter{array}
180 \LWR@loadafter{arydshln}
181 \LWR@loadafter{asymptote}
182 % \LWR@loadafter{atbegshi}% now in LaTeX core, also used by morewrites
183 \LWR@loadafter{attachfile}
184 \LWR@loadafter{attachfile2}
185 \LWR@loadafter{authblk}
186 \LWR@loadafter{authoraftertitle}% Supported as-is, but must be loaded after.
187 \LWR@loadafter{autobreak}
188 \LWR@loadafter{autonum}
189 \LWR@loadafter{awesomebox}
190 \LWR@loadafter{axessibility}
191 \LWR@loadafter{axodraw2}
192 \LWR@loadafter{backnaur}
193 \LWR@loadafter{backref}
194 \LWR@loadafter{balance}
195 \LWR@loadafter{bbding}
196 \LWR@loadafter{bigdelim}
197 \LWR@loadafter{bigfoot}
198 \LWR@loadafter{bigstrut}
199 \LWR@loadafter{bitpattern}
200 \LWR@loadafter{blowup}
201 \LWR@loadafter{bm}
202 \LWR@loadafter{booklet}
203 \LWR@loadafter{bookmark}
204 \LWR@notmemoirloadafter{booktabs}
205 \LWR@loadafter{bophook}
206 \LWR@loadafter{bounddvi}
207 \LWR@loadafter{boxedminipage}
208 \LWR@loadafter{boxedminipage2e}
209 \LWR@loadafter{braket}
210 \LWR@loadafter{breakurl}
211 \LWR@loadafter{breqn}
212 \LWR@loadafter{bsheaders}
```

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

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

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

```
378 \LWR@loadaft{keyfloat}
379 % kpfonts may be loaded before l warp
380 % kpfonts-otf may be loaded before l warp
381 \LWR@loadaft{layaureo}
382 \LWR@loadaft{layout}
383 \LWR@loadaft{layouts}
384 \LWR@loadaft{leading}
385 \LWR@loadaft{leftidx}
386 \LWR@loadaft{letterspace}
387 \LWR@loadaft{lettrine}
388 % libertinust1math may be loaded before l warp
389 \LWR@loadaft{lineno}
390 \LWR@loadaft{lips}
391 \LWR@loadaft{listings}
392 \LWR@loadaft{listliketab}
393 \LWR@loadaft{longtable}
394 \LWR@loadaft{lscape}
395 \LWR@loadaft{ltablex}
396 \LWR@loadaft{ltcaption}
397 \LWR@loadaft{ltxgrid}
398 \LWR@loadaft{ltxtable}
399 \LWR@loadaft{lua-check-hyphen}
400 \LWR@loadaft{lua-visual-debug}
401 \LWR@loadaft{luacolor}
402 \LWR@loadaft{luamplib}
403 \LWR@loadaft{luatodonotes}
404 \LWR@loadaft{lyluatex}
405 \LWR@loadaft{magaz}
406 \LWR@notmemoirloadaft{makeidx}
407 \LWR@loadaft{manyfoot}
408 \LWR@loadaft{marginfit}
409 \LWR@loadaft{marginfix}
410 \LWR@loadaft{marginnote}
411 \LWR@loadaft{marvosym}
412 % mathalpha may be loaded before l warp
413 \LWR@loadaft{mathcomp}
414 \LWR@loadaft{mathdesign}
415 \LWR@loadaft{mathdots}
416 \LWR@loadaft{mathfixs}
417 \LWR@loadaft{mathpazo}
418 \LWR@loadaft{mathptmx}
419 \LWR@loadaft{mathtools}
420 \LWR@loadaft{mcaption}
421 \LWR@loadaft{mdframed}
422 \LWR@loadaft{media9}
423 \LWR@loadaft{memhfixc}
424 \LWR@loadaft{metalogo}
425 \LWR@loadaft{metalogox}
426 \LWR@loadaft{mhchem}
427 \LWR@loadaft{microtype}
428 \LWR@loadaft{midfloat}
429 \LWR@loadaft{midpage}
430 \LWR@loadaft{minibox}
431 \LWR@loadaft{minitoc}
432 \LWR@loadaft{minted}
```

```
433 \LWR@loadaft{mismath}
434 \LWR@loadaft{mletright}
435 % morefloats must be allowed early for print mode
436 \LWR@notmemoirloadaft{moreverb}
437 % morewrites must be loaded before lwarp
438 \LWR@notmemoirloadaft{movie15}
439 \LWR@notmemoirloadaft{mparhack}
440 \LWR@loadaft{multibib}
441 \LWR@loadaft{multicap}
442 \% \LWR@loadaft{multicol} % loaded by ltxdoc
443 \LWR@loadaft{multicolrule}
444 \LWR@loadaft{multimedia}
445 \LWR@loadaft{multiobjective}
446 \LWR@loadaft{multirow}
447 \LWR@loadaft{multitoc}
448 \LWR@loadaft{musicography}
449 \LWR@loadaft{nameauth}
450 \LWR@loadaft{nameref}
451 \LWR@loadaft{natbib}
452 \LWR@notmemoirloadaft{nccfancyhdr}
453 \LWR@loadaft{nccfoots}
454 \LWR@loadaft{nccmath}
455 \LWR@notmemoirloadaft{needspace}
456 % newclue must be loaded before lwarp
457 % newpxmath may be preloaded
458 % newtxmath may be loaded before lwarp
459 % newtxsf may be loaded before lwarp
460 % newunicodechar must be loaded before lwarp
461 \LWR@notmemoirloadaft{nextpage}
462 \LWR@loadaft{nicefrac}
463 \LWR@loadaft{niceframe}
464 \LWR@loadaft{noitcrul}
465 \LWR@loadaft{nobreaks}
466 \LWR@loadaft{nomencl}
467 \LWR@loadaft{nonfloat}
468 \LWR@loadaft{nonumonpart}
469 \LWR@loadaft{nopageno}
470 \LWR@loadaft{notes}
471 \LWR@loadaft{notespages}
472 \LWR@loadaft{nowidow}
473 \LWR@loadaft{ntheorem}
474 \LWR@loadaft{octave}
475 \LWR@loadaft{overpic}
476 \LWR@loadaft{pagegrid}
477 \LWR@notmemoirloadaft{pagenote}
478 \LWR@loadaft{pagesel}
479 \LWR@loadaft{paralist}
480 \LWR@loadaft{parallel}
481 \LWR@loadaft{parcolumns}
482 \LWR@loadaft{parnotes}
483 \LWR@notmemoirloadaft{parskip}
484 \LWR@loadaft{pbox}
485 \LWR@loadaft{pdfcol}
486 \LWR@loadaft{pdfcolfoot}
487 \LWR@loadaft{pdfcolmk}
```

```
488 \LWR@loadaft{pdfcolparallel}
489 \LWR@loadaft{pdfcolparcolumns}
490 \LWR@loadaft{pdfcomment}
491 \LWR@loadaft{pdfcrypt}
492 \LWR@loadaft{pdflscape}
493 \LWR@loadaft{pdfmarginpar}
494 \LWR@loadaft{pdfpages}
495 \LWR@loadaft{pdfprivacy}
496 \LWR@loadaft{pdfrender}
497 \LWR@loadaft{pdfsync}
498 \LWR@loadaft{pdftricks}
499 \LWR@loadaft{pdfx}
500 \LWR@loadaft{perpage}
501 \LWR@loadaft{pfnote}
502 \LWR@loadaft{phfqit}
503 \LWR@loadaft{physics}
504 \LWR@loadaft{physunits}
505 \LWR@loadaft{pifont}
506 \LWR@loadaft{placeins}
507 \LWR@loadaft{plarray}
508 \LWR@loadaft{plarydshln}
509 \LWR@loadaft{plexarray}
510 \LWR@loadaft{plexarydshln}
511 \LWR@loadaft{plcolortbl}
512 \LWR@loadaft{plextdelarray}
513 \LWR@loadaft{prelim2e}
514 \LWR@loadaft{prettyref}
515 \LWR@loadaft{preview}
516 \LWR@loadaft{psfrag}
517 \LWR@loadaft{psfragx}
518 \LWR@loadaft{pst-eps}
519 \LWR@loadaft{pstool}
520 \LWR@loadaft{pstricks}
521 % \LWR@loadaft{pxatbegshi}% may be used by morewrites
522 \LWR@loadaft{pxeveryshi}
523 % \LWR@loadaft{pxfonts}% may be loaded before lwarp
524 \LWR@loadaft{pxftnright}
525 \LWR@loadaft{pxjahyper}
526 \LWR@loadaft{quotchap}
527 \LWR@loadaft{quoting}
528 \LWR@loadaft{ragged2e}
529 \LWR@loadaft{realscripts}
530 \LWR@loadaft{refcheck}
531 \LWR@loadaft{register}
532 \LWR@loadaft{relsize}
533 \LWR@loadaft{repeatindex}
534 \LWR@loadaft{resizegather}
535 \LWR@loadaft{returntogram}
536 \LWR@loadaft{rmathbr}
537 \LWR@loadaft{rmpage}
538 \LWR@loadaft{romanbar}
539 \LWR@loadaft{romanbarpagenumber}
540 \LWR@loadaft{rotating}
541 \LWR@loadaft{rotfloat}
542 \LWR@loadaft{rviewport}
```

```
543 \LWR@loadafter{savetrees}
544 % scalefnt is loaded by babel-french
545 \LWR@loadafter{scalerel}
546 \LWR@loadafter{schemata}
547 \LWR@loadafter{scrextend}
548 \LWR@loadafter{scrhack}
549 \LWR@loadafter{scrlayer}
550 \LWR@loadafter{scrlayer-notecolumn}
551 \LWR@loadafter{scrlayer-scrpage}
552 \LWR@loadafter{scrpage2}
553 \LWR@loadafter{section}
554 \LWR@loadafter{sectionbreak}
555 \LWR@loadafter{sectsty}
556 \LWR@loadafter{semantic-markup}
557 \LWR@notmemoirloadafter{setspace}
558 \LWR@loadafter{shadow}
559 \LWR@loadafter{shapepar}
560 \LWR@notmemoirloadafter{showidx}
561 \LWR@loadafter{showkeys}
562 \LWR@loadafter{showtags}
563 \LWR@loadafter{shuffle}
564 \LWR@loadafter{sidecap}
565 \LWR@loadafter{sidenotes}
566 \LWR@loadafter{SIunits}
567 \LWR@loadafter{siunitx}
568 \LWR@loadafter{slantsc}
569 \LWR@loadafter{slashed}
570 \LWR@loadafter{soul}
571 \LWR@loadafter{soulpos}
572 \LWR@loadafter{soulutf8}
573 \LWR@loadafter{splitbib}
574 \LWR@loadafter{splitidx}
575 \LWR@loadafter{srcltx}
576 \LWR@loadafter{srctex}
577 \LWR@loadafter{stabular}
578 \LWR@loadafter{stackengine}
579 \LWR@loadafter{stackrel}
580 \LWR@loadafter{statex2}
581 \LWR@loadafter{statmath}
582 \LWR@loadafter{steinmetz}
583 \LWR@notltjloadafter{stfloats}
584 \LWR@loadafter{struktex}
585 \LWR@loadafter{subcaption}
586 \LWR@loadafter{subfig}
587 \LWR@loadafter{subfigure}
588 \LWR@loadafter{subsubscripts}
589 \LWR@loadafter{supertabular}
590 \LWR@loadafter{svg}
591 \LWR@loadafter{syntonly}
592 \LWR@loadafter{t1inc}
593 \LWR@loadafter{tabfigures}
594 \LWR@loadafter{tbls}
595 \LWR@loadafter{tablefootnote}
596 \LWR@notmemoirloadafter{tabularx}
597 \LWR@loadafter{tabulary}
```

```
598 \LWR@loadafter{tagpdf}
599 \LWR@loadafter{tascmac}
600 \LWR@loadafter{tcolorbox}
601 \LWR@loadafter{termcal}
602 \LWR@loadafter{textarea}
603 % \LWR@loadafter{textcomp}% maybe before lwarp with font packages
604 \LWR@loadafter{textfit}
605 \LWR@loadafter{textpos}
606 \LWR@loadafter{theorem}
607 \LWR@loadafter{thinsp}
608 \LWR@loadafter{thm-listof}
609 \LWR@loadafter{thm-restate}
610 \LWR@loadafter{thmbox}
611 \LWR@loadafter{thmtools}
612 \LWR@loadafter{threadcol}
613 \LWR@loadafter{threeparttable}
614 \LWR@loadafter{threeparttablex}
615 \LWR@loadafter{thumb}
616 \LWR@loadafter{thumbs}
617 \LWR@loadafter{tikz}
618 \LWR@loadafter{titleps}
619 \LWR@loadafter{titlesec}
620 \LWR@loadafter{titletoc}
621 \LWR@notmemoirloadafter{titling}
622 % \LWR@loadafter{tocbasic}% preloaded by koma-script classes
623 \LWR@notmemoirloadafter{tocbibind}
624 \LWR@loadafter{tocdata}
625 \LWR@loadafter{toccenter}
626 \LWR@notmemoirloadafter{tocloft}
627 \LWR@loadafter{tocstyle}
628 \LWR@loadafter{todo}
629 \LWR@loadafter{todonotes}
630 \LWR@loadafter{topcapt}
631 \LWR@loadafter{tram}
632 \LWR@loadafter{transparent}
633 \LWR@loadafter{trimclip}
634 \LWR@loadafter{trivfloat}
635 \LWR@loadafter{truncate}
636 \LWR@loadafter{turnthepage}
637 \LWR@loadafter{twoup}
638 % \LWR@loadafter{txfonts}% may be loaded before lwarp
639 % txgreeks may be loaded before lwarp

640 % \LWR@loadafter{typearea}% preloaded by koma-script classes
641 \LWR@loadafter{typicons}
642 % \LWR@loadafter{ulem}% preloaded by ctexart and related classes
643 \LWR@loadafter{umoline}
644 \LWR@loadafter{underscore}
645 % unicode-math may be loaded before lwarp
646 \LWR@loadafter{units}
647 \LWR@loadafter{unitsdef}
648 \LWR@loadafter{upgreek}
649 \LWR@loadafter{upref}
650 \LWR@loadafter{url}
651 \LWR@loadafter{ushort}
```

```

652 \LWR@loadaft{uspace}
653 \LWR@loadaft{varior{ref}}
654 \LWR@notmemoirloadaft{verse}
655 \LWR@loadaft{versonotes}
656 \LWR@loadaft{vertbars}
657 \LWR@loadaft{vmargin}
658 \LWR@loadaft{vowel}
659 \LWR@loadaft{vpe}
660 \LWR@loadaft{vwcol}
661 \LWR@loadaft{wallpaper}
662 \LWR@loadaft{watermark}
663 \LWR@loadaft{widetable}
664 \LWR@loadaft{widows-and-orphans}
665 \LWR@loadaft{witharrows}
666 \LWR@loadaft{wrapfig}
667 \LWR@loadaft{xbmks}
668 \LWR@loadaft{xcolor}
669 \LWR@loadaft{xchangebar}
670 \LWR@loadaft{xellipsis}
671 % xetexko-vertical must be loaded before lwarf
672 \LWR@loadaft{xfakebold}
673 \LWR@loadaft{xfrac}
674 \LWR@loadaft{xltabular}
675 \LWR@loadaft{xltxtra}
676 \LWR@loadaft{xmpincl}
677 \LWR@loadaft{xpiano}
678 \LWR@loadaft{xpinyin}
679 \LWR@loadaft{xr}
680 \LWR@loadaft{xr-hyper}
681 \LWR@loadaft{xtab}
682 % xunicode must be loaded before lwarf
683 \LWR@loadaft{xurl}
684 \LWR@loadaft{xy}
685 \LWR@loadaft{zwpagelayout}

```

21 MD5 hashing

The MD5 hash is used for `latextimage` filenames for `svg` math.

```

686 \newcommand{\LWR@mdfive}[1]{%
687     \PackageError{lwarf}%
688         {No MD5 macro was found}%
689         {%
690             Lwarf must find the macros \protect\pdfmdfivesum\space%
691             or \protect\mdfivesum.%%
692         }%
693 }

```

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

```

694 \let\LWR@mdfive\pdfmdfivesum

```

For $\text{Lua}\text{\LaTeX}$:

```
695 \ifLuaTeX
696 \RequirePackage{pdftexcmds}
697 \let\LWR@mdfive\pdf@mdfivesum
698 \fi
```

For $\text{Xe}\text{\LaTeX}$:

```
699 \ifXeTeX
700 \@ifundefined{pdffivesum}{}%
701   {\let\LWR@mdfive\pdfmdfivesum}
702 \@ifundefined{mdfivesum}{}%
703   {\let\LWR@mdfive\mdfivesum}
704 \fi
```

22 pdf \LaTeX T1 and UTF-8 encoding

When using pdf \LaTeX , lwarf requires T1 font encoding, and recommends UTF-8 input encoding.

If some other input encoding is already defined, lwarf will try to use it instead, and hope for the best.

$\text{Xe}\text{\LaTeX}$ and $\text{Lua}\text{\LaTeX}$ are both UTF-8 by nature.

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

```
705 \newcommand*{\LWR@pdfencoding}{%
706   \RequirePackage[T1]{fontenc}
707
708   \@ifpackageloaded{inputenc}{}{%
709     \@ifpackageloaded{inputenx}{}{%
710       \RequirePackage[utf8]{inputenc}
711     }%
712   }%
713 }%
714 \ifPDFTeX% pdflatex or dvi latex
715   \LWR@pdfencoding
716 \fi
717
718 \ifpTeX
719   \LWR@pdfencoding
720 \fi
```

23 Unicode input characters

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 \texttt{textrm}.

The first arguments of \newunicodechar below are text ligatures in the source code, even though they are not printed in the following listing.

```

721 \ifpdfTeX
722 \else
723 \RequirePackage{newunicodechar}
724
725 \newunicodechar{x}{\texttimes}
726
727 \ifPDFTeX% pdflatex or dvi latex
728 \newunicodechar{ff}{ff}% Here, the first arguments are ligatures.
729 \newunicodechar{fi}{fi}
730 \newunicodechar{fl}{fl}
731 \newunicodechar{ffi}{ffi}
732 \newunicodechar{ffl}{ffl}
733 \newunicodechar{-}{--}
734 \newunicodechar{--}{--}
735 \fi
736
737 \fi

```

24 Avoid a bitmapped font

If DVI or PDF LATEX, and if the default Computer Modern is the selected font family, ensure that cm-super or lmodern is used to provide a vector font.

```

738 \ifxetexorluatex
739 \else
740   \ifdefstring{\f@family}{cmr}{
741     \IfFileExists{type1ec.sty}{% found in cm-super
742     {}
743     {% cm-super not installed
744       \IfFileExists{lmodern.sty}{
745         \PackageInfo{l warp}{cm-super not installed, loading lmodern}
746         \RequirePackage{lmodern}
747       }
748       \PackageError{l warp}
749       {%
750         L warp requires a vector font.\MessageBreak
751         Install and load cm-super, lmodern, or another\MessageBreak
752         Type-1 vector font before loading l warp.\MessageBreak
753         Enter 'H' for possible solutions%
754       }
755       {%
756         \Install cm-super or lmodern.\MessageBreak
757         If lmodern, load it before l warp:\MessageBreak
758           \space\space\protect\usepackage{lmodern}\MessageBreak

```

```

759                                \space\space\protect\usepackage{l warp}%
760
761      }
762      }% cm-super not installed
763  }{}% f@family
764 \fi

```

25 Upright quotes

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

```

765 \ifPDFTeX
766 \RequirePackage{upquote}
767 \fi
768
769 \ifpTeX
770   \RequirePackage{upquote}
771 \fi

```

26 Miscellaneous tools

26.1 Variables

```

772 \newlength{\LWR@templengthone}
773 \newlength{\LWR@templengthtwo}
774 \newlength{\LWR@templengththree}
775 \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.

```

776 \newcommand*\LWR@providelength[1]{%
777   \ifdeflength{#1}{}{\newlength{#1}}%
778 }

```

`\LWR@convertto` {`dest unit`} {`length`}

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

```

779 \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.

```
780 \newcommand*{\LWR@printpercentlength}[2]{%
781     \setcounter{LWR@tempcountone}{100*\ratio{#1}{#2}}%
782     \arabic{LWR@tempcountone}%
783 }
```

26.3 Counters

\defaddtocounter {*name*} {*value*}

Locally add to a counter.

```
784 \providecommand*{\defaddtocounter}[2]{%
785     \defcounter{#1}{\value{#1}+#2}%
786 }
```

26.4 Patching

\LWR@patcherror {*packagename*} {*macroname*}

Prints an error if could not patch a macro.

```
787 \newcommand*{\LWR@patcherror}[2]{%
788     \PackageError{l warp}%
789     {%
790         Unable to patch package #1,\MessageBreak
791         macro \LWRbackslash #2.\MessageBreak
792         L warp may need to be updated%
793     }%
794     {Please contact the maintainer of the L warp package.}%
795 }
```

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.

```
796 \newcommand{\LWR@isolate}[1]{#1}%
797
798 \@ifpackageloaded{ctexpatch}{%
799     \renewcommand{\LWR@isolate}[1]{\null#1\null}%
800 }{%
801
802 \@ifpackageloaded{xeCJK}{%
803     \renewcommand{\LWR@isolate}[1]{\null#1\null}%
804 }}
```

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

```
805 \newcommand*{\LWR@disablepinyin}{}%
```

26.6 Inserting vertical space

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

```
806 \newcommand*{\LWR@forceemptyline}{%
807     \LWR@origrule{0pt}{1\baselineskip}%
808     \LWR@orignewline%
809 }
```

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.

```
810 \long\def\LWR@firstoffour#1#2#3#4{#1}
811 \long\def\LWR@secondoffour#1#2#3#4{#2}
812 \long\def\LWR@thirdoffour#1#2#3#4{#3}
813 \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@orignewpage. See section 13.2.

```
814 \newcounter{LWR@texboxdepth}
815 \setcounter{LWR@texboxdepth}{0}
```

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

```
816 \newcommand*{\LWR@maybe@orignewpage}{%
817     \LWR@traceinfo{LWR@maybe@orignewpage}%
818     \ifnumgreater{\value{LWR@texboxdepth}}{0}%
819         {}%
820         {\LWR@orignewpage}%
821     \LWR@traceinfo{LWR@maybe@orignewpage done}%
822 }
```

26.9 Global boxes

\LWR@gsavebox {*macroname*} {*contents*}

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

```

823 \DeclareRobustCommand{\LWR@gsavebox}[1]{%
824   \@ifnextchar(%)
825     {\LWR@@gsavepicbox#1}{\@ifnextchar[{\LWR@gsavebox#1}{\LWR@gbox#1}}%
826 \long\def\LWR@gbox#1#2{\global\setbox#1\hbox{%
827   \color@setgroup#2\color@endgroup}}
828 \def\LWR@gsavebox#1[#2]{%
829   \@ifnextchar [{\LWR@igsavebox#1[#2]}{\LWR@igsavebox#1[#2][c]}]
830 \long\def\LWR@igsavebox#1[#2][#3]{%
831   \LWR@gbox#1{\@imakebox[#2][#3]{#4}}}
832 \def\LWR@gsavepicbox#1(#2,#3){%
833   \@ifnextchar[%]
834     {\LWR@igsavepicbox#1(#2,#3)}{\LWR@igsavepicbox#1(#2,#3)[[]]}}
835 \long\def\LWR@igsavepicbox#1(#2,#3)[#4]{%
836   \LWR@gbox#1{\@imakepicbox(#2,#3)[#4]{#5}}}
```

Env \LWR@glrbox {*macroname*}

```

837 \def\LWR@glrbox#1{%
838   \edef\reserved@a{%
839     \endgroup
840     \global\setbox#1\hbox{%
841       \begingroup\aftergroup}%
842       \def\noexpand\@currenvir{\currenvir}%
843       \def\noexpand\currenvline{\online}%
844     \reserved@a
845     \endpfalse
846     \color@setgroup
847     \ignorespaces}
848 \let\LWR@endglrbox\LWR@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>

```

849 \newcommand*{\macro{csname}}[1]{%
850   \ifcat\relax\noexpand#1%
851     \expandafter\expandafter\expandafter\expandafter\expandafter\string
852   \fi
853   #1%
854 }
```

26.11 Title case

```
\LWRtexttitlecase

855 \ExplSyntaxOn
856 \newcommand*{\LWRtexttitlecase}[1]{%
857     \text_titlecase:n{#1}%
858 }
859 \ExplSyntaxOff
```

26.12 LetLtxMacros

```
\LWR@LetLtxMacros {⟨newcsname⟩} {⟨oldcsname⟩}

\LetLtxMacro with cs names.
```

```
860 \newcommand*{\LWR@LetLtxMacros}[2]{%
861     \expandafter\LetLtxMacro\csname #1\expandafter\endcsname%
862     \csname#2\endcsname%
863 }
```

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.

```
864 \newcommand*{\LWR@absorbstar}[1]{%
865     \LWR@LetLtxMacros{\LWR@origns@#1}{#1}%
866     \csdef{#1}{\@ifstar{\csuse{\LWR@origns@#1}}{\csuse{\LWR@origns@#1}}}
867     \expandafter\robustify\csname #1\endcsname
868 }
```

27 Operating-System portability

Prog Unix	lwarf 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 lwarf option OSWindows.
Prog Windows	
Opt OSWindows	When detected or specified, the operating-system path separator used by lwarf 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:

```
869 \let\LWRpercent\@percentchar
```

The literal \$ character:

```
870 \catcode`\$=12  
871 \def\LWRdollar{\$}  
872 \catcode`\$=3
```

The literal & character:

```
873 \catcode`\&=12  
874 \def\LWRamp{\&}  
875 \catcode`\&=4
```

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

```
876 \catcode`\&=0  
877 &\catcode`\&=12  
878 &\def&\LWRbackslash{\}  
879 &\catcode`\&=0  
880 \catcode`\&=4
```

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

```
881 \catcode`\&=1  
882 \catcode`\{=12  
883 \def\LWRleftbrace&{  
884 \catcode`\{=1  
885 \catcode`\&=4
```

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

```
886 \catcode`\&=2  
887 \catcode`\}=12  
888 \def\LWRrightbrace&}{  
889 \catcode`\}=2  
890 \catcode`\&=4
```

The literal # character:

```
891 \catcode`\#=12  
892 \def\LWRhash{\#}  
893 \catcode`\#=6
```

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

894 \def\LWRopquote{'}

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

895 \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.

896 \newbool{usingOSWindows}
897 \boolfalse{usingOSWindows}

27.3 UNIX, LINUX, and MAC OS

\OSPathSymbol Symbol used to separate directories in a path.

898 \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.

899 \newcommand*{\LWR@setOSWindows}{
900 {
901 \booltrue{usingOSWindows}
902 \renewcommand*{\OSPathSymbol}{\backslash}
903 \def\LWRopquote{"}
904 \def\LWRopseq{\space\LWRamp\space\space}
905 }

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

906 \ifwindows
907 \LWR@setOSWindows
908 \fi

28 Package options

Pkg koptions Allows key/value package options.

```
909 \RequirePackage{koptions}
910 \SetupKeyvalOptions{family=LWR,prefix=LWR@}
```

\l warpsetup A user interface to set the keys:

```
911 \newcommand{\l warpsetup}[1]{\setkeys{LWR}{#1}}
```

Bool warpingprint

Bool warpingHTML

Bool mathjax

Bool LWR@origmathjax

Set to true/false depending on the package option selections for print/HTML/EPUB output and mathsvg/mathjax.

LWR@origmathjax remembers the original setting to be restored by \displaymathnormal.

```
912 \newbool{warpingprint}
913 \newbool{warpingHTML}
914 \newbool{mathjax}
915 \newbool{LWR@origmathjax}
```

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

```
916 \booltrue{warpingprint}%
917 \boolfalse{warpingHTML}%
918 \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.

```
919 \DeclareVoidOption{warpprint}{%
920   \PackageInfo{l warp}{Using option 'warpprint'}%
921   \booltrue{warpingprint}%
922   \boolfalse{warpingHTML}%
923 }
```

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.

```
924 \DeclareVoidOption{warpHTML}{%
925   \PackageInfo{l warp}{Using option 'warpHTML'}%
926   \booltrue{warpingHTML}%
927   \boolfalse{warpingprint}%
928 }
```

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.

```
929 \DeclareVoidOption{mathsvg}{%
930   \PackageInfo{lwarf}{Using option 'mathsvg'}%
931   \boolfalse{mathjax}%
932   \boolfalse{LWR@origmathjax}%
933 }
```

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

```
934 \DeclareVoidOption{mathjax}{%
935   \PackageInfo{lwarf}{Using option 'mathjax'}%
936   \booltrue{mathjax}%
937   \booltrue{LWR@origmathjax}%
938 }
```

Opt `BaseJobname` Option `BaseJobname` sets the `\BaseJobname` for this document.

Default: `\jobname`

This is the `\jobname` of the printed version, even if currently compiling the `HTML` version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.

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

Opt `ImagesDirectory` Option `ImagesDirectory` sets the name of the directory to use for the `lateximage` images.

Default: `\jobname-images`

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

Opt `ImagesName` Option `ImagesName` sets the prefix to use for the `lateximage` images.

Default: `image-`

```
941 \DeclareStringOption[image-]{ImagesName}
```

Opt `makeindexStyle` Selects a custom `.ist` file. A customized file should be based on `lwarf.ist`. See section 8.6.20.

```
942 \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.

```
943 \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.

```
944 \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`

```
945 \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.

```
946 \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^AT_EX PDF output with HTML tags into a plain-text file with HTML tags.
 Default: `UTF-8`

```
947 \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`:

```
948 \newbool{LWR@creatinglwarpmk}
949 \boolfalse{LWR@creatinglwarpmk}
950
951 \DeclareVoidOption{lwarpmk}{
952     \PackageInfo{lwarf}{Using option 'lwarpmk'}
953     \booltrue{LWR@creatinglwarpmk}
954 }
```

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.

```
955 \DeclareVoidOption{OSWindows}{
956     \PackageInfo{lwarf}{Using option 'OSWindows'}
957     \LWR@setOSWindows
958 }
```

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`

```
959 \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>`

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

Opt PrintLatexCmd The shell commands to use to compile the print document.

Default: <automatic>

961 \DeclareStringOption[]{}{PrintLatexCmd}

Opt HTMLLatexCmd The shell commands to use to compile the HTML document.

Default: <automatic>

962 \DeclareStringOption[]{}{HTMLLatexCmd}

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

Default: <empty>

963 \DeclareStringOption[]{}{PrintIndexCmd}

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

Default: <empty>

964 \DeclareStringOption[]{}{HTMLIndexCmd}

Opt LatexmkIndexCmd The shell commands to be used by *latexmk* to compile the print indexes. Unlike

Default: <empty>
PrintIndexCmd and HTMLIndexCmd, LatexmkIndexCmd does not include the filename, which will be provided by *latexmk*.

965 \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.

966 \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.

967 \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.

968 \DeclareBoolOption[false]{xindex}

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

Default: *cref*

969 \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*
970 \DeclareStringOption[makeglossaries]{GlossaryCmd}

Opt `latexmk` Option `latexmk` tells *lwarfmk* to use *latexmk* when compiling documents.

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

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

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

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

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

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

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

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

```
975 \ProcessKeyvalOptions*\relax
```

28.1 Additional options support

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

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

Defaults unless already over-ridden by the user:

```
977 \ifcsempty{\LWR@HomeHTMLFilename}{
978     \newcommand*{\HomeHTMLFilename}{\BaseJobname}
979 }{
980     \csedef{HomeHTMLFilename}{\LWR@HomeHTMLFilename}
981 }
982
983 \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.

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

`\LWR@sanitize {<text>}`

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

```
985 \newcommand*{\LWR@sanitize}[1]{
986     \edef\LWR@sanitized{\detokenize\expandafter{\LWR@sanitized}}%
987 }
988 }
```

Sanitize some string options to neutralize underscores.

```

989 \LWR@sanitize{\LWR@BaseJobname}
990 \edef\LWR@BaseJobname{\LWR@sanitized}
991
992 \LWR@sanitize{\LWR@ImagesDirectory}
993 \edef\LWR@ImagesDirectory{\LWR@sanitized}
994
995 \LWR@sanitize{\LWR@ImagesName}
996 \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.

```

997 \ifdefempty{\LWR@PrintIndexCmd}{
998     \renewcommand{\LWR@PrintIndexCmd}{%
999         makeindex -s \LWR@makeindexStyle \space \jobname.idx%
1000    }
1001    \ifbool{LWR@xindy} {
1002        \renewcommand{\LWR@PrintIndexCmd}{%
1003            xindy
1004            -M \LWR@xindyStyle \space
1005            -L \LWR@xindyLanguage \space
1006            -C \LWR@xindyCodepage \space
1007            \jobname.idx%
1008        }
1009    }{}
1010    \ifbool{LWR@xindex} {
1011        \ifdefvoid{\LWR@xindexConfig} {
1012            \renewcommand{\LWR@PrintIndexCmd}{%
1013                xindex
1014                \jobname.idx%
1015            }
1016        }{
1017            \renewcommand{\LWR@PrintIndexCmd}{%
1018                xindex
1019                -c \LWR@xindexConfig \space
1020                \jobname.idx%
1021            }
1022        }
1023    }{}
1024 }{}
1025
1026 \ifdefempty{\LWR@HTMLIndexCmd} {
1027     \renewcommand{\LWR@HTMLIndexCmd}{%
1028         makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%
1029    }
1030    \ifbool{LWR@xindy} {
1031        \renewcommand{\LWR@HTMLIndexCmd}{%
1032            xindy
1033            -M \LWR@xindyStyle \space
1034            -L \LWR@xindyLanguage \space
1035            -C \LWR@xindyCodepage \space
```

```

1036           \jobname_html.idx%
1037       }
1038   }{
1039   \ifbool{LWR@index}{%
1040     \ifdefvoid{\LWR@indexConfig}{%
1041       \renewcommand{\LWR@HTMLIndexCmd}{%
1042         xindex
1043         \jobname_html.idx%
1044       }
1045     }{
1046       \renewcommand{\LWR@HTMLIndexCmd}{%
1047         xindex
1048         -c \LWR@indexConfig \space
1049         \jobname_html.idx%
1050       }
1051     }
1052   }{
1053 }
1054
1055 \ifdefempty{\LWR@LatexmkIndexCmd}{%
1056   \renewcommand{\LWR@LatexmkIndexCmd}{%
1057     makeindex -s \LWR@makeindexStyle%
1058   }
1059   \ifbool{LWR@xindy}{%
1060     \renewcommand{\LWR@LatexmkIndexCmd}{%
1061       xindy
1062       -M \LWR@xindyStyle \space
1063       -L \LWR@xindyLanguage \space
1064       -C \LWR@xindyCodepage%
1065     }
1066   }{
1067   \ifbool{LWR@index}{%
1068     \ifdefvoid{\LWR@indexConfig}{%
1069       \renewcommand{\LWR@LatexmkIndexCmd}{%
1070         xindex
1071       }
1072     }{
1073       \renewcommand{\LWR@LatexmkIndexCmd}{%
1074         xindex
1075         -c \LWR@indexConfig
1076       }
1077     }
1078   }{
1079 }
1079 }

```

28.2 Conditional compilation

\warpprintonly {*contents*}

Only process the contents if producing printed output.

```
1080 \newcommand{\warpprintonly}[1]{\ifbool{warpingprint}{#1}{}}
```

```
\warpHTMLonly {<contents>}
```

Only process the contents if producing HTML output.

```
1081 \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.

```
1082 \RequirePackage{comment}
```

```
\LWR@includecomment {<env name>} {<partial filename>}
```

```
\LWR@excludecomment {<env name>} {<partial filename>}
```

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.

```
1083 \def\LWR@includecomment
1084 #1#2{\message{Lwarp: Including comment '#1'}%
1085   \csarg\def{After#1Comment}{%
1086     \CloseAndInputCutFile%
1087     \csundef{\LWR@#1commentused}%
1088   }%
1089   \csarg\def{#1}{%
1090     \endgroup%
1091     \ifcsdef{\LWR@#1commentused}{%
1092       \PackageError{l warp}%
1093       {Nested #1 environment}%
1094       {%
1095         Environment #1 cannot be nested.\MessageBreak
1096         This can happen when a package is loaded
1097         from inside a\MessageBreak
1098         #1 environment.%
1099       }%
1100     }%
1101     \csdef{\LWR@#1commentused}{}%
1102     \message{Including '#1' comment.}%
1103     \def\CommentCutFile{comment_#2.cut}%
1104     \SetUpCutFile%
1105     \ProcessComment{#1}%
1106   }%
1107   \CommentEndDef{#1}%
1108 }
1109
1110 \def\LWR@excludecomment
1111 #1#2{\message{Lwarp: Excluding comment '#1'}%
1112   \csarg\def{#1}{%
1113     \endgroup%
1114     \message{Excluding '#1' comment.}%
1115     \begingroup%
```

```

1116      \def\CommentCutFile{comment_#2.cut}
1117      \def\ProcessCutFile{ }
1118      \def\ThisComment####1{ }%
1119      \ProcessComment{#1}
1120  }%
1121  \csarg\def{After#1Comment}{\CloseAndInputCutFile \endgroup}
1122  \CommentEndDef{#1}

```

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

```
1123 \LWR@includecomment{warpall}{all}
```

Env warpHTML For HTML output:

```

1124 \ifbool{warpingHTML}
1125   {\LWR@includecomment{warpHTML}{html}}
1126   {\LWR@excludecomment{warpHTML}{html}}

```

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

```

1127 \ifbool{warpingprint}
1128   {\LWR@includecomment{warpprint}{print}}
1129   {\LWR@excludecomment{warpprint}{print}}

```

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

```

1130 \begin{warpprint}
1131 \LWR@excludecomment{warpMathJax}{mathjax}
1132 \end{warpprint}
1133
1134 \begin{warpHTML}
1135 \ifbool{mathjax}
1136   {\LWR@includecomment{warpMathJax}{mathjax}}
1137   {\LWR@excludecomment{warpMathJax}{mathjax}}
1138 \end{warpHTML}

```

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

```

1139 \ifbool{LWR@creatinglwarpmk}
1140   {\LWR@includecomment{LWRcreatelwarpmk}{lwarpmk}}
1141   {\LWR@excludecomment{LWRcreatelwarpmk}{lwarpmk}}

```

29 Required packages

These packages are automatically loaded by lwarp when generating HTML output. Some of them are also automatically loaded when generating print output, but some are not.

for HTML output: 1142 \begin{warpHTML}

Pkg `fontspec` Load `fontspec` if necessary:

```
1143 \ifxetexorluatex
1144 \@ifpackageloaded{fontspec}{}{
1145     \usepackage[no-math]{fontspec}
1146 }
```

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

```
1147 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
1148 \defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
1149 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
1150 \else
```

pdflatex only: Only pre-loaded if *pdflatex* is being used.

Pkg `microtype`

ligatures Older browsers don't display ligatures. Turn off letter ligatures, keeping L^AT_EX dash and quote ligatures, which may fail on older browsers but at least won't corrupt written words.

```
1151 \RequirePackage {microtype}
1152
1153 \microtypesetup{
1154     protrusion=false,
1155     expansion=false,
1156     tracking=false,
1157     kerning=false,
1158     spacing=false}
1159 %     \begin{macrocode}
1160 %
1161 % Disable ligatures for typewriter fonts.
1162 % The comma was causing issues with \brand{MathJax} and \cs{,} followed by a comma.
1163 % Ligatures for f, q, t, etc used to be disabled for non-typewriter fonts, but
1164 % are now allowed.
1165 % \changes{v0.89}{2020/08/01}{Disable typewriter ligatures.}
1166 % ^^A \DisableLigatures[{},f,q,t,T,Q]{encoding = *,family = *}% previous
1167 %     \begin{macrocode}
1168 \DisableLigatures{encoding = *,family = tt*}

1169 \fi
1170 \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: 1171 \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 `\AtBeginDocument` with a very large page size to reduce HTML tag overflow off the page.

```
1172 \@ifpackageloaded{geometry}
1173 {}{
1174     \RequirePackage[
1175         reset,
1176         paperwidth=\paperwidth,
1177         paperheight=\paperheight,
1178         textwidth=\textwidth,
1179         textheight=\textheight,
1180         left=\oddsidemargin,
1181         top=\topmargin,
1182         marginparsep=\marginparsep,
1183         marginparwidth=\marginparwidth,
1184     ]{geometry}
1185 }
```

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

```
1186 \LetLtxMacro{\LWR@origgeometry}{\geometry}
1187 \LetLtxMacro{\LWR@orignewgeometry}{\newgeometry}
1188 \LetLtxMacro{\LWR@origrestoregeometry}{\restoregeometry}
1189 \LetLtxMacro{\LWR@origsavegeometry}{\savegeometry}
1190 \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@allowanothergometry`. Geometry may be adjusted throughout the preamble until `\AtEndPreamble`, when this boolean is set false.

```
1191 \newbool{LWR@allowanothergometry}
1192 \booltrue{LWR@allowanothergometry}
```

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

```
1193 \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 `lwarf-geometry` section for what happens if `geometry` is loaded after `lwarf`.

```
1194 \LWR@origsavegeometry{\LWR@usergeometry}
```

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

```
1195 \newlength{\LWR@userspaperwidth}
1196 \setlength{\LWR@userspaperwidth}{\paperwidth}
1197
1198 \newlength{\LWR@userspaperheight}
1199 \setlength{\LWR@userspaperheight}{\paperheight}
1200
1201 \newlength{\LWR@usersmarginparwidth}
1202 \setlength{\LWR@usersmarginparwidth}{\marginparwidth}
1203
1204 \newlength{\LWR@userstextwidth}
1205 \setlength{\LWR@userstextwidth}{\textwidth}
1206
1207 \newlength{\LWR@userstextheight}
1208 \setlength{\LWR@userstextheight}{\textheight}
```

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

```
1209 \LWR@origgeometry{
1210     reset,
1211     paperheight=190in,
1212     paperwidth=20in,
1213     left=2in,
1214     right=6in,
1215     top=1in,
1216     bottom=1in,
1217     heightrounded,%
1218 }
```

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

```
1219 \LWR@origsavegeometry{\LWR@lwarpgometry}
```

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

```
1220 \boolefalse{\LWR@allowanothergeometry} %
```

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

```
1221 \setlength{\textheight}{0.8\paperheight}
1222 \setlength{\textwidth}{0.7\paperwidth}
1223
1224 \@twosidefalse
1225 \mparswitchfalse
1226 }% \AtEndPreamble
1227
1228 \end{warpHTML}
```

for HTML & PRINT: 1229 \begin{warpall}

```
Pkg  xpars  
      LATEX3 command argument parsing  
1230 \RequirePackage{xparse}  
  
Pkg  calc  
1231 \RequirePackage{calc}  
  
1232 \end{warpall}
```

for HTML output: 1233 \begin{warpHTML}

```
Pkg  expl3  
      LATEX3 programming  
1234 \RequirePackage{expl3}
```

Pkg gettitlestring

Used to emulate \nameref.

```
1235 \RequirePackage{gettitlestring}
```

Pkg everyhook

everyhook is used to patch paragraph handling.

```
1236 \@ifundefined{bxjs@everypar}{}{\let\everypar\bxjs@everypar}  
1237  
1238 \RequirePackage{everyhook}  
1239 \end{warpHTML}
```

for HTML & PRINT: 1240 \begin{warpall}

Pkg filecontents

Used to write helper files while creating the print version.

Recent versions of LATEX (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 LATEX kernel is used, the original `filecontents` package is used, but it is patched to throw away the new optional argument.

```
1241 \@ifundefined{filec@ntents@opt}{% older kernel, discard optional args  
1242  
1243   \RequirePackage{filecontents}  
1244
```

```

1245   \LetLtxMacro{\LWR@orig@filec@ntents}{\filec@ntents}
1246
1247   \@ifpackagelater{filecontents}{2011/10/08}
1248   {

```

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

```

1249   \renewcommand*{\filec@ntents}[1][]{{\LWR@orig@filec@ntents}}
1250   }
1251   % 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>

```

1252   \newwrite\fcwrite
1253   \renewcommand*{\filec@ntents}[1][]{{%
1254     \def\chardef##1\write{\let\reserved@c\fcwrite}%
1255     \LWR@orig@filec@ntents%}
1256   }
1257   }
1258
1259 }% older kernel
1260 {% newer kernel

```

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

```

1261 }% newer kernel, filecontents env accepts optional args, do not load package
1262 \end{warpall}

```

for HTML output: 1263 `\begin{warpHTML}`

Pkg xifthen

```
1264 \RequirePackage{xifthen}
```

Pkg verbatim

```
1265 \RequirePackage{verbatim}
```

Pkg refcount

Provides `\setcounterref`, `\setcounterpageref`, etc.

```
1266 \RequirePackage{refcount}
```

Pkg newfloat

```
1267 \RequirePackage{newfloat}
```

```
1268 \end{warpHTML}
```

for HTML & PRINT: 1269 \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.

```
1270 \RequirePackage{xstring}[2019/02/01]
```

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

```
1271 \RequirePackage{environ}
```

```
1272 \end{warpall}
```

for HTML output: 1273 \begin{warpHTML}

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

```
1274 \RequirePackage{printlen}
```

\LWR@printlength {<length>}

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

```
1275 \newrobustcmd*\LWR@printlength[1]{%
1276   \begingroup%
1277   \uselengthunit{PT}%
1278   \renewcommand*\unitspace{}%
1279   \ifdimless{#1}{10pt}{%
1280     \printlength{#1}%
1281   }{%
1282     \rndprintlength{#1}%
1283   }%
1284   \endgroup%
1285 }
```

```
1286 \end{warpHTML}
```

for PRINT output: 1287 \begin{warpprint}

Pkg varwidth Used for print-mode lateximage.

```
1288 \RequirePackage{varwidth}
```

```
1289 \end{warpprint}
```

30 Loading packages

for HTML & PRINT: 1290 \begin{warpall}

Remember the original \RequirePackage:

```
1291 \LetLtxMacro{\LWR@origRequirePackage}{\RequirePackage}
1292 \LetLtxMacro{\LWR@origRequirePackageWithOptions}{\RequirePackageWithOptions}
```

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

```
1293 \newcommand*{\LWR@requirepackagenames}{}{}
```

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

```
1294 \newcommand*{\LWR@parsedrequirepackagenames}{}{}
```

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

```
1295 \newcommand*{\LWR@nullifycomment}{}{%
1296     \PackageInfo{l warp}{%
1297         Nullifying the comment environment before loading \LWR@strresulttwo,}%
1298     \let\comment\relax%
1299     \let\endcomment\relax%
1300 }
```

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

Note that argument 4 is passed directly to \StrBetween.

```
1301 \newcommand*{\LWR@findword}[3][,]{%
1302     \StrBetween[\#3,\numexpr\#3+1]{\#1\#2\#1}{\#1}{\#1}%
1303 }
```

\LWR@checkloadfilename {<filename>} Checks if this filename should be loaded after l warp, or never at all.

The following should never be loaded:

```
1304 \newcommand*{\LWR@checkloadfilename}[1]{%
1305 \LWR@checkloadnever{\#1}{ae}{cm-super, lmodern}%
1306 \LWR@checkloadnever{\#1}{aecc}{cm-super, lmodern}%
1307 \LWR@checkloadnever{\#1}{ae compl}{cm-super, lmodern}%
1308 \LWR@checkloadnever{\#1}{alg}{algorithm2e, algorithmicx}%
1309 \LWR@checkloadnever{\#1}{algorithmic}{algorithm2e, algorithmicx}%
1310 \LWR@checkloadnever{\#1}{bitfield}{bytefield}%
1311 \LWR@checkloadnever{\#1}{caption2}{caption}%
1312 \LWR@checkloadnever{\#1}{ccaption}{caption}%
1313 \LWR@checkloadnever{\#1}{colortab}{colortbl}}
```

```

1314 \LWR@checkloadnever{#1}{csvtools}{datatool}
1315 \LWR@checkloadnever{#1}{doublespace}{setspace}
1316 \LWR@checkloadnever{#1}{epsf}{graphicx}
1317 \LWR@checkloadnever{#1}{fancyheadings}{fancyhdr}
1318 \LWR@checkloadnever{#1}{fnacylab}{cleveref}
1319 \LWR@checkloadnever{#1}{formula}{siunitx}
1320 \LWR@checkloadnever{#1}{glossary}{glossaries}
1321 \LWR@checkloadnever{#1}{hyper}{hyperref}
1322 \LWR@checkloadnever{#1}{libgreek}{libertinust1math, newtx}
1323 \LWR@checkloadnever{#1}{newthm}{ntheorem}
1324 \LWR@checkloadnever{#1}{pdfcprot}{microtype}
1325 \LWR@checkloadnever{#1}{picinpar}{floatflt, wrapfig}
1326 \LWR@checkloadnever{#1}{picins}{floatflt, wrapfig}
1327 \LWR@checkloadnever{#1}{rplain}{fancyhdr}
1328 \LWR@checkloadnever{#1}{si}{siunitx}
1329 \LWR@checkloadnever{#1}{sistyle}{siunitx}
1330 \LWR@checkloadnever{#1}{slashbox}{diagbox}
1331 \LWR@checkloadnever{#1}{statex}{statex2}
1332 \LWR@checkloadnever{#1}{t1enc}{fontenc, inputenc, inputenx}
1333 \LWR@checkloadnever{#1}{ucs}{inputenc, inputencx}
1334 \LWR@checkloadnever{#1}{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}
1335 \LWR@checkloadnever{#1}{bxCJKjatype}{upLaTeX, bxjsarticle, ujarticle, utarticle}
1336 \LWR@checkloadnever{#1}{hangul}{kotex, xetexko, luatexko}

```

The following should only be loaded before lwarf:

```

1337 \LWR@checkloadbefore{#1}{ctex}
1338 \LWR@checkloadbefore{#1}{fontspec}
1339 \LWR@checkloadbefore{#1}{inputenc}
1340 \LWR@checkloadbefore{#1}{inputenx}
1341 \LWR@checkloadbefore{#1}{nfssext-cfr}
1342 \LWR@checkloadbefore{#1}{fontaxes}
1343 \LWR@checkloadbefore{#1}{kotex}
1344 \LWR@checkloadbefore{#1}{luatexja}
1345 \LWR@checkloadbefore{#1}{luatexja-fontspec}
1346 \LWR@checkloadbefore{#1}{luatexko}
1347 \LWR@checkloadbefore{#1}{morewrites}
1348 \LWR@checkloadbefore{#1}{newclude}
1349 \LWR@checkloadbefore{#1}{newunicodechar}
1350 \LWR@checkloadbefore{#1}{plex}
1351 \LWR@checkloadbefore{#1}{xeCJK}
1352 \LWR@checkloadbefore{#1}{xetexko}
1353 \LWR@checkloadbefore{#1}{zxjatype}
1354 }

```

\LWR@lookforpackagename {*<index>*}

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

```
1355 \newcommand*{\LWR@lookforpackagename}[1]{%
```

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

```
1356 \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`.

```
1357 \StrSubstitute[100]{\LWR@strresult}{ }{}[\LWR@strresulttwo]%
```

See if the package name was found:

```
1358 \IfStrEq{\LWR@strresulttwo}{}%
1359 {}% no filename
1360 {}% 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.

```
1361     \ifdefstring{\LWR@strresulttwo}{easyReview}{\LWR@nullifycomment}{}%
1362     \ifdefstring{\LWR@strresulttwo}{changes}{\LWR@nullifycomment}{}%
```

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

```
1363     \ifbool{warpingHTML}{\LWR@checkloadfilename{\LWR@strresulttwo}}{}%
```

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

```
1364     \ifboolexpr{
1365         bool{warpingHTML} and
1366         test{\IfFileExists{lwarp-\LWR@strresulttwo.sty}}
1367     }%
1368     {% lwarp-* file found
1369         \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1370             \edef\LWR@parsedrequirepackagenames{lwarp-\LWR@strresulttwo}%
1371         }%
1372             \edef\LWR@parsedrequirepackagenames{%
1373                 \LWR@parsedrequirepackagenames, lwarp-\LWR@strresulttwo%
1374             }%
1375         }%
1376     }%
1377     {}%
```

Otherwise, use the current package name.

```
1378     \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1379         \edef\LWR@parsedrequirepackagenames{\LWR@strresulttwo}%
1380     }%
1381         \edef\LWR@parsedrequirepackagenames{%
1382             \LWR@parsedrequirepackagenames, \LWR@strresulttwo%
1383         }%
1384     }%
1385     }% no lwarp-* file
1386 }% yes filename
1387 }
```

\RequirePackage [⟨1: options⟩] {⟨2: package names⟩} [⟨3: version⟩]

For each of many package names in a comma-separated list, if an `lwarp` version of a package exists, select it instead of the L^AT_EX version.

1388 \RenewDocumentCommand{\RequirePackage}{o m o}{%

Redirect up to twenty names:¹⁷

```
1389 \renewcommand*{\LWR@requirepackagenames}{#2}%
1390 \renewcommand*{\LWR@parsedrequirepackagenames}{}%
1391 \LWR@Lookforpackagename{1}%
1392 \LWR@Lookforpackagename{2}%
1393 \LWR@Lookforpackagename{3}%
1394 \LWR@Lookforpackagename{4}%
1395 \LWR@Lookforpackagename{5}%
1396 \LWR@Lookforpackagename{6}%
1397 \LWR@Lookforpackagename{7}%
1398 \LWR@Lookforpackagename{8}%
1399 \LWR@Lookforpackagename{9}%
1400 \LWR@Lookforpackagename{10}%
1401 \LWR@Lookforpackagename{11}%
1402 \LWR@Lookforpackagename{12}%
1403 \LWR@Lookforpackagename{13}%
1404 \LWR@Lookforpackagename{14}%
1405 \LWR@Lookforpackagename{15}%
1406 \LWR@Lookforpackagename{16}%
1407 \LWR@Lookforpackagename{17}%
1408 \LWR@Lookforpackagename{18}%
1409 \LWR@Lookforpackagename{19}%
1410 \LWR@Lookforpackagename{20}%

```

\RequirePackage depending on the options and version:

```
1411 \IfValueTF{#1}%
1412 {%
    options given
    \IfValueTF{#3}%
        {%
            \LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}[#3]%
            {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}}%
        }%
    }%
1416 {%
    no options given
    \IfValueTF{#3}%
        {%
            \LWR@origRequirePackage{\LWR@parsedrequirepackagenames}[#3]%
            {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}}%
        }%
    }%
1421 }%
1422 }
1423 \LetLtxMacro\usepackage\RequirePackage
1424 \end{warpall}
```

for HTML output: 1425 \begin{warpHTML}

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

```
\LWR@ProvidesPackagePass {⟨pkgname⟩} [⟨version⟩]
```

Uses the original package, including options.

```
1426 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}{%
1427     \PackageInfo{lwarp}{%
1428         Using package '#1', \MessageBreak
1429         and adding lwarp modifications, including options, \MessageBreak%
1430     }%
1431     \IfValueTF{#2}{%
1432         {\ProvidesPackage{lwarp-#1}[#2]}%
1433         {\ProvidesPackage{lwarp-#1}}%
1434     \DeclareOption*{%
1435         \PassOptionsToPackage{\CurrentOption}{#1}%
1436     }%
1437     \ProcessOptions\relax%
```

If using `catoptions`, an error occurs if a package is loaded with an option then loaded again with no options. `lwarp` 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.

```
1438 \@ifpackageloaded{#1}{%
1439     \edef\LWR@tempone{\csuse{opt@#1.sty}}%
1440     \IfValueTF{#2}{%
1441         %
1442         \expandafter\LWR@origRequirePackage%
1443         \expandafter[\LWR@tempone]{#1}[#2]%
1444     }%
1445     %
1446     \expandafter\LWR@origRequirePackage%
1447     \expandafter[\LWR@tempone]{#1}%
1448     }%
1449 }{%
1450     \IfValueTF{#2}{%
1451         {\LWR@origRequirePackage{#1}[#2]}%
1452         {\LWR@origRequirePackage{#1}}%
1453     }%
```

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

```
1454 \DeclareOption*{}%
1455 \ProcessOptions\relax%
1456 }
```

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

Declares the package. Factored for reuse.

```
1457 \newcommand*{\LWR@ProvidesPackageDropA}[2]{%
1458     \PackageInfo{lwarp}{%
1459         Replacing package '#1' with the lwarp version, \MessageBreak
1460         and discarding options, %
```

```

1461      }%
1462      \IfValueTF{#2}%
1463      {\ProvidesPackage{lwarf-#1}[#2]}%
1464      {\ProvidesPackage{lwarf-#1}}%
1465 }
```

\LWR@ProvidesPackageDropB Nullifies then processes the options.

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

```

1466 \newcommand*{\LWR@ProvidesPackageDropB}{%
1467 % \ProcessOptions\relax% original LaTeX code
1468 \let\ds@\empty% from the original \ProcessOptions
1469 \edef\@curroptions{}% lwarf modification to \ProcessOptions
1470 \@process@ptions\relax% from the original \ProcessOptions
1471 }
```

\LWR@ProvidesPackageDrop {*pkgnname*} [*version*]

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

```
1472 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{
```

Declare the package:

```
1473 \LWR@ProvidesPackageDropA{#1}{#2}
```

Ignore all options:

```
1474 \DeclareOption*{}
```

Process the options:

```
1475 \LWR@ProvidesPackageDropB
1476 }
```

```
1477 \end{warpHTML}
```

31 File handles

Defines file handles for writes.

for HTML & PRINT: 1478 \begin{warpall}

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

```
1479 \newwrite\LWR@quickfile%
```

```

1480 \end{warpall}

for HTML output: 1481 \begin{warpHTML}

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

1482 \newwrite\LWR@lateximagesfile

1483 \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^AT_EX.

for HTML output: 1484 \begin{warpHTML}

`\@include {<filename>}` Modified to load _html_inc files.

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

```

1485 \def\@include#1 {%
1486 \immediate\openout\lWR@quickfile #1_html_inc.tex% lwarp
1487 \immediate\write\lWR@quickfile{\string\input{#1.tex}}% lwarp
1488 \immediate\closeout\lWR@quickfile% lwarp
1489 \LWR@maybe@orignewpage% changed from clearpage
1490 \if@files w
1491   \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
1492 \fi
1493 \@tempswat rue
1494 \if@partsw
1495   \@tempswaf alse
1496   \edef\reserved@b{#1}%
1497   \@for\reserved@a:=\@partlist\do
1498     {\ifx\reserved@a\reserved@b\@tempswat rue\fi}%
1499 \fi
1500 \if@tempswa
1501   \let\@auxout\@partaux
1502   \if@files w
1503     \immediate\openout\@partaux #1_html_inc.aux % changed
1504     \immediate\write\@partaux{\relax}%
1505   \fi
1506   \@input{#1_html_inc.tex}% changed

```

```

1507   \LWR@maybe@orignewpage% changed from clearpage
1508   \@writeckpt{\#1}%
1509   \if@filesw
1510     \immediate\closeout\partaux
1511   \fi
1512 \else
1513   \deadcycles{z@}
1514   \nameuse{cp@\#1}%
1515 \fi
1516 \let\auxout\mainaux%
1517 }

1518 \end{warpHTML}

```

33 Copying a file

for HTML output: 1519 \begin{warpHTML}

\LWR@copyfile {*source filename*} {*destination filename*}

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

```

1520 \newwrite\LWR@copyoutfile % open the file to write to
1521 \newread\LWR@copyinfile % open the file to read from
1522
1523 \newcommand*{\LWR@copyfile}[2]{%
1524   \LWR@traceinfo{\LWR@copyfile: copying #1 to #2}
1525
1526   \immediate\openout\LWR@copyoutfile=#2
1527   \openin\LWR@copyinfile=#1
1528   \begingroup\endlinechar=-1
1529   \makeatletter
1530
1531   \LWR@traceinfo{\LWR@copyfile: about to loop}
1532
1533   \loop\unless\ifeof\LWR@copyinfile
1534     \LWR@traceinfo{\LWR@copyfile: one line}
1535     \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
1536   % \LWR@fileline\par % print the content into the pdf
1537   % print the content:
1538     \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
1539   \repeat
1540   \immediate\closeout\LWR@copyoutfile
1541   \LWR@traceinfo{\LWR@copyfile: done}
1542   \endgroup
1543 }

1544 \end{warpHTML}

```

34 Debugging messages

HTML comments To have the HTML output include additional HTML comments, such as which `<div>` is closing, use

```
1545 \booltrue{HTMLDebugComments}
```

debugging information To have debug information written to the log, use

```
1546 \tracingl warp
```

for HTML & PRINT: 1545 `\begin{warpall}`

Bool LWR@tracingl warp True if tracing is turned on.

```
1546 \newbool{LWR@tracingl warp}
```

`\tracingl warp` Turns on the debug tracing messages.

```
1547 \newcommand{\tracingl warp}{\booltrue{LWR@tracingl warp}}
```

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

```
1548 \newcommand{\LWR@traceinfo}[1]{%
1549 \ifbool{LWR@tracingl warp}{%
1550 {%
1551     \typeout{*** lwarp: #1}%
1552 }%
1553 {}%
1554 }
```

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

Default: false

```
1555 \newbool{HTMLDebugComments}
1556 \boolfalse{HTMLDebugComments}
```

If `\tracingl warp`, show where preamble hooks occur:

```
1557 \AfterEndPreamble{%
1558 \LWR@traceinfo{AfterEndPreamble}%
1559 }%
1560
1561 \AtBeginDocument{%
1562 \LWR@traceinfo{AtBeginDocument}%
1563 }%
1564 \end{warpall}
```

35 Defining print and HTML versions of macros and environments

The following refers to defining objects inside l warp, and is not for the user's document.

Many macros and environments must be provided as both print and HTML versions.

While generating the print version of a document, the original macros as defined by L^AT_EX and its packages are used as-is.

While generating the HTML version of a document, the original macro or environment is redefined to call a new HTML version or a copy of the original print version. The new HTML versions of macros and environments are used most of the time. Copies of the print versions are used inside a *lateximage* environment, which draws and remembers an image of the printed output, and also several other places.

The general structure for providing print and HTML versions of a macro or environment is as follows:

For a preexisting macro, not defined with xparse: An HTML version is provided with a special name, inside a *warpHTML* environment, then \LWR@formatted is used to redefine and patch various macros:

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

\LWR@formatted{name}
\end{warpHTML}
```

\LWR@formatted{name} copies the original print version, then redefines \name to use either the print or HTML version depending on which mode l warp 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}{...}%
\end{warpall}

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}%
  may use xparse for HTML

\LWR@formatted{name}
\end{warpHTML}
```

Similar for an environment. The plain `\name` or environment name is used for the printed version, and is placed inside `warpall`. `xparse` may be used for the `\LWR@HTML@<name>` version. `expl3` syntax may be used for the print and `HTML` versions.

For a new macro or environment, using `xparse`: It is possible to use `xparse` for an entirely new macro or environment by defining the `\LWR@print@<name>` version with `xparse`, along with `\name` defined without `xparse` to refer directly to the `\LWR@print` version:

```
\begin{warpall}
\NewDocumentCommand{\LWR@print@name}{...}{...}%
  -or-
\NewDocumentEnvironment{\LWR@print@name}{...}{...}{...}

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

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

\LWR@formatted{name}%
  -or-
\LWR@formattedenv{name}
\end{warpHTML}
```

In general, `\LWR@formatted` or `\LWR@formattedenv` are placed inside a `warpHTML` environment, and while producing an HTML document they do the following:

- Macros are modified:
 1. The pre-existing print version `\name` is saved as `\LWR@print@<name>`, unless `\LWR@print@<name>` is already defined.
 2. The original `\name` is redefined to call either the print or HTML version depending on which format is in use at the moment, as set by `\LWR@formatting`, which is defined as either “print” or “HTML”.
- When `lwarp` is producing a print document, the original definitions are used, as well as any new definitions defined in `warpall` above.
- When `lwarp` is generating HTML output, `\LWR@formatting` is set to “HTML”, and `\name` is directed to `\LWR@HTML@<name>`.
- When `lwarp` is generating HTML output but enters a `lateximage` environment, or for some other reason needs to draw images using the original print definitions, `\LWR@formatting` is changed to “print” and `\name` is then redirected to `\LWR@print@<name>`, which was the original `\name`.

Since arguments are not handled by the new `\name`, any star and other arguments are processed by the print or HTML version.

Expandable versions are also provided as well. These usually are necessary for anything which could appear inside a `tabular`, without which a “Misplaced `\omit`” error may occur.

`\LWR@expandableformatted`
`\LWR@expandableformattedenv`

(Older versions of `lwarp` used `\LetLtxMacro` for everything, but this could fail when using macros defined by `xparse`. This older system is still in use for many definitions.)

for HTML output: 1565 `\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”.

1566 `\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.

1567 `\newcommand*{\LWR@formatted}[1]{%`
 1568 `\ifcsundef{\LWR@print@#1}{%`

```

1569      \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1570          \csname#1\endcsname%
1571      }{%
1572      \ifcsundef{#1}{%
1573          \expandafter\newrobustcmd\csname #1\endcsname{%
1574              \@nameuse{LWR@\LWR@formatting @#1}%
1575          }%
1576      }{%
1577          \expandafter\renewrobustcmd\csname #1\endcsname{%
1578              \@nameuse{LWR@\LWR@formatting @#1}%
1579          }%
1580      }%
1581 }

```

\LWR@expandableformatted {*macroname*} No backslash in the macro name.

An expandable version of \LWR@formatted.

```

1582 \newcommand*{\LWR@expandableformatted}[1]{%
1583     \ifcsundef{LWR@print@#1}{%
1584         \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1585             \csname#1\endcsname%
1586     }{%
1587     \ifcsundef{#1}{%
1588         \expandafter\newcommand\csname #1\endcsname{%
1589             \@nameuse{LWR@\LWR@formatting @#1}%
1590         }%
1591     }{%
1592         \expandafter\renewcommand\csname #1\endcsname{%
1593             \@nameuse{LWR@\LWR@formatting @#1}%
1594         }%
1595     }%
1596 }

```

\LWR@formattedenv {*environmentname*}

If not yet defined, defines the environment LWR@print@<name> as the original print-mode <name>. Also redefines the environment <name> to use environment LWR@<format>@<name>, where <format> is set by \LWR@formatting, and is print or HTML.

```

1597 \newcommand*{\LWR@formattedenv}[1]{%
1598     \ifcsundef{LWR@print@#1}{%
1599         \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1600             \csname#1\endcsname%
1601         \csletcs{endLWR@print@#1}{end#1}%
1602     }{%
1603     \DeclareDocumentEnvironment{#1}{}{%
1604         \%
1605             \@nameuse{LWR@\LWR@formatting @#1}%
1606         }%
1607     \{%
1608         \@nameuse{endLWR@\LWR@formatting @#1}%
1609     }%
1610 }

```

```
\LWR@expandableformatedenv {<environmentname>}
```

An expandable version of LWR@formatedenv.

```

1611 \newcommand*{\LWR@expandableformatedenv}[1]{%
1612   \ifcsundef{LWR@print@#1}{%
1613     \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1614     \csname#1\endcsname%
1615     \csletcs{endLWR@print@#1}{end#1}%
1616   }{%
1617     \DeclareExpandableDocumentEnvironment{#1}{}{%
1618       {%
1619         \nameuse{LWR@\LWR@formatting @#1}%
1620       }%
1621       {%
1622         \nameuse{endLWR@\LWR@formatting @#1}%
1623       }%
1624     }%
1625 \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: 1626 \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

```

1627 \newbool{FormatEPUB}
1628 \boolfalse{FormatEPUB}

```

Bool FormatWP Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments.
Default: false

```

1629 \newbool{FormatWP}
1630 \boolfalse{FormatWP}

```

Bool WPMarkFloats Adds
Default: false

```

===== begin table ===
...
===== end ===

```

or

```
==== begin figure ====
...
==== end ====

```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.¹⁸

```
1631 \newbool{WPMarkFloats}
1632 \boolfalse{WPMarkFloats}
```

Bool WPMarkMinipages Adds

Default: false

```
==== begin minipage ====
...
==== end minipage ====

```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

```
1633 \newbool{WPMarkMinipages}
1634 \boolfalse{WPMarkMinipages}
```

Bool WPMarkTOC While formatting for word processors, adds

Default: true

```
==== table of contents ====

```

where the Table of Contents would have been. This helps identify where to insert the actual TOC.

If set false, the actual toc is printed instead.

```
1635 \newbool{WPMarkTOC}
1636 \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.

```
1637 \newbool{WPMarkLOFT}
1638 \boolfalse{WPMarkLOFT}
```

Bool WPMarkMath While formatting for word processors, prints math as L^AT_EX code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

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

```
1639 \newbool{WPMarkMath}
1640 \boolefalse{WPMarkMath}
```

Bool WPTitleHeading While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.

See table 10 on page 188.

```
1641 \newbool{WPTitleHeading}
1642 \boolefalse{WPTitleHeading}

1643 \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: 1644 \begin{warpHTML}

```
1645 \AtBeginDocument{
1646 \ifbool{FormatWP}{
1647 @ifundefined{chapter}{

1648 \ifbool{WPTitleHeading}{% part and section starting at h2
1649 \renewcommand*\LWR@tagtitle{h1}
1650 \renewcommand*\LWR@tagtitleend{/h1}
1651 \renewcommand*\LWR@tagpart{h2}
1652 \renewcommand*\LWR@tagpartend{/h2}
1653 \renewcommand*\LWR@tagsection{h3}
1654 \renewcommand*\LWR@tagsectionend{/h3}
1655 \renewcommand*\LWR@tagsubsection{h4}
1656 \renewcommand*\LWR@tagsubsectionend{/h4}
1657 \renewcommand*\LWR@tagsubsubsection{h5}
1658 \renewcommand*\LWR@tagsubsubsectionend{/h5}
1659 \renewcommand*\LWR@tagparagraph{h6}
1660 \renewcommand*\LWR@tagparagraphend{/h6}
1661 \renewcommand*\LWR@tags subparagraph}{span class="subparagraph"}
1662 \renewcommand*\LWR@tags subparagraphend{/span}
1663 }% WPTitleHeading
1664 {% not WPTitleHeading, part and section starting at h1
1665 \renewcommand*\LWR@tagtitle{div class="title"}
1666 \renewcommand*\LWR@tagtitleend{/div}
1667 \renewcommand*\LWR@tagpart{h1}
1668 \renewcommand*\LWR@tagpartend{/h1}
1669 \renewcommand*\LWR@tagsection{h2}
1670 \renewcommand*\LWR@tagsectionend{/h2}
1671 \renewcommand*\LWR@tagsubsection{h3}
1672 \renewcommand*\LWR@tagsubsectionend{/h3}
```

```

1673 \renewcommand*\{\LWR@tagsubsubsection\}{h4}
1674 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h4}
1675 \renewcommand*\{\LWR@tagparagraph\}{h5}
1676 \renewcommand*\{\LWR@tagparagraphend\}{/h5}
1677 \renewcommand*\{\LWR@tagsubparagraph\}{h6}
1678 \renewcommand*\{\LWR@tagsubparagraphend\}{/h6}
1679 }% not WPTitleHeading
1680 }% chapter undefined
1681 {% chapter defined
1682 \ifbool{WPTitleHeading}{}%
1683 {% not WPTitleHeading, part and chapter starting at h1
1684 \renewcommand*\{\LWR@tagtitle\}{div class="title"}
1685 \renewcommand*\{\LWR@tagtitleend\}{/div}
1686 \renewcommand*\{\LWR@tagpart\}{h1}
1687 \renewcommand*\{\LWR@tagpartend\}{/h1}
1688 \renewcommand*\{\LWR@tagchapter\}{h2}
1689 \renewcommand*\{\LWR@tagchapterend\}{/h2}
1690 \renewcommand*\{\LWR@tagsection\}{h3}
1691 \renewcommand*\{\LWR@tagsectionend\}{/h3}
1692 \renewcommand*\{\LWR@tagsubsection\}{h4}
1693 \renewcommand*\{\LWR@tagsubsectionend\}{/h4}
1694 \renewcommand*\{\LWR@tagsubsubsection\}{h5}
1695 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h5}
1696 \renewcommand*\{\LWR@tagparagraph\}{h6}
1697 \renewcommand*\{\LWR@tagparagraphend\}{/h6}
1698 \renewcommand*\{\LWR@tagsubparagraph\}{span class="subparagraph"}
1699 \renewcommand*\{\LWR@tagsubparagraphend\}{/span}
1700 }% not WPTitleHeading
1701 }% chapter defined
1702 }{}% FormatWP
1703 }% AtBeginDocument

1704 \end{warpHTML}

```

37 Remembering original formatting macros

for HTML output: 1705 \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.

```

1706 \chardef\LWR@origpound='\#
1707 \let\LWR@origcomma|,
1708 \let\LWR@origthinspace\thinspace
1709 \let\LWR@orignegthinspace\negthinspace
1710 \let\LWR@origtilde~
1711 \let\LWR@origskip\enskip

```

```
1712 \let\LWR@origquad\quad
1713 \let\LWR@origqquad\qquad
1714 \let\LWR@orighfil\hfil
1715 \let\LWR@orighss\hss
1716 \let\LWR@origllap\llap
1717 \let\LWR@origrlap\rlap
1718 \let\LWR@orighfilneg\hfilneg
1719 \let\LWR@orighspace\hspace
1720
1721 \let\LWR@origrule\rule
1722
1723 \let\LWR@origmedskip\medskip
1724 \let\LWR@origbigskip\bigskip
1725
1726 \let\LWR@origtextellipsis\textellipsis

1727 \let\LWR@origvdots\vdots

1728 \let\LWR@orig@textquotedbl\textquotedbl
1729
1730 \LetLtxMacro{\LWR@origttfamily}{\ttfamily}
1731
1732 \LetLtxMacro{\LWR@origem}{\em}
1733
1734 \LetLtxMacro{\LWR@orignormalfont}{\normalfont}
1735
1736 \let\LWR@origonecolumn\onecolumn
1737
1738 \let\LWR@origsp\sp
1739 \let\LWR@origsb\sb
1740
1741 \LetLtxMacro{\LWR@origunderline}{\underline}

1742 \let\LWR@orignewpage\newpage
1743
1744 \let\LWR@origpagestyle\pagestyle
1745 \let\LWR@origthispagestyle\thispagestyle
1746 \LetLtxMacro{\LWR@origpagenumbering}{\pagenumbering}
1747
1748 \let\LWR@orignewline\newline
1749
1750 \AtBeginDocument{%
1751   % in case packages change definition
1752 \let\LWR@origtrivlist\@trivlist
1753 \let\LWR@origendtrivlist\endtrivlist
1754 \LetLtxMacro{\LWR@origitem}{\item}
1755 \LetLtxMacro{\LWR@origitemize}{\itemize}
1756 \LetLtxMacro{\LWR@endorigitemize}{\enditemize}
1757 \LetLtxMacro{\LWR@origenumerate}{\enumerate}
1758 \LetLtxMacro{\LWR@endorigenumerate}{\endenumerate}
1759 \LetLtxMacro{\LWR@origdescription}{\description}
1760 \LetLtxMacro{\LWR@endorigdescription}{\enddescription}
1761 \let\LWR@orig@mklabel\@mklab
1762 \let\LWR@origmakelabel\mklabel
1763 \let\LWR@origdonoparitem\@donoparitem
```

```

1764 \LetLtxMacro{\LWR@orig@item}{\item}
1765 \let\LWR@orig\rbitem\@nbitem
1766 }
1767
1768 \let\LWR@origpar\par
1769
1770 \LetLtxMacro{\LWR@origfootnote}{\footnote}
1771 \let\LWR@orig@mpfootnotetext\@mpfootnotetext
1772
1773
1774 \AtBeginDocument{%
1775   \LetLtxMacro{\LWR@origline}{\hline}
1776   \LetLtxMacro{\LWR@origcline}{\cline}
1777 }

1778 \end{warpHTML}

```

38 Accents

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

for HTML output: 1779 \begin{warpHTML}

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

```
1780 \AtBeginDocument{
```

The following are restored for print when inside a \teximage.

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

```
1781 \LetLtxMacro{\LWR@origtie}{\t}
```

For pdfL^AT_EX, additional work is required:

```

1782 \ifPDFTeX% pdflatex or dvi latex
1783 \LetLtxMacro{\LWR@origgraveaccent}{`}
1784 \LetLtxMacro{\LWR@origacuteaccent}{'}
1785 \LetLtxMacro{\LWR@origcircumflexaccent}{^}
1786 \LetLtxMacro{\LWR@origtildeaccent}{\~{}}
1787 \LetLtxMacro{\LWR@origmacronaccent}{=}
1788 \LetLtxMacro{\LWR@origbreve}{\u}
1789 \LetLtxMacro{\LWR@origdotaccent}{\.}
1790 \LetLtxMacro{\LWR@origdiaeresisaccent}{\"}
1791 \LetLtxMacro{\LWR@origdoubleacuteaccent}{\H}
1792 \LetLtxMacro{\LWR@origcaronaccent}{\v}

```

```

1793 \LetLtxMacro{\LWR@origdotbelowaccent}{\d}
1794 \LetLtxMacro{\LWR@origcedillaaccent}{\c}
1795 \LetLtxMacro{\LWR@origmacronbelowaccent}{\b}
```

The HTML redefinitions follow.

For pdflatEX, Unicode diacritical marks are used:

```

1796 \renewcommand*{'[1]{#1\HTMLunicode{0300}}
1797 \renewcommand*'{')[1]{#1\HTMLunicode{0301}}
1798 \renewcommand*'^[1]{#1\HTMLunicode{0302}}
1799 \renewcommand*`~[1]{#1\HTMLunicode{0303}}
1800 \renewcommand*`=[1]{#1\HTMLunicode{0304}}
1801 \renewcommand*`u[1]{#1\HTMLunicode{0306}}
1802 \renewcommand*`.[1]{#1\HTMLunicode{0307}}
1803 \renewcommand*`"[1]{#1\HTMLunicode{0308}}
1804 \renewcommand*`H[1]{#1\HTMLunicode{030B}}
1805 \renewcommand*`v[1]{#1\HTMLunicode{030C}}
1806 \renewcommand*`d[1]{#1\HTMLunicode{0323}}
1807 \renewcommand*`c[1]{#1\HTMLunicode{0327}}
1808 \renewcommand*`b[1]{#1\HTMLunicode{0331}}
1809 \fi
```

For all engines, a Unicode diacritical tie is used:

```

1810 \def{\LWR@t}{\#1\HTMLunicode{0361}\#2}
1811 \renewcommand*{\t}[1]{\LWR@t}
```

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

```

1812 \ifPDFTeX% pdflatex or dvi latex
1813 \newcommand*{\LWR@restoreorigaccents}{%
1814   \LetLtxMacro{'\LWR@origgraveaccent}%
1815   \LetLtxMacro{'\LWR@origacuteaccent}%
1816   \LetLtxMacro{^'\LWR@origcircumflexaccent}%
1817   \LetLtxMacro{`~'\LWR@origtildeaccent}%
1818   \LetLtxMacro{`=\LWR@origmacronaccent}%
1819   \LetLtxMacro{u'\LWR@origbreve}%
1820   \LetLtxMacro{.\LWR@origdotaccent}%
1821   \LetLtxMacro{"'\LWR@origdiaeresisaccent}%
1822   \LetLtxMacro{H'\LWR@origdoubleacuteaccent}%
1823   \LetLtxMacro{v'\LWR@origcaronaccent}%
1824   \LetLtxMacro{t'\LWR@origtie}%
1825   \LetLtxMacro{d'\LWR@origdotbelowaccent}%
1826   \LetLtxMacro{c'\LWR@origcedillaaccent}%
1827   \LetLtxMacro{b'\LWR@origmacronbelowaccent}%
1828 }%
1829 \else% XeLaTeX, LuaLaTeX:
1830 \newcommand*{\LWR@restoreorigaccents}{%
1831   \LetLtxMacro{t'\LWR@origtie}%
1832 }%
1833 \fi%
1834 }% AtBeginDocument
```

```

1835 \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 `l warp`, so the `l warp` configuration files are turned off if `-pstool` is part of the `\jobname`.

Default to no configuration files:

```
1836 \LWR@excludecomment{LWRwriteconf}{writeconf}
```

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

```
for PRINT output: 1837 \begin{warpprint}
1838 \fullexpandarg%
1839 \IfSubStr*\{\jobname\}{-pstool}
1840   {
1841     \PackageInfo{l warp}{%
1842       Jobname with -pstool is found.\MessageBreak
1843       Not generating l warp configuration files,%
1844     }
1845   }
1846   {
1847     \PackageInfo{l warp}{Generating l warp configuration files,}%
1848     \LWR@includecomment{LWRwriteconf}{writeconf}
1849   }
1850 \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:

```
1851 \begin{LWRwriteconf}
1852 \immediate\openout\LWR@quickfile=\jobname_html.tex
1853 \immediate\write\LWR@quickfile{%
1854 \detokenize{\PassOptionsToPackage}{%
1855 {warpHTML,BaseJobname=\jobname}\{l warp\}}%
1856 }
1857 \immediate\write\LWR@quickfile{%
1858 \detokenize{\input}\string{\jobname.tex}\string }%
1859 }
1860 \immediate\closeout\LWR@quickfile
1861 \end{LWRwriteconf}
```

39.3 *l warpmk* configuration files

Config file:

```
1862 \begin{LWRwriteconf}
```

\LWR@lwarpconfversion 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 lwarp version number.)

```
1863 \newcommand*{\LWR@lwarpconfversion}{2}%
  also in lwarpmk.lua
```

39.3.1 Helper macros

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

```
1864 \ifshellescape
1865   \def\LWR@shellescapecmd{--shell-escape }
1866 \else
1867   \def\LWR@shellescapecmd{}
1868 \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

```
1869 \newcommand*{\LWR@compilecmd}[2]{%
1870   #1 \LWR@shellescapecmd \jobname#2%
1871 }
```

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

Adds to the compilation command.

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

```
1872 \newcommand*{\LWR@addcompilecmd}[2]{%
1873   \LWRopseq
1874   #1 \jobname#2%
1875 }
```

\LWR@unknownengine Error message if not sure which L^AT_EX engine is being used.

```
1876 \newcommand*{\LWR@unknownengine}{%
1877   \PackageError{lwarp}{%
1878     {Unknown LATEX engine}}%
1879   {%
1880     Lwarp only knows about pdflatex, dvi latex,
1881     xelatex, lualatex, and upLateX.%%
1882   }%
1883 }
```

\LWR@latexmkvar {\langle varname\rangle} {\langle value\rangle}

Adds a *latexmk* variable assignment.

```
1884 \newcommand*{\LWR@Latexmkvar}[2]{%
1885     -e
1886     \LWRopquote%
1887     \LWRdollar #1=q/#2/%
1888     \LWRopquote
1889 }
```

\LWR@latexmkcmd {*latexmk options*}

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

```
1890 \newcommand*{\LWR@latexmkcmd}[1]{%
1891     latexmk \space \LWR@shellescapecmd \space #1 \space
1892     -recorder \space
1893     \LWR@Latexmkvar{makeindex}{\LWR@LatexmkIndexCmd}%
1894 }
```

\LWR@latexmkdvipdfm {*dvipdfm or dvipdfmx*}

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

```
1895 \newcommand*{\LWR@Latexmkdvipdfm}[1]{%
1896     -pdfdvi \space
1897     \LWR@Latexmkvar{dvipdf}{%
1898         #1
1899         \@percentchar 0
1900         -o \@percentchar D
1901         \@percentchar S%
1902     }
1903 }
```

\LWR@compileuplatex Sets compile options for up^LATEX with ujarticle or related classes.

```
1904 \newcommand*{\LWR@compileuplatex}{
1905     \def\LWR@tempprintlatexcmd{%
1906         \LWR@compilecmd{uplatex}{}%
1907         \LWR@addcompilecmd{dvipdfmx}{}%
1908     }
1909     \def\LWR@tempHTMLlatexcmd{%
1910         \LWR@compilecmd{uplatex}{_html}%
1911         \LWR@addcompilecmd{dvipdfmx}{_html}%
1912     }
1913 }
```

\LWR@PrintLatexCmd If not set by the user, the following sets the command to use to compile the source to PDF form.
\LWR@HTMLLatexCmd

If using *latexmk*, a complicated string is created, eventually resulting in something such as:

For *xelatex* with --shell-escape:

```
[[latexmk -xelatex --shell-escape -recorder
-e '$makeindex = q/makeindex -s lwarf.ist/' <jobname>.html]]
```

For *dvipdfmx*:

```
[[latexmk -pdfdvi -e '$dvipdf=q/dvipdfmx %o -o %D %S/'
-recorder
-e '$makeindex=q/makeindex -s lwarf.ist/' <jobname>.html]]
```

For the following, temporary values are computed, but the permanent values are only set if the originals were not assigned by the user.

1914 \ifbool{LWR@latexmk}{

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

1915 \ifpdf

For *latexmk* with *pdflatex*:

1916 \ifPDFTeX
1917 \def\LWR@latexcmd{\LWR@latexmkcmd{-pdf -dvi- -ps-}}
1918 \else

For *latexmk* with *lualatex*:

1919 \ifLuaTeX
1920 \def\LWR@latexcmd{\LWR@latexmkcmd{-lualatex}}
1921 \else
1922 \LWR@unknownengine
1923 \fi
1924 \fi
1925 \else% \ifpdf

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

1926 \ifXeTeX

For *latexmk* with *xelatex*:

1927 \def\LWR@latexcmd{\LWR@latexmkcmd{-xelatex}}
1928 \else% \ifXeTeX

For *latexmk* with DVI *latex*:

1929 \ifbool{LWR@dvipdfm}{

```

1930          \def\LWR@latexcmd{%
1931              \LWR@latexmkcmd{%
1932                  \LWR@latexmkdvipdfm{dvipdfm}%
1933              }
1934          }
1935      }{
1936          \ifbool{LWR@dvipdfmx}{%
1937              \def\LWR@latexcmd{%
1938                  \LWR@latexmkcmd{%
1939                      \LWR@latexmkdvipdfm{dvipdfmx}%
1940                  }
1941              }
1942          }{
1943              \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}%
1944          }
1945      }
1946      \fi
1947  \fi% \ifpdf

```

The final assignment if *latexmk*:

```

1948      \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
1949      \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
1950 }% latexmk

```

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

```

1951 {%
1952     \ifpdf

```

For *pdflatex* or *lualatex*:

```

1953     \ifPDFTeX

```

For *pdflatex*:

```

1954          \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{}}
1955          \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
1956      \else
1957          \ifLuaTeX

```

For *lualatex*:

```

1958          \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{}}
1959          \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
1960      \else
1961          \LWR@unknownengine
1962      \fi
1963  \fi
1964 \else% \ifpdf

```

For DVI *latex* or *xelatex*:

```
1965      \ifXeTeX
```

For *xelatex*:

```
1966      \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}{}}
1967      \def\LWR@tempHTMLlateXcmd{\LWR@compilecmd{xelatex}{_html}}
1968      \else
```

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

```
1969      \ifbool{\LWR@dvipdfm}{
```

For dvi *latex* with *dvipdfm*:

```
1970      \def\LWR@tempprintlatexcmd{%
1971          \LWR@compilecmd{latex}{}%
1972          \LWR@addcompilecmd{dvipdfm}{}%
1973      }
1974      \def\LWR@tempHTMLlateXcmd{%
1975          \LWR@compilecmd{latex}{_html}%
1976          \LWR@addcompilecmd{dvipdfm}{_html}%
1977      }
1978  }{
1979      \ifbool{\LWR@dvipdfmx}{%
```

For dvi *latex* with *dvipdfmx*:

```
1980      \def\LWR@tempprintlatexcmd{%
1981          \LWR@compilecmd{latex}{}%
1982          \LWR@addcompilecmd{dvipdfmx}{}%
1983      }
1984      \def\LWR@tempHTMLlateXcmd{%
1985          \LWR@compilecmd{latex}{_html}%
1986          \LWR@addcompilecmd{dvipdfmx}{_html}%
1987      }
1988  }% dvips
```

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

```
1989      \def\LWR@tempprintlatexcmd{%
1990          \LWR@compilecmd{latex}{}%
1991          \LWR@addcompilecmd{dvips}{}%
1992          \LWR@addcompilecmd{ps2pdf}{.ps}%
1993      }
1994      \def\LWR@tempHTMLlateXcmd{%
1995          \LWR@compilecmd{latex}{_html}%
1996          \LWR@addcompilecmd{dvips}{_html}%
1997          \LWR@addcompilecmd{ps2pdf}{_html}.ps%
1998      }
1999  }
2000  }
2001  \fi% \ifXeTeX
2002  \fi% \ifpdf
2003 }% latexmk
```

For `ujarticle`, `utarticle`, and related, using up^LTEX and `dvipdfmx`:

```

2004 \@ifclassloaded{ujarticle}{\LWR@compileuplatex}{}
2005 \@ifclassloaded{ujbook}{\LWR@compileuplatex}{}
2006 \@ifclassloaded{ujreport}{\LWR@compileuplatex}{}
2007 \@ifclassloaded{utarticle}{\LWR@compileuplatex}{}
2008 \@ifclassloaded{utbook}{\LWR@compileuplatex}{}
2009 \@ifclassloaded{utreport}{\LWR@compileuplatex}{}

```

Only make the setting permanent if the original was empty:

```

2010 \ifdefempty{\LWR@PrintLatexCmd}{
2011     \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}
2012 }{}
2013 \ifdefempty{\LWR@HTMLLatexCmd}{
2014     \def\LWR@HTMLLatexCmd{\LWR@tempHTMLlatexcmd}
2015 }{}

```

`\LWR@writeconf {<filename>}`

Common code for each of `lwarpmk.conf` and `<project>.lwarpmkconf`. 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.

```

2016 \newcommand{\LWR@writeconf}[1]{
2017 \ifcsdef{\LWR@quickfile}{}{\newwrite{\LWR@quickfile}}
2018 \immediate\openout\LWR@quickfile=#1
2019 \immediate\write{\LWR@quickfile{confversion = [[\LWR@lwarpconfversion]]}}
2020 \ifbool{usingOSWindows}{
2021     \immediate\write{\LWR@quickfile{opsystem = [[Windows]]}}
2022 }{
2023     \immediate\write{\LWR@quickfile{opsystem = [[Unix]]}}
2024 }
2025 \immediate\write{\LWR@quickfile{sourcename = [[\jobname]]}}
2026 \immediate\write{\LWR@quickfile{homehtmlfilename = [[\HomeHTMLFilename]]}}
2027 \immediate\write{\LWR@quickfile{htmllfilename = [[\HTMLFilename]]}}
2028 \immediate\write{\LWR@quickfile{imagesdirectory = [[\LWR@ImagesDirectory]]}}
2029 \immediate\write{\LWR@quickfile{imagesname = [[\LWR@ImagesName]]}}
2030 \immediate\write{\LWR@quickfile{latexmk = [[\ifbool{\LWR@latexmk}{true}{false}]]}}
2031 \immediate\write{\LWR@quickfile{printlatexcmd = [[\LWR@PrintLatexCmd]]}}
2032 \immediate\write{\LWR@quickfile{HTMLlatexcmd = [[\LWR@HTMLLatexCmd]]}}
2033 \immediate\write{\LWR@quickfile{printindexcmd = [[\LWR@PrintIndexCmd]]}}
2034 \immediate\write{\LWR@quickfile{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}}
2035 \immediate\write{\LWR@quickfile{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}}
2036 \immediate\write{\LWR@quickfile{glossarycmd = [[\LWR@GlossaryCmd]]}}
2037 \immediate\write{\LWR@quickfile{pdftotextenc = [[\LWR@pdftotextEnc]]}}
2038 \immediate\closeout{\LWR@quickfile}
2039 }
2040
2041 \end{\LWR@writeconf}

```

39.3.2 l warpmk.conf

File l warpmk.conf l warpmk.conf is automatically (re-)created by the l warp package when executing pdflatex <project.tex>, or similar for xelatex or l ualatex, in print-document generation mode, which is the default unless the warpHTML option is given. l warpmk.conf is then used by the utility l warpmk.

Config file: 2042 \begin{LWRwriteconf}
 2043
 2044 \AtBeginDocument{\LWR@writeconf{l warpmk.conf}}
 2045
 2046 \end{LWRwriteconf}

39.3.3 <project>.l warpmkconf

File project.l warpmkconf A project-specific configuration file for l warpmk.

The makeindex and xindy options have already been handled for l warp.conf.

Config file: 2047 \begin{LWRwriteconf}
 2048
 2049 \AtBeginDocument{\LWR@writeconf{\jobname.l warpmkconf}}
 2050
 2051 \end{LWRwriteconf}

39.4 l warp.css

File l warp.css This is the base css layer used by l warp.

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

Config file: 2052 \begin{LWRwriteconf}
 2053 \begin{filecontents*}[overwrite]{l warp.css}
 2054 /*
 2055 CSS stylesheet for the LaTeX L warp package
 2056 Copyright 2016–2020 Brian Dunn – BD Tech Concepts LLC
 2057 */
 2058
 2059
 2060 /* a fix for older browsers: */
 2061 header, section, footer, aside, nav, main,
 2062 article, figure { display: block; }
 2063
 2064
 2065 A:link {color:#000080 ; text-decoration: none ; }
 2066 A:visited {color:#800000 ; }
 2067 A:hover {color:#000080 ; text-decoration: underline ; }
 2068 A:active {color:#800000 ; }
 2069

```
2070 a.tocbook {display: inline-block ; margin-left: 0em ;
2071     font-weight: bold ; margin-top: 1ex ; margin-bottom: 1ex ; }
2072 a.tocpart {display: inline-block ; margin-left: 0em ;
2073     font-weight: bold ;}
2074 a.tocchapter {display: inline-block ; margin-left: 0em ;
2075     font-weight: bold ;}
2076 a.tocsection {display: inline-block ; margin-left: 1em ;
2077     text-indent: -.5em ; font-weight: bold ;}
2078 a.tocsubsection {display: inline-block ; margin-left: 2em ;
2079     text-indent: -.5em ;}
2080 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
2081     text-indent: -.5em ;}
2082 a.tocparagraph {display: inline-block ; margin-left: 4em ;
2083     text-indent: -.5em ;}
2084 a.toc subparagraph {display: inline-block ; margin-left: 5em ;
2085     text-indent: -.5em ;}
2086 a.tocfigure {margin-left: 0em}
2087 a.tocsubfigure {margin-left: 2em}
2088 a.tocitable {margin-left: 0em}
2089 a.tocsubtable {margin-left: 2em}
2090 a.toctheorem {margin-left: 0em}
2091 a.toclstlisting {margin-left: 0em}
2092
2093 body {
2094     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2095         "Lucida Bright", Georgia, serif;
2096     background: #FAF7F4 ;
2097     color: black ;
2098     margin:0em ;
2099     padding:0em ;
2100     font-size: 100% ;
2101     line-height: 1.2 ;
2102 }
2103
2104 p {margin: 1.5ex 0em 1.5ex 0em ;}
2105 table p {margin: .5ex 0em .5ex 0em ;}
2106
2107 /* Holds a section number */
2108 span.sectionnumber { margin-right: 0em }
2109
2110 /* Inserted in front of index lines */
2111 span.indexitem {margin-left: 0em}
2112 span.indexsubitem {margin-left: 2em}
2113 span.indexsubsubitem {margin-left: 4em}
2114 div.indexheading {margin-top: 2ex ; font-weight: bold}
2115
2116 div.hidden, span.hidden { display: none ; }
2117
2118 kbd, span.texttt, p span.texttt {
2119     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2120         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2121         "Courier New", monospace;
2122     font-size: 100% ;
2123 }
2124
```

```
2125 pre { padding: 3pt ; }
2126
2127 span.strong, span.textbf, div.strong, div.textbf { font-weight: bold; }
2128
2129 span.textit, div.textit { font-style: italic; }
2130
2131 span.textmd, div.textmd { font-weight: normal; }
2132
2133 span.textup, div.textup {
2134     font-style: normal;
2135     font-variant: normal;
2136     font-variant-numeric: normal ;
2137 }
2138
2139 span.textsc, div.textsc {
2140     font-variant: small-caps;
2141     font-variant-numeric: oldstyle-nums ;
2142 }
2143
2144 span.textulc, div.textulc {
2145     font-variant: normal ;
2146     font-variant-numeric: normal ;
2147 }
2148
2149 span.textsl, div.textsl { font-style: oblique; }
2150
2151 span.textrm, div.textrm {
2152     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2153     "Lucida Bright", Georgia, serif;
2154 }
2155
2156 span.textsf, div.textsf {
2157     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2158     Geneva, Verdana, sans-serif ;
2159 }
2160
2161 /* nfssext-cfr lining figures */
2162 span.textln, div.textln {
2163     font-variant-numeric: lining-nums ;
2164 }
2165
2166 /* nfssext-cfr proportional figures */
2167 span.textp, div.textp {
2168     font-variant-numeric: proportional-nums ;
2169 }
2170
2171 /* nfssext-cfr tabular figures */
2172 span.texttt, div.texttt {
2173     font-variant-numeric: tabular-nums ;
2174 }
2175
2176 /* nfssext-cfr font weights */
2177 span.textdb, div.textdb {
2178     font-weight: 500 ;
2179 }
```

```
2180
2181 span.textsb, div.textsb {
2182     font-weight: 600 ;
2183 }
2184
2185 span.texteb, div.texteb {
2186     font-weight: 800 ;
2187 }
2188
2189 span.textub, div.textub {
2190     font-weight: 900 ;
2191 }
2192
2193 span.textlg, div.textlg {
2194     font-weight: 300 ;
2195 }
2196
2197 span.textel, div.textel {
2198     font-weight: 200 ;
2199 }
2200
2201 span.textul, div.textul {
2202     font-weight: 100 ;
2203 }
2204
2205
2206
2207 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
2208
2209 span.underline {
2210     text-decoration: underline ;
2211     text-decoration-skip: auto ;
2212 }
2213
2214 span.overline {
2215     text-decoration: overline ;
2216     text-decoration-skip: auto ;
2217 }
2218
2219 div.hrule { border-top: 1px solid silver }
2220
2221
2222 /* for vertical text: */
2223 div.verticalrl { writing-mode: vertical-rl }
2224 div.horizontaltb { writing-mode: horizontal-tb }
2225
2226
2227 /* for diagbox */
2228 div.diagboxtileN { border-bottom: 1px solid gray }
2229 div.diagboxtileS { border-top: 1px solid gray }
2230
2231 div.diagboxE {
2232     padding-left: 2em ;
2233     text-align: right ;
2234 }
```

```
2235
2236 div.diagboxW {
2237     padding-right: 2em ;
2238     text-align: left ;
2239 }
2240
2241
2242
2243 /* For realscripts */
2244 .supsubscript {
2245     display: inline-block;
2246     text-align:left ;
2247 }
2248
2249 .supsubscript sup,
2250 .supsubscript sub {
2251     position: relative;
2252     display: block;
2253     font-size: .7em;
2254     line-height: 1;
2255 }
2256
2257 .supsubscript sup {
2258     top: .3em;
2259 }
2260
2261 .supsubscript sub {
2262     top: .3em;
2263 }
2264
2265 div.attribution p {
2266     text-align: right ;
2267     font-size: 80%
2268 }
2269
2270 span.poemtitle {
2271     font-size: 120% ; font-weight: bold;
2272 }
2273
2274 pre.tabbing {
2275     font-family: "Linux Libertine Mono O", "Lucida Console",
2276                 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2277                 "Liberation Mono", "FreeMono", "Andale Mono",
2278                 "Nimbus Mono L", "Courier New", monospace;
2279 }
2280
2281 blockquote {
2282     display: block ;
2283     margin-left: 2em ;
2284     margin-right: 2em ;
2285 }
2286
2287 /* quotchap is for the quotchap package */
2288 div.quotchap {
2289     display: block ;
```

```
2290     font-style: oblique ;
2291     overflow-x: auto ;
2292     margin-left: 2em ;
2293     margin-right: 2em ;
2294 }
2295
2296 blockquote p, div.quotchap p {
2297     line-height: 1.5;
2298     text-align: left ;
2299     font-size: .85em ;
2300 }
2301
2302 /* qauthor is for the quotchap package */
2303 div.qauthor {
2304     display: block ;
2305     text-align: right ;
2306     margin-left: auto ;
2307     margin-right: 2em ;
2308     font-size: 80% ;
2309     font-variant: small-caps;
2310 }
2311
2312 div.qauthor p {
2313     text-align: right ;
2314 }
2315
2316 div.epigraph, div.dictum {
2317     line-height: 1.2;
2318     text-align: left ;
2319     padding: 3ex 1em 0ex 1em ;
2320     /* margin: 3ex auto 3ex auto ; */ /* Epigraph centered */
2321     margin: 3ex 1em 3ex auto ; /* Epigraph to the right */
2322     /* margin: 3ex 1em 3ex 1em ; */ /* Epigraph to the left */
2323     font-size: .85em ;
2324     max-width: 27em ;
2325 }
2326
2327 div.epigraphsource, div.dictumauthor {
2328     text-align:right ;
2329     margin-left:auto ;
2330     /* max-width: 50% ; */
2331     border-top: 1px solid #A0A0A0 ;
2332     padding-bottom: 3ex ;
2333     line-height: 1.2;
2334 }
2335
2336 div.epigraph p, div.dictum p { padding: .5ex ; margin: 0ex ;}
2337 div.epigraphsource p, div.dictumauthor p { padding: .5ex 0ex 0ex 0ex ; margin: 0ex ;}
2338 div.dictumauthor { font-style:italic }
2339
2340
2341 /* copyrightbox package */
2342 div.copyrightbox { margin: .5ex .5em }
2343 div.copyrightbox p {margin: 0px .5em ; padding: 0px}
2344 div.copyrightboxnote {text-align: left ; font-size: 60%}
```

```
2345
2346
2347 /* lettrine package: */
2348 span.lettrine { font-size: 4ex ; float: left ; }
2349 span.lettrinetext { font-variant: small-caps ; }
2350
2351 /* ulem, soul, umoline packages: */
2352 span.uline {
2353     text-decoration: underline ;
2354     text-decoration-skip: auto ;
2355 }
2356
2357 span.uline {
2358     text-decoration: underline ;
2359     text-decoration-skip: auto ;
2360     text-decoration-style: double ;
2361 }
2362
2363 span.uwave {
2364     text-decoration: underline ;
2365     text-decoration-skip: auto ;
2366     text-decoration-style: wavy ;
2367 }
2368
2369 span.sout {
2370     text-decoration: line-through ;
2371 }
2372
2373 span.oline {
2374     text-decoration: overline ;
2375     text-decoration-skip: auto ;
2376 }
2377
2378 span.xout {
2379     text-decoration: line-through ;
2380 }
2381
2382 span.dashuline {
2383     text-decoration: underline ;
2384     text-decoration-skip: auto ;
2385     text-decoration-style: dashed ;
2386 }
2387
2388 span.dotuline {
2389     text-decoration: underline ;
2390     text-decoration-skip: auto ;
2391     text-decoration-style: dotted ;
2392 }
2393
2394 span.letterspacing { letter-spacing: .2ex ; }
2395
2396 span.capsspacing {
2397     font-variant: small-caps ;
2398     letter-spacing: .1ex ;
2399 }
```

```
2400
2401 span.highlight { background: #F8E800 ; }
2402
2403
2404
2405
2406 html body {
2407   margin: 0 ;
2408   line-height: 1.2;
2409 }
2410
2411
2412 body div {
2413   margin: 0ex;
2414 }
2415
2416
2417 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2418 {
2419   font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
2420   "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
2421   "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
2422   "Times New Roman", serif;
2423   font-style: normal ;
2424   font-weight: bold ;
2425   text-align: left ;
2426 }
2427
2428 h1 { /* title of the entire website, used on each page */
2429   text-align: center ;
2430   font-size: 2.5em ;
2431   padding: .4ex 0em 0ex 0em ;
2432 }
2433
2434 div.book {
2435   text-align: center ;
2436   font-size: 2.325em ;
2437   padding: .4ex 0em 0ex 0em ;
2438 }
2439
2440 h2 { font-size: 2.25em }
2441 h3 { font-size: 2em }
2442 h4 { font-size: 1.75em }
2443 h5 { font-size: 1.5em }
2444 h6 { font-size: 1.25em }
2445 span.paragraph {font-size: 1em ; font-variant: normal ;
2446   margin-right: 1em ; }
2447 span.subparagraph {font-size: 1em ; font-variant: normal ;
2448   margin-right: 1em ; }
2449
2450 div.minisec {
2451   font-family: "DejaVu Sans", "Bitstream Vera Sans",
2452   Geneva, Verdana, sans-serif ;
2453   font-style: normal ;
2454   font-weight: bold ;
```

```
2455     text-align: left ;
2456 }
2457
2458 h1 {
2459   margin: 0ex 0em 0ex 0em ;
2460   line-height: 1.3;
2461   text-align: center ;
2462 }
2463
2464 h2 {
2465   margin: 1ex 0em 1ex 0em ;
2466   line-height: 1.3;
2467   text-align: center ;
2468 }
2469
2470 h3 {
2471   margin: 3ex 0em 1ex 0em ;
2472   line-height: 1.3;
2473 }
2474
2475 h4 {
2476   margin: 3ex 0em 1ex 0em ;
2477   line-height: 1.3;
2478 }
2479
2480 h5 {
2481   margin: 3ex 0em 1ex 0em ;
2482   line-height: 1.3;
2483 }
2484
2485 h6 {
2486   margin: 3ex 0em 1ex 0em ;
2487   line-height: 1.3;
2488 }
2489
2490
2491 div.titlepage {
2492   text-align: center ;
2493 }
2494
2495 .footnotes {
2496   text-align: left ;
2497   font-size: .85em ;
2498   margin: 3ex 2em 0ex 2em ;
2499   border-top: 1px solid silver ;
2500 }
2501
2502 .marginpar, .marginparblock {
2503   max-width: 50%;
2504   float: right ;
2505   clear: both ;
2506   text-align: left ;
2507   margin: 1ex 0.5em 1ex 1em ;
2508   padding: 1ex 0.5em 1ex 0.5em ;
2509   font-size: 85% ;
```

```
2510     border-top: 1px solid silver ;
2511     border-bottom: 1px solid silver ;
2512     overflow-x: auto ;
2513 }
2514
2515 .marginpar br { margin-bottom: 2ex ; }
2516
2517 div.marginblock, div.marginparblock {
2518     max-width:50%;
2519     min-width: 10em; /* room for caption */
2520     float:right;
2521     text-align:left;
2522     margin: 1ex 0.5em 1ex 1em ;
2523     padding: 1ex 0.5em 1ex 0.5em ;
2524     overflow-x: auto;
2525 }
2526
2527 div.marginblock div.minipage,
2528 div.marginparblock div.minipage {
2529     display: inline-block ;
2530     margin: 0pt auto 0pt auto ;
2531 }
2532
2533 div.marginblock div.minipage p ,
2534 div.marginparblock div.minipage p
2535     { font-size: 85%}
2536
2537 div.marginblock br ,
2538 div.marginparblock br
2539     { margin-bottom: 2ex ; }
2540
2541 div.bodycontainer {
2542     float: left ;
2543     width: 80% ;
2544 }
2545
2546 div.bodywithoutsidetoc div.bodycontainer {
2547     float: none ;
2548     width: 100% ;
2549 }
2550
2551 section.textbody div.footnotes{
2552     margin: 3ex 2em .5ex 2em ;
2553     border-bottom: 2px solid silver ;
2554 }
2555
2556 .footnoteheader {
2557     border-top: 2px solid silver ;
2558     margin-top: 3ex ;
2559     padding-top: 1ex ;
2560     font-weight: bold ;
2561 }
2562
2563 .mpfootnotes {
2564     text-align: left ;
```

```
2565     font-size: .85em ;
2566     margin-left: 1em ;
2567     border-top: 1px solid silver ;
2568 }
2569
2570 /* Remove footnote top border in the title page. */
2571 div.titlepage div.mpfootnotes {
2572     border-top: none ;
2573 }
2574
2575
2576
2577 ul, ol {
2578     margin: 1ex 1em 1ex 0em;
2579     line-height: 1.2;
2580 }
2581
2582 body dir, body menu {
2583     margin: 3ex 1em 3ex 0em;
2584     line-height: 1.2;
2585 }
2586
2587 li { margin: 0ex 0em 1ex 0em; }
2588
2589 html {
2590     margin: 0;
2591     padding: 0;
2592 }
2593
2594 .programlisting {
2595     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2596                 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2597                 "Courier New", monospace;
2598     margin: 1ex 0ex 1ex 0ex ;
2599     padding: .5ex 0pt .5ex 0pt ;
2600     overflow-x: auto;
2601 }
2602
2603 section.textbody>pre.programlisting {
2604 border-top: 1px solid silver ;
2605 border-bottom: 1px solid silver ;
2606 }
2607
2608
2609 div.displaymath {
2610     text-align: center ;
2611 }
2612
2613 div.displaymathnumbered {
2614     text-align: right ;
2615     margin-left: 5% ;
2616     margin-right: 5% ;
2617     min-width: 2.5in ;
2618 }
2619
```

```
2620 @media all and (min-width: 400px) {
2621     div.displaymathnumbered {
2622         margin-left: 10% ;
2623         margin-right: 10% ;
2624     }
2625 }
2626
2627 @media all and (min-width: 800px) {
2628     div.displaymathnumbered {
2629         margin-right: 20% ;
2630     }
2631 }
2632
2633 @media all and (min-width: 1200px) {
2634     div.displaymathnumbered {
2635         margin-right: 30% ;
2636     }
2637 }
2638
2639
2640 .inlineprogramlisting {
2641     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2642                 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2643                 "Courier New", monospace;
2644     overflow-x: auto;
2645 }
2646
2647 span.listinglabel {
2648     display: inline-block ;
2649     font-size: 70% ;
2650     width: 4em ;
2651     text-align: right ;
2652     margin-right: 2em ;
2653 }
2654
2655 div.abstract {
2656     margin: 2em 5% 2em 5% ;
2657     padding: 1ex 1em 1ex 1em ;
2658 /* font-weight: bold ; */
2659     font-size: 90% ;
2660     text-align: left ;
2661 }
2662
2663 div.abstract dl {line-height:1.5;}
2664 div.abstract dt {color:#304070;}
2665
2666 div.abstracttitle{
2667     font-family: "URW Classico", Optima, "Linux Biolinum 0",
2668                 "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
2669                 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2670     font-weight:bold;
2671     font-size:1.25em;
2672     text-align: center ;
2673 }
2674
```

```
2675 span.abstractrunintitle{  
2676     font-family: "URW Classico", Optima, "Linux Biolinum 0",  
2677         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",  
2678         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;  
2679     font-weight:bold;  
2680 }  
2681  
2682  
2683 .verbatim {  
2684     overflow-x: auto ;  
2685 }  
2686  
2687 .alltt {  
2688     overflow-x: auto ;  
2689 }  
2690  
2691  
2692 .bverbatim {  
2693     margin: 1ex 0pt 1ex 0pt ;  
2694     padding: .5ex 0pt .5ex 0pt ;  
2695     overflow-x: auto ;  
2696 }  
2697  
2698 .lverbatim {  
2699     margin: 1ex 0pt 1ex 0pt ;  
2700     padding: .5ex 0pt .5ex 0pt ;  
2701     overflow-x: auto ;  
2702 }  
2703  
2704 .fancyvrb {  
2705     font-size:.85em ;  
2706     margin: 3ex 0pt 3ex 0pt  
2707 }  
2708  
2709 .fancyvrblabel {  
2710     font-size: .85em ;  
2711     text-align: center ;  
2712     font-weight: bold ;  
2713     margin-top: 1ex ;  
2714     margin-bottom: 1ex ;  
2715 }  
2716  
2717  
2718 .verse {  
2719     font-family: "Linux Libertine Mono 0", "Lucida Console",  
2720         "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",  
2721         "Liberation Mono", "FreeMono", "Andale Mono",  
2722         "Nimbus Mono L", "Courier New", monospace;  
2723     margin-left: 1em ;  
2724 }  
2725  
2726  
2727 div.singlespace { line-height: 1.2 ; }  
2728 div.onehalfspace { line-height: 1.5 ; }  
2729 div.doublespace { line-height: 2 ; }
```

```
2730
2731
2732 /* Word processor format output: */
2733 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
2734 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
2735 div.wpmminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ; }
2736
2737
2738
2739
2740 /* Minipage environments, vertically aligned to top, center, bottom: */
2741 .minipage, .fminipage, .fcolorminipage {
2742     /* display: inline-block ; */
2743     /* Mini pages which follow each other will be tiled. */
2744     text-align:left;
2745     margin: .25em .25em .25em .25em;
2746     padding: .25em .25em .25em .25em;
2747     display: inline-flex;
2748     flex-direction: column ;
2749     overflow: auto;
2750 }
2751
2752 .inlineminipage {
2753     display: inline-block ;
2754     text-align: left
2755 }
2756
2757 /* Paragraphs in the flexbox did not collapse their margins. */
2758 /* Have not yet researched this. */
2759 .minipage p {margin: .75ex 0em .75ex 0em ;}
2760
2761 .fboxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
2762 .fcolorbox .minipage, .fcolorboxBlock .minipage
2763     {border: none ; background: none;}
2764
2765 .fbox, .fboxBlock { border: 1px solid black ; }
2766
2767 .fbox, .fboxBlock, .fcolorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
2768 .fminipage, .fcolorminipage
2769     {display: inline-block}
2770
2771 .shadowbox, .shabox {
2772     border: 1px solid black;
2773     box-shadow: 3px 3px 3px #808080 ;
2774     border-radius: 0px ;
2775     padding: .4ex .3em .4ex .3em ;
2776     margin: 0pt .3ex 0pt .3ex ;
2777     display: inline-block ;
2778 }
2779
2780 .doublebox {
2781     border: 3px double black;
2782     border-radius: 0px ;
2783     padding: .4ex .3em .4ex .3em ;
2784     margin: 0pt .3ex 0pt .3ex ;
```

```
2785   display: inline-block ;
2786 }
2787
2788 .ovalbox, .Ovalbox {
2789   border: 1px solid black;
2790   border-radius: 1ex ;
2791   padding: .4ex .3em .4ex .3em ;
2792   margin: 0pt .3ex 0pt .3ex ;
2793   display: inline-block ;
2794 }
2795
2796 .Ovalbox { border-width: 2px ; }
2797
2798 .framebox {
2799   border: 1px solid black;
2800   border-radius: 0px ;
2801   padding: .3ex .2em 0ex .2em ;
2802   margin: 0pt .1ex 0pt .1ex ;
2803   display: inline-block ;
2804 }
2805
2806
2807 /* mdframed, tcolorbox, shadebox packages */
2808 .mdframed, .tcolorbox, .shadebox {
2809   padding: 0ex ;
2810   margin: 2ex 0em 2ex 0em ;
2811   border: 1px solid black ;
2812 }
2813
2814 .tcolorbox {
2815   border-radius: 10pt ;
2816   margin: 2ex 1em 2ex 1em ;
2817 }
2818
2819 .mdframed p, .tcolorbox p { padding: 0ex .5em 0ex .5em ; }
2820
2821 .mdframed dl, .tcolorbox dl { padding: 1ex .5em 0ex .5em ; }
2822
2823 .mdframedtitle, .tcolorboxtitle {
2824   padding: .5ex 0pt 0pt 0pt ;
2825   border-radius: 10pt 10pt 0pt 0pt ;
2826   display: block ;
2827   margin-bottom: 1ex ;
2828   border-bottom: 1px solid silver ;
2829 }
2830
2831 .tcolorboxsubtitle .tcolorbox {
2832   margin: 2ex 0em 2ex 0em ;
2833   border-radius: 0pt ;
2834 }
2835
2836 .mdframedsubtitle {
2837   display: block ;
2838 }
2839
```

```
2840 .mdframedsubsubtitle {
2841     display: block ;
2842 }
2843
2844 .mdtheorem {
2845     padding: 0ex .5em 0ex .5em ;
2846     margin: 3ex 5% 3ex 5% ;
2847 }
2848
2849
2850 /* framed package */
2851 .framed, pre.boxedverbatim, fcolorbox {
2852     margin: 3ex 0em 3ex 0em ;
2853     border: 1px solid black;
2854     border-radius: 0px ;
2855     padding: .3ex 1em 0ex 1em ;
2856     display: block ;
2857 }
2858
2859 .shaded {
2860     margin: 3ex 0em 3ex 0em ;
2861     padding: .3ex 1em .3ex 1em ;
2862     display: block ;
2863 }
2864
2865 .snugframed {
2866     margin: 3ex 0em 3ex 0em ;
2867     border: 1px solid black;
2868     border-radius: 0px ;
2869     display: block ;
2870 }
2871
2872 .framedleftbar {
2873     margin: 3ex 0em 3ex 0em ;
2874     border-left: 3pt solid black;
2875     border-radius: 0px ;
2876     padding: .3ex .2em .3ex 1em ;
2877     display: block ;
2878 }
2879
2880 .framedtitle {
2881     margin: 0em ;
2882     padding: 0em ;
2883     font-size: 130%
2884 }
2885
2886 .framedtitle p { padding: .3em }
2887
2888
2889 /* For the niceframe package: */
2890
2891 div.niceframe, div.curlyframe, div.artdecoframe, div.generalframe {
2892     padding: 1ex ;
2893     margin: 2ex auto ;
2894     border-radius: 2ex ;
```

```
2895 }
2896
2897 div.niceframe {
2898     border: 6px groove black ;
2899 }
2900
2901 div.curlyframe {
2902     border-left: 3px dotted black ;
2903     border-right: 3px dotted black ;
2904     border-radius: 6ex ;
2905 }
2906
2907 div.artdecoframe {
2908     border-left: 10px double black ;
2909     border-right: 10px double black ;
2910     border-radius: 6ex ;
2911 }
2912
2913 div.generalframe {
2914     border: 6px groove black ;
2915 }
2916
2917
2918
2919 dl {
2920     margin: 1ex 2em 1ex 0em;
2921     line-height: 1.3;
2922 }
2923
2924 dl dt {
2925     display: block ;
2926     float:left ;
2927     font-weight: bold;
2928     padding-right: 1em ;
2929 }
2930
2931 dl dd { display: block ; }
2932
2933 dl dd:after { content: "" ; display: block ; clear: both }
2934
2935 dl dd p { margin-top: 0em; }
2936
2937 dd ul, dd ol, dd dl { clear: both ; padding-top: 1ex }
2938
2939
2940 nav {
2941     font-family: "URW Classico", Optima, "Linux Biolinum 0",
2942             "DejaVu Sans", "Bitstream Vera Sans",
2943             Geneva, Verdana, sans-serif ;
2944     margin-bottom: 4ex ;
2945 }
2946
2947 nav p {
2948     line-height: 1.2 ;
2949     margin-top:.5ex ;
```

```
2950     margin-bottom:.5ex;
2951     font-size: .9em ;
2952 }
2953
2954
2955
2956 img, img.hyperimage, img.borderimage {
2957     max-width: 600px;
2958     border: 1px solid silver;
2959     box-shadow: 3px 3px 3px #808080 ;
2960     padding: .5% ;
2961     margin: .5% ;
2962     background: none ;
2963 }
2964
2965 img.inlineimage{
2966     padding: 0px ;
2967     box-shadow: none ;
2968     border: none ;
2969     background: none ;
2970     margin: 0px ;
2971     display: inline-block ;
2972     border-radius: 0px ;
2973 }
2974
2975 img.logoimage{
2976     max-width: 300px ;
2977     box-shadow: 3px 3px 3px #808080 ;
2978     border: 1px solid black ;
2979     background:none ;
2980     padding:0 ;
2981     margin:.5ex ;
2982     border-radius: 10px ;
2983 }
2984
2985
2986 .section {
2987 /*
2988     To have each section float relative to each other:
2989 */
2990 /*
2991     display: block ;
2992     float: left ;
2993     position: relative ;
2994     background: white ;
2995     border: 1px solid silver ;
2996     padding: .5em ;
2997 */
2998     margin: 0ex .5em 0ex .5em ;
2999     padding: 0 ;
3000 }
3001
3002
3003 figure {
3004     margin: 5ex auto 5ex auto ;
```

```
3005     padding: 1ex 1em 1ex 1em ;
3006     overflow-x: auto ;
3007 }
3008
3009
3010 /* To automatically center images in figures: */
3011 /*
3012 figure img.inlineimage {
3013     margin: 0ex auto 0ex auto ;
3014     display: block ;
3015 }
3016 */
3017
3018 /* To automatically center minipages in figures: */
3019 /*
3020 figure div.minipage, figure div.minipage div.minipage {
3021     margin: 1ex auto 1ex auto ;
3022     display: block ;
3023 }
3024 */
3025
3026 figure figure { margin: 0pt }
3027
3028 figure div.minipage p { font-size: 85% ; }
3029
3030 figure.subfigure, figure.subtable {
3031     display: inline-block ; margin: 3ex 1em 3ex 1em ;
3032 }
3033
3034 div.figurecaption .minipage { margin:0 ; padding: 0 }
3035
3036 div.minipage figure { border: none ; box-shadow: none ; }
3037 div.minipage figure.table { margin: 0ex }
3038 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
3039
3040 div.floatrow { text-align: center; }
3041
3042 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
3043
3044 div.floatfoot { font-size: .85em ;
3045     border-top: 1px solid silver ; line-height: 1.2 ; }
3046
3047 div.figurecaption , .lstlistingtitle {
3048     font-size: .85em ;
3049     text-align: center ;
3050     font-weight: bold ;
3051     margin-top: 1ex ;
3052     margin-bottom: 1ex ;
3053 }
3054
3055 figure.subfigure div.figurecaption, figure.subtable div.figurecaption {
3056     border-bottom: none ; background: none ;
3057 }
3058
3059 div.nonfloatcaption {
```

```
3060     margin: 1ex auto 1ex auto ;
3061     font-size: .85em ;
3062     text-align: center ;
3063     font-weight: bold ;
3064 }
3065
3066 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
3067 figure div.floatrow div.minipage div.figurecaption {
3068     border: none ;
3069     background: none ;
3070 }
3071
3072
3073 /* For packages such as float, rotfloat, and algorithm2e: */
3074
3075 figure.boxed, figure.boxruled {
3076     border: 1px solid black ;
3077 }
3078
3079 figure.ruled {
3080     border-top: 1px solid black ;
3081     border-bottom: 1px solid black ;
3082     border-left: 0px ;
3083     border-right: 0px ;
3084     border-radius: 0px ;
3085     background: none ;
3086     box-shadow: none ;
3087 }
3088
3089 figure.ruled div.figurecaption, figure.boxruled div.figurecaption {
3090     border-top: 1px solid silver ;
3091     border-bottom: 1px solid silver ;
3092 }
3093
3094
3095 table {
3096     margin: 1ex auto 1ex auto ;
3097     border-collapse: separate ;
3098     border-spacing: 0px ;
3099     line-height: 1.3 ;
3100 }
3101
3102 table > tbody > tr.hline > td {border-top: 1px solid #808080 ; margin-top: 0ex ;
3103     margin-bottom: 0ex ; } /* for \hline */
3104
3105 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;
3106     margin-bottom: 0ex ; } /* for \toprule, \bottomrule */
3107
3108 td {padding: .5ex .5em .5ex .5em ;}
3109
3110 table td.tdl { text-align: left ; vertical-align: middle ; }
3111 table td.tdc { text-align: center ; vertical-align: middle ; }
3112 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }
3113 table td.tdbang { text-align: center ; vertical-align: middle ; }
3114 table td.tdr { text-align: right ; vertical-align: middle ; }
```

```
3115 table td.tdp { text-align: left ; vertical-align: bottom ; }
3116 table td.tdm { text-align: left ; vertical-align: middle ; }
3117 table td.tdb { text-align: left ; vertical-align: top ; }
3118 table td.tdP { text-align: center ; vertical-align: bottom ; }
3119 table td.tdM { text-align: center ; vertical-align: middle ; }
3120 table td.tdB { text-align: center ; vertical-align: top ; }
3121
3122 table td.tvertbarl { border-left: 1px solid black }
3123 table td.tvertbarldouble { border-left: 4px double black }
3124 table td.tvertbarr { border-right: 1px solid black }
3125 table td.tvertbarrdouble { border-right: 4px double black }
3126
3127 table td.tvertbarldash { border-left: 1px dashed black }
3128 table td.tvertbarldoubledash { border-left: 2px dashed black }
3129 table td.tvertbarrdash { border-right: 1px dashed black }
3130 table td.tvertbarrdoubledash { border-right: 2px dashed black }
3131
3132
3133 /* for cmidrules: */
3134 table td.tdrule {
3135     border-top: 1px solid #A0A0A0 ;
3136 }
3137
3138 table td.tdrulel {
3139     border-top-left-radius:.5em ;
3140     border-top: 1px solid #A0A0A0 ;
3141 }
3142
3143 table td.tdruler {
3144     border-top-right-radius:.5em ;
3145     border-top: 1px solid #A0A0A0 ;
3146 }
3147
3148 table td.tdrulelr {
3149     border-top-left-radius:.5em ;
3150     border-top-right-radius:.5em ;
3151     border-top: 1px solid #A0A0A0 ;
3152 }
3153
3154
3155 /* Margins of paragraphs inside table cells: */
3156 td.tdp p , td.tdprule p , td.tdp p , td.tdPrule p { padding-top: 1ex ;
3157     padding-bottom: 1ex ; margin: 0ex ; }
3158 td.tdm p , td.tmbrule p , td.tdm p , td.tdMrule p { padding-top: 1ex ;
3159     padding-bottom: 1ex ; margin: 0ex ; }
3160 td.tdb p , td.tdbrule p , td.tdb p , td.tdBrule p { padding-top: 1ex ;
3161     padding-bottom: 1ex ; margin: 0ex ; }
3162
3163 td.tdp , td.tdprule , td.tdp , td.tdPrule
3164     { padding: 0ex .5em 0ex .5em ; }
3165 td.tdm , td.tdmrule , td.tdM , td.tdMrule
3166     { padding: 0ex .5em 0ex .5em ; }
3167 td.tdb , td.tdbrule , td.tdB , td.tdBrule
3168     { padding: 0ex .5em 0ex .5em ; }
3169
```

```
3170
3171 /* table notes: */
3172 .tnotes {
3173     margin: 0ex 5% 1ex 5% ;
3174     padding: 0.5ex 1em 0.5ex 1em;
3175     font-size:.80em;
3176     text-align: left ;
3177 }
3178
3179 .minipage .tnotes {
3180     margin: 0pt ;
3181     padding: 0pt ;
3182 }
3183
3184 .tnotes dl dt p {margin-bottom:0px;}
3185
3186 .tnoteitemheader {margin-right: 1em;}
3187
3188
3189 /* for colortbl and cell color */
3190 div.cellcolor {
3191     width: 100% ;
3192     padding: .5ex .5em .5ex .5em ;
3193     margin: -.5ex -.5em -.5ex -.5em ;
3194 }
3195
3196
3197 /* for lyluatex */
3198 span.lyluatex {
3199     display: inline-block ;
3200 }
3201
3202 div.lyluatex p span.lateximagesource img {
3203     display: block ;
3204     margin-top: 3ex ;
3205     margin-bottom: 3ex ;
3206 }
3207
3208
3209 /* for bigdelim */
3210 .ldelim, .rdelim { font-size: 200% }
3211
3212
3213 /* center, flushleft, flushright environments */
3214 div.center{text-align:center;}
3215 div.center table {margin-left:auto;margin-right:auto;}
3216 div.flushleft{text-align:left;}
3217 div.flushleft table {margin-left:0em ; margin-right:auto;}
3218 div.flushright{text-align:right;}
3219 div.flushright table {margin-left:auto ; margin-right: 0em ;}
3220
3221
3222 /* Fancybox */
3223 div.Btrivlist table tr td {
3224     padding: .2ex 0em ;
```

```
3225 }
3226
3227
3228 /* program listing callouts: */
3229 span.callout {
3230     font-family: "DejaVu Sans", "Bitstream Vera Sans",
3231         Geneva, Verdana, sans-serif ;
3232     border-radius: .5em;
3233     background-color:black;
3234     color:white;
3235     padding:0px .25em 0px .25em;
3236     margin: 0 ;
3237     font-weight: bold;
3238     font-size:.72em ;
3239 }
3240
3241 div.programlisting pre.verbatim span.callout{
3242     font-size: .85em ;
3243 }
3244
3245 span.verbatim {
3246     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3247         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3248         "Courier New", monospace;
3249 }
3250
3251
3252
3253 div.titlehead
3254 {
3255     text-align: left ;
3256     font-style: normal ;
3257     font-weight: normal ;
3258     font-style: normal ;
3259     font-size: .8em ;
3260     margin: 1ex 0em 1ex 0em ;
3261 }
3262
3263 div.subject
3264 {
3265     text-align: center ;
3266     font-style: normal ;
3267     font-weight: bold ;
3268     font-style: normal ;
3269     font-size: .8em ;
3270     margin: 1ex 0em 1ex 0em ;
3271 }
3272
3273 div.published
3274 {
3275     text-align: center ;
3276     font-variant: normal ;
3277     font-style: italic ;
3278     font-size: 1em ;
3279     margin: 1ex 0em 1ex 0em ;
```

```
3280 }
3281
3282 div.subtitle
3283 {
3284     text-align: center ;
3285     font-variant: normal ;
3286     font-style: italic ;
3287     font-size: 1.25em ;
3288     margin: 1ex 0em 1ex 0em ;
3289 }
3290
3291 div.subtitle p { margin: 1ex ; }
3292
3293 div.author
3294 {
3295     font-variant: normal ;
3296     font-style: normal ;
3297     font-size: 1em ;
3298     margin: 1ex 0em 1ex 0em ;
3299 }
3300
3301 div.oneauthor {
3302     display: inline-block ;
3303     margin: 0ex 1em 0ex 1em ;
3304 }
3305
3306 /*
3307 div.author table {
3308     margin: 1ex auto 0ex auto ;
3309     background: none ;
3310 }
3311
3312 div.author table tbody tr td { padding: .25ex ; }
3313 */
3314
3315 span.affiliation {font-size: .85em ; font-variant: small-caps; }
3316
3317 div.titledate {
3318     text-align: center ;
3319     font-size: .85em ;
3320     font-style: italic;
3321     margin: 1ex 0em 1ex 0em ;
3322 }
3323
3324
3325 nav.topnavigation{
3326     text-align: left ;
3327     padding: 0.5ex 1em 0.5ex 1em ;
3328 /*     margin: 2ex 0em 3ex 0em ; */
3329     margin: 0 ;
3330     border-bottom: 1px solid silver ;
3331     border-top: 1px solid silver ;
3332     clear:both ;
3333 }
3334
```

```
3335 nav.botnavigation{
3336     text-align: left ;
3337     padding: 0.5ex 1em 0.5ex 1em ;
3338 /*      margin: 3ex 0em 2ex 0em ; */
3339     margin: 0 ;
3340     border-top: 1px solid silver ;
3341     border-bottom: 1px solid silver ;
3342     clear:both ;
3343 }
3344
3345
3346 header {
3347     line-height: 1.2 ;
3348     font-size: 1em ;
3349     border-bottom: 1px solid silver ;
3350     margin: 0px ;
3351     padding: 2ex 1em 2ex 1em ;
3352     text-align:left ;
3353 }
3354
3355
3356 footer {
3357     font-size: .85em ;
3358     line-height: 1.2 ;
3359     margin-top: 1ex ;
3360     border-top: 1px solid silver ;
3361     padding: 2ex 1em 2ex 1em ;
3362     clear:both ;
3363     text-align:left ;
3364 }
3365
3366
3367 /* for \LinkHome, \LinkPrevious, and \LinkNext: */
3368 a.linkhome { font-weight:bold ; font-size: 1em ;}
3369
3370
3371 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
3372
3373 img.lateximage{
3374     padding: 0pt ;
3375     margin: 0pt ;
3376     box-shadow: none ;
3377     border: none ;
3378     background: none ;
3379     max-width: 100% ;
3380     border-radius: 0ex ;
3381     border: none ;
3382 }
3383
3384
3385 /* The -1px right margin compensates for the 1px right border. */
3386 /* Without this -1px margin, the body container appears below instead */
3387 /* of floating to the side. */
3388 div.sidetoccontainer {
3389     font-family: "DejaVu Serif", "Bitstream Vera Serif",
```

```
3390      "Lucida Bright", Georgia, serif;
3391      float: left ;
3392      width: 20%;
3393      margin: 0pt -1px 3ex 0pt ;
3394      border-right: 1px solid silver;
3395      border-bottom: 1px solid silver;
3396      background: #FAF7F4 ;
3397      font-size:.9em ;
3398      border-radius: 0px 0px 20px 0px ;
3399 }
3400
3401 div.sidetoccontents {
3402     overflow-y: auto ;
3403     width: 100% ;
3404     text-align: left ;
3405 }
3406
3407
3408 nav.sidetoc p {line-height:1.2 ; margin: 1ex .5em 1ex .5em ;
3409     text-indent: 0 ; }
3410
3411 nav.sidetoc p a {color:black ; font-size: .7em ;}
3412
3413 div.sidetoctitle {font-size: 1.2em; font-weight:bold; text-align:center;
3414     border-bottom: 1px solid silver ;    }
3415
3416 nav.sidetoc a:hover {text-decoration: underline ; }
3417
3418
3419
3420 section.textbody { margin: 0ex 1em 0ex 1em ;}
3421
3422
3423 div.multicolsheading { -webkit-column-span: all;
3424     -moz-column-span: all; column-span: all; }
3425 div.multicols { -webkit-columns: 3 380px ;
3426     -moz-columns: 3 380px ; columns: 3 380px ; }
3427 div.multicols p {margin-top: 0ex}
3428
3429
3430 /* Used for xfrac and nicefrac: */
3431 span.numerator {
3432     font-size: 60% ;
3433     vertical-align: .4em ;
3434 }
3435
3436 span.denominator {
3437     font-size: 60%
3438 }
3439
3440
3441 /* Used for algorithm2e: */
3442 div.alg2evline{
3443     margin-left: 1em ;
3444     padding-left: 1em ;
```

```
3445     border-left: 1px solid black ;
3446     border-radius: 0px 0px 0px 1ex ;
3447 }
3448
3449 div.alg2evsline{
3450     margin-left: 1em ;
3451     padding-left: 1em ;
3452     border-left: 1px solid black ;
3453 }
3454
3455 div.alg2enoline{
3456     margin-left: 1em ;
3457     padding-left: 1em ;
3458 }
3459
3460 span.alg2elinenumber{
3461     margin-right: .5em ;
3462     font-size: 50% ;
3463     color: red ;
3464 }
3465
3466
3467 /* Used for algorithmicx: */
3468 span.floatright { float: right ; }
3469
3470
3471 /* keyfloat and tocdata: */
3472 .floatnotes {
3473     margin: 0ex 5% 0ex 5% ;
3474     padding: 0ex 1em 0ex 1em ;
3475     font-size:.80em ;
3476     text-align: left ;
3477 }
3478
3479 .authorartist{
3480     display:block ;
3481     font-size:.70em ;
3482     font-style: italic;
3483 }
3484
3485 nav .authorartist{ display:inline; }
3486
3487
3488
3489 /* Native LaTeX theorems: */
3490
3491 .theoremcontents {
3492     font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3493 }
3494
3495 .theoremlabel {
3496     font-style: normal; font-weight: bold ; margin-right: .5em ;
3497 }
3498
3499
```

```
3500
3501 /* theorem, amsthm, and ntheorem packages */
3502
3503 span.theoremheader,
3504 span.theoremheaderplain,
3505 span.theoremheaderdefinition,
3506 span.theoremheaderbreak,
3507 span.theoremheadermarginbreak,
3508 span.theoremheaderchangebreak,
3509 span.theoremheaderchange,
3510 span.theoremheadermargin
3511 {
3512     font-style:normal ; font-weight: bold ; margin-right: 1em ;
3513 }
3514
3515 span.amsthmnameplain,
3516 span.amsthmnamedefinition,
3517 span.amsthmnumberplain,
3518 span.amsthmnumberdefinition
3519 {
3520     font-style:normal ; font-weight: bold ;
3521 }
3522
3523
3524 span.amsthmnameremark,
3525 span.amsthmnumberremark
3526 {font-style:italic ; font-weight: normal ; }
3527
3528
3529 span.amsthmnoteplain,
3530 span.amsthmnotedefinition
3531 {font-style:normal ;}
3532
3533
3534 span.theoremheaderremark,
3535 span.theoremheaderproof,
3536 span.amsthmproofname
3537 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
3538
3539 span.theoremheadersc
3540 {
3541     font-style:normal ;
3542     font-variant: small-caps ;
3543     font-weight: normal ;
3544     margin-right: 1em ;
3545 }
3546
3547 .theoremendmark {float:right}
3548
3549 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynonumberplain,
3550 div.theorembodybreak, div.theorembodynonumberbreak,
3551 div.theorembodymarginbreak,
3552 div.theorembodychangebreak,
3553 div.theorembodychange,
3554 div.theorembodymargin
```

```
3555 {
3556     font-style:italic;
3557     margin-top: 3ex ; margin-bottom: 3ex ;
3558 }
3559
3560 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
3561 div.theorembodyplainupright, nonumberplainuprightsc,
3562 div.amsthmbodydefinition, div.amsthmbodyremark,
3563 div.amsthmproof
3564 {
3565     font-style: normal ;
3566     margin-top: 3ex ; margin-bottom: 3ex ;
3567 }
3568
3569 span.amsthmnoteremark {}
3570
3571
3572 /* thmbox */
3573
3574 .thmbox {
3575     font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3576     border: 1px solid gray ;
3577     padding: 1ex ;
3578 }
3579
3580 .thmboxtitle {
3581     font-style: normal; font-weight: bold ; margin-right: .5em ;
3582     border-bottom: 1px solid gray ;
3583 }
3584
3585 span.thmboxproofname, span.thmboxexamplename {
3586     font-weight: bold ;
3587 }
3588
3589 div.thmboxproof, div.thmboxexample {
3590     font-size: 0.85em ;
3591     margin: 2ex ;
3592 }
3593
3594 div.thmboxleftbar {
3595     border-left: 2px solid black ;
3596     padding-left: 1em ;
3597 }
3598
3599
3600
3601 /* For the backnaur package: */
3602 div.backnaur {
3603     display: block ;
3604     margin: 2ex 2em 2ex 2em ;
3605 }
3606
3607 div.backnaur p {
3608     margin: .25ex 0ex .25ex 0ex ;
3609 }
```

```
3610
3611 div.backnaurprod {
3612     display: inline-block ;
3613     min-width: 8em ;
3614     text-align:right ;
3615 }
3616
3617 div.backnaurdesc {
3618     display: inline-block ;
3619 }
3620
3621
3622 /* For the notes package: */
3623 div.notesimportantnote, div.noteswarningnote, div.notesinformationnote {
3624     clear: both ;
3625     margin: 2ex 2em 2ex 2em ;
3626     border: 1px solid silver ;
3627 }
3628
3629 div.notesicon {
3630     float:left ;
3631     display: inline-block ;
3632     background: gold ;
3633     padding: 0ex 1em 0ex 1em ;
3634     margin-right: 1em ;
3635     font-weight: bold ;
3636 }
3637
3638 div.notescontents { font-style: italic }
3639
3640
3641 /* nolbreaks package: */
3642 span.nolbreaks { white-space: nowrap ; }
3643
3644
3645 /*
3646 For CSS LaTeX and related logos:
3647 Based on spacing demonstrated by the metafont package.
3648 */
3649
3650 .latexlogofont {
3651     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3652                 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3653     font-variant: normal ;
3654 }
3655
3656 .latexlogo {
3657     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3658                 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3659     font-size: 1.1em;
3660 }
3661
3662 .latexlogosup {
3663     text-transform: uppercase;
3664     letter-spacing: .03em ;
```

```
3665   font-size: 0.7em;
3666   vertical-align: 0.25em;
3667   margin-left: -0.4em;
3668   margin-right: -0.15em;
3669 }
3670
3671 .latexlogosub {
3672   text-transform: uppercase;
3673   vertical-align: -0.27ex;
3674   margin-left: -0.08em;
3675   margin-right: -0.07em;
3676   font-size: 1em;
3677 }
3678
3679 .latexlogotwoe {
3680   text-transform: none ;
3681   font-variant-numeric: oldstyle-nums ;
3682 }
3683
3684 .latexlogotwoesub {
3685   font-style:italic ;
3686   vertical-align: -0.27ex;
3687   margin-left: -0.11em;
3688   margin-right: -0.1em;
3689   font-size: 1em;
3690 }
3691
3692 .xelatexlogo {
3693   font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3694     "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3695   letter-spacing: .03em ;
3696   font-size: 1.1em;
3697 }
3698
3699 .xelatexlogosub {
3700   vertical-align: -0.27ex;
3701   margin-left: -0.0667em;
3702   margin-right: -.05em;
3703   font-size: 1em;
3704   letter-spacing: .03em ;
3705 }
3706
3707 .amslogo {
3708   font-family: "TeXGyreChorus", "URW Chancery L",
3709     "Apple Chancery", "ITC Zapf Chancery", "Monotype Corsiva",
3710     "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
3711     "Hoefler Text", Times, "Times New Roman", serif ;
3712   font-style: italic ;
3713 }
3714
3715 .lyxlogo {
3716   font-family: "URW Classico", Optima, "Linux Biolinum O",
3717     "DejaVu Sans", "Bitstream Vera Sans", Geneva,
3718     Verdana, sans-serif ;
3719 }
```

```
3720
3721
3722 /* Only display top and bottom navigation if a small screen: */
3723 /* Hide the sidetoc if a small screen: */
3724 nav.topnavigation { display:none; }
3725 nav.botnavigation { display:none; }
3726
3727 /* Only display the sidetoc's webpage title if a small screen */
3728 span.sidetocthetitle { display: none }
3729
3730 @media screen and (max-width: 50em) {
3731     div.sidetoccontainer {
3732         float: none ;
3733         width: 100% ;
3734         padding: 0 ;
3735         border-radius: 0 ;
3736         border-bottom: 1px solid black ;
3737         border-top: 1px solid black ;
3738         box-shadow: none ;
3739     }
3740     span.sidetocthetitle { display: inline }
3741     nav.topnavigation { display:block }
3742     nav.botnavigation { display:block }
3743     div.bodycontainer { width: 100% }
3744     .marginpar {
3745         max-width: 100%;
3746         float: none;
3747         display:block ;
3748         margin: 1ex 1em 1ex 1em ;
3749     }
3750 }
3751
3752 @media print {
3753     body {
3754         font-family: "Linux Libertine O",
3755             "DejaVu Serif", "Bitstream Vera Serif",
3756             "Liberation Serif", "Nimbus Roman No 9 L",
3757             "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3758     }
3759     div.sidetoccontainer { display:none; }
3760     nav.topnavigation { display: none; }
3761     nav.botnavigation { display: none; }
3762     div.bodycontainer { width: 100% }
3763 }
3764
3765 @media handheld {
3766     div.sidetoccontainer { display:none; }
3767     nav.topnavigation { display:block }
3768     nav.botnavigation { display:block }
3769     div.bodycontainer { width: 100% }
3770 }
3771
3772 @media projection {
3773     div.sidetoccontainer { display:none; }
3774     nav.topnavigation { display:block }
```

```
3775     nav.botnavigation { display:block }
3776     div.bodycontainer { width: 100% }
3777 }
3778 \end{filecontents*}
3779 % \end{Verbatim}% for syntax highlighting
3780 \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:

```
3781 \begin{LWRwriteconf}
3782 \begin{filecontents*}[overwrite]{lwarp_sagebrush.css}
3783 @import url("lwarp.css") ;
3784
3785
3786 A:link {color:#105030 ; text-decoration: none ; }
3787 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
3788 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
3789 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
3790
3791
3792
3793 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
3794 {
3795     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3796                 "Linux Libertine O", "Liberation Serif",
3797                 "Nimbus Roman No 9 L", "FreeSerif",
3798                 "Hoefler Text", Times, "Times New Roman", serif;
3799     font-variant: small-caps ;
3800     font-weight: normal ;
3801     color: #304070 ;
3802     text-shadow: 2px 2px 3px #808080;
3803 }
3804
3805 h1 { /* title of the entire website, used on each page */
3806     font-variant: small-caps ;
3807     color: #304070 ;
3808     text-shadow: 2px 2px 3px #808080;
3809     background-color: #F7F7F0 ;
3810     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
3811 }
3812
3813 h1 {
3814     border-bottom: 1px solid #304070;
3815 /* border-top: 2px solid #304070; */
3816 }
3817
3818 h2 {
3819     border-bottom: 1px solid #304070;
3820 /* border-top: 2px solid #304070; */
```

```
3821     background-color: #F7F7F0 ;
3822     background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
3823 }
3824
3825
3826
3827 div.abstract {
3828     background: #f5f5eb ;
3829     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3830
3831     border: 1px solid silver;
3832     border-radius: 1em ;
3833 }
3834
3835 div.abstract dl {line-height:1.5;}
3836 div.abstract dt {color:#304070;}
3837
3838 div.abstracttitle{
3839     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3840         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
3841         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3842     font-weight:bold;
3843     font-variant: small-caps ;
3844     font-size:1.5em;
3845     border-bottom: 1px solid silver ;
3846     color: #304070 ;
3847     text-align: center ;
3848     text-shadow: 1px 1px 2px #808080;
3849 }
3850
3851 span.abstractrunintitle{
3852     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3853         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
3854         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3855     font-weight:bold;
3856 }
3857
3858
3859 div.epigraph, div.dictum {
3860     background: #f5f5eb ;
3861     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3862
3863     border: 1px solid silver ;
3864     border-radius: 1ex ;
3865     box-shadow: 3px 3px 3px #808080 ;
3866 }
3867
3868
3869 .example {
3870     background-color: #f5f5eb ;
3871     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3872
3873 }
3874
3875 div.exampletitle{
```

```
3876     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3877         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
3878         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3879     font-weight:bold;
3880     font-variant: small-caps ;
3881     border-bottom: 1px solid silver ;
3882     color: #304070 ;
3883     text-align: center ;
3884     text-shadow: 1px 1px 2px #808080;
3885 }
3886
3887
3888 .sidebar {
3889     background-color: #f5f5eb ;
3890     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3891
3892 }
3893
3894 div.sidebartitle{
3895     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3896         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
3897         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3898     font-weight:bold;
3899     font-variant: small-caps ;
3900     border-bottom: 1px solid silver ;
3901     color: #304070 ;
3902     text-align: center ;
3903     text-shadow: 1px 1px 2px #808080;
3904 }
3905
3906
3907 .fancyvrblabel {
3908     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3909         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
3910         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3911     font-weight:bold;
3912     font-variant: small-caps ;
3913     font-size: 1.5em ;
3914     color: #304070 ;
3915     text-align: center ;
3916     text-shadow: 1px 1px 2px #808080;
3917 }
3918
3919 div.minipage {
3920     background-color: #eeeeee7 ;
3921     border: 1px solid silver ;
3922     border-radius: 1ex ;
3923 }
3924
3925 table div.minipage { background: none ; border: none ; }
3926
3927 div.framebox div.minipage {border:none ; background:none}
3928
3929 section.textbody > div.minipage {
3930     box-shadow: 3px 3px 3px #808080 ;
```

```
3931 }
3932
3933 div.fboxBlock div.minipage { box-shadow: none ; }
3934
3935 .framed .minipage , .framedleftbar .minipage {
3936     border: none ;
3937     background: none ;
3938     padding: 0ex ;
3939     margin: 0ex ;
3940 }
3941
3942 figure.figure .minipage, div.figurecaption .minipage { border: none; }
3943
3944 div.marginblock div.minipage ,
3945 div.marginparblock div.minipage
3946     { border: none; }
3947
3948 figure , div.marginblock {
3949     background-color: #eeeeee7 ;
3950     border: 1px solid silver ;
3951     border-radius: 1ex ;
3952     box-shadow: 3px 3px 3px #808080 ;
3953 }
3954
3955 figure figure {
3956     border: 1px solid silver ;
3957     margin: 0em ;
3958     box-shadow: none ;
3959 }
3960
3961 /*
3962 div.figurecaption {
3963     border-top: 1px solid silver ;
3964     border-bottom: 1px solid silver ;
3965     background-color: #e8e8e8 ;
3966 }
3967 */
3968
3969
3970 div.table {
3971     box-shadow: 3px 3px 3px #808080 ;
3972 }
3973
3974 /*
3975 .tnotes {
3976     background: #e8e8e8;
3977     border: 1px solid silver;
3978 }
3979 */
3980
3981
3982 nav.topnavigation{
3983     background-color: #b0b8b0 ;
3984     background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;
3985 }
```

```
3986
3987 nav.botnavigation{
3988     background-color: #b0b8b0 ;
3989     background-image: linear-gradient(to top, #e0e0e0, #b0b8b0) ;
3990 }
3991
3992
3993
3994 header{
3995     background-color: #F7F7F0 ;
3996     background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);
3997 }
3998
3999 footer{
4000     background-color: #F7F7F0 ;
4001     background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);
4002 }
4003
4004
4005
4006 div.sidetoccontainer {
4007     background-color: #F7F7F0 ;
4008     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);
4009     box-shadow: 3px 3px 3px #808080 ;
4010 }
4011
4012 div.sidetotitle {color: #304070 ; }
4013
4014 nav.sidetoc a:hover {
4015     color:#006000 ;
4016     text-decoration: none ;
4017     text-shadow:0px 0px 2px #a0a0a0;
4018 }
4019
4020
4021 @media screen and (max-width: 45em) {
4022     div.sidetoccontainer { border-radius: 0 ; }
4023 }
4024
4025
4026 \end{filecontents*}
4027 % \end{Verbatim}% for syntax highlighting
4028 \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: 4029 \begin{LWRwriteconf}
4030 \begin{filecontents*}[overwrite]{lwarp_formal.css}
4031 @import url("lwarp.css") ;

```
4032
4033
4034
4035 A:link {color:#802020 ; text-decoration:none; }
4036 A:visited {color:#802020 ; text-shadow:none ;}
4037 A:hover {color:#400000 ; text-shadow:none ;}
4038 A:active {color:#C00000 ; text-shadow:none ;}
4039
4040
4041 body {
4042     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4043         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4044         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4045         "Times New Roman", serif;
4046     background: #fffcf5;
4047 }
4048
4049 span.textrm {
4050     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4051         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4052         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4053         "Times New Roman", serif;
4054 }
4055
4056 span.textsf {
4057     font-family: "DejaVu Sans", "Bitstream Vera Sans",
4058         Geneva, Verdana, sans-serif ;
4059 }
4060
4061
4062
4063 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span subparagraph
4064 {
4065     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4066         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4067         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4068         "Times New Roman", serif;
4069     color: #800000 ;
4070     text-shadow: none ;
4071 }
4072
4073 h1, h2 {
4074     background-color: #fffcf5 ;
4075     background-image: none ;
4076     border-bottom: 1px solid #808080;
4077 /*     border-top: 2px solid #808080; */
4078 }
4079
4080 div.abstracttitle {
4081     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4082         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4083         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4084         "Times New Roman", serif;
4085     color: black ;
4086     text-shadow: none ;
```

```
4087 }
4088
4089 span.abstractrunintitle {
4090     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4091         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4092         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4093         "Times New Roman", serif;
4094     color: black ;
4095     text-shadow: none ;
4096 }
4097
4098 div.abstract { font-size: 100% }
4099
4100 .sidebar {
4101     background: #ffffcf5;
4102     background-image: none ;
4103     margin: 2em 5% 2em 5%;
4104     padding: 0.5em 1em;
4105     border: none ;
4106     border-top : 1px solid silver;
4107     border-bottom : 1px solid silver;
4108     font-size: 90% ;
4109 }
4110
4111 div.sidebartitle{
4112     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4113         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4114         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4115         "Times New Roman", serif;
4116     color: #800000 ;
4117     text-shadow: none ;
4118     border: none ;
4119 }
4120
4121 .example {
4122     background: #ffffcf5;
4123     background-image: none ;
4124     margin: 2em 5% 2em 5%;
4125     padding: 0.5em 1em;
4126     border: none ;
4127     border-top : 1px solid silver;
4128     border-bottom : 1px solid silver;
4129 }
4130
4131 div.exampletitle{
4132     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4133         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4134         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4135         "Times New Roman", serif;
4136     color: #800000 ;
4137     text-shadow: none ;
4138     border: none ;
4139 }
4140
4141 div.fancyvrblabel{
```

```
4142     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4143         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4144         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4145         "Times New Roman", serif;
4146     color: #800000 ;
4147     text-shadow: none ;
4148     border: none ;
4149 }
4150
4151
4152
4153 figure {
4154     margin: 5ex 5% 5ex 5% ;
4155     padding: 1ex 1em 1ex 1em ;
4156     background-color: #ffffcf5 ;
4157     overflow-x: auto ;
4158     border: none ;
4159 /*     border-top: 1px solid silver; */
4160 /*     border-bottom: 1px solid silver; */
4161 }
4162
4163
4164 div.figurecaption , .lstlisting {
4165     border: none ;
4166 /*     border-top: 1px solid silver ; */
4167 /*     border-bottom: 1px solid silver ; */
4168     background-color: #ffffcf5 ;
4169 }
4170
4171 .tnotes {
4172     background: #ffffcf5 ;
4173     border-top: 1px solid silver ;
4174     border-bottom: 1px solid silver ;
4175 }
4176
4177 .theorem {
4178     background: none ;
4179 }
4180
4181 .minipage {
4182     background-color: #ffffcf5 ;
4183     border: none ;
4184 }
4185
4186 div.floatrow figure { border: none ; }
4187
4188 figure figure { border: none ; }
4189
4190
4191 nav.toc, nav.lof, nav.lot, nav.loi {
4192     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4193         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4194         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4195         "Times New Roman", serif;
4196 }
```

```

4197
4198 div.sidetocontainer {
4199     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4200         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4201         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4202         "Times New Roman", serif;
4203     background-image: linear-gradient(to bottom, #fffcf5, #C0C0C0);
4204 }
4205
4206 div.sidetotitle{
4207     color: #800000 ;
4208 }
4209
4210 header{
4211     background-color: #e0e0e0 ;
4212     background-image: linear-gradient(to top, #fffcf5, #b0b0b0);
4213     text-align:center ;
4214 }
4215
4216 footer{
4217     background-color: #e0e0e0 ;
4218     background-image: linear-gradient(to bottom, #fffcf5, #b0b0b0);
4219     padding: 2ex 1em 2ex 1em ;
4220     text-align:left ;
4221 }
4222
4223 nav.botnavigation {
4224     background: #dedcd5 ;
4225     border-top: 1px solid black ;
4226 }
4227 \end{filecontents*}
4228 % \end{Verbatim}% for syntax highlighting
4229 \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:

```

4230 \begin{LWRwriteconf}
4231 \begin{filecontents*}[overwrite]{sample_project.css}
4232 /* ( --- Start of project.css --- ) */
4233 /* ( --- A sample project-specific CSS file for lwarp --- ) */
4234
4235 /* Uncomment one of the following: */
4236 @import url("lwarp.css") ;
4237 /* @import url("lwarp_formal.css") ; */
4238 /* @import url("lwarp_sagebrush.css") ; */
4239
4240 /* Project-specific CSS setting follow here. */
4241 /* . . . */
4242

```

```

4243 /* ( --- End of project.css --- ) */
4244 \end{filecontents*}
4245 % \end{Verbatim}% for syntax highlighting
4246 \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:

```

4247 \begin{LWRwriteconf}
4248 \begin{filecontents*}[overwrite]{lwarp.ist}
4249 preamble
4250 "\\begin{theindex}"
4251   \\providecommand*\\lettergroupDefault[1]{}%
4252   \\providecommand*\\lettergroup[1]{%
4253     \\par\\textbf{\#1}\\par
4254     \\nopagebreak
4255   }
4256 "
4257 headings_flag 1
4258 heading_prefix "
4259   \\lettergroup{"
4260 heading_suffix "}"
4261 delim_0 ", \\hyperindexref{"
4262 delim_1 ", \\hyperindexref{"
4263 delim_2 ", \\hyperindexref{"
4264 delim_n "}, \\hyperindexref{"
4265 delim_r "} -- \\hyperindexref{"
4266 delim_t "}"
4267 page_compositor "."
4268 \end{filecontents*}
4269 % \end{Verbatim}% for syntax highlighting
4270 \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:

```

4271 \begin{LWRwriteconf}
4272 \begin{filecontents*}[overwrite]{lwarp.xdy}

```

```

4273 (require "tex/inputenc/latin.xdy")
4274 (merge-rule "\PS *" "Postscript")
4275 (require "texindy.xdy")
4276 (require "page-ranges.xdy")
4277 (require "book-order.xdy")
4278 (define-location-class "arabic-page-numbers"
4279     ("arabic-numbers") :min-range-length 1)
4280 (require "makeindex.xdy")
4281 (define-attributes ((hyperindexref)))
4282 (markup-locref :open "\hyperindexref{" :close "}")
4283 (markup-locref :open "\hyperindexref{" :close "}" :attr "hyperpage")
4284 (markup-locref :open "\textbf{\hyperindexref{" :close "}}" :attr "textbf")
4285 (markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
4286 (define-location-class-order ("roman-page-numbers"
4287         "arabic-page-numbers"
4288         "alpha-page-numbers"
4289         "Roman-page-numbers"
4290         "Alpha-page-numbers"
4291         "see"
4292         "seealso"))
4293 \end{filecontents*}
4294 % \end{Verbatim} for syntax highlighting
4295 \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 lwarp_one_limage.cmd to be created directly by *lwarpmk*, so lwarp_one_limage.txt is created instead, then copied to lwarp_one_limage.cmd by *lwarpmk*. This occurs each time *lwarpmk* used to create lateximages.

Config file:

```

4296 \begin{LWRwriteconf}
4297 \immediate\openout\LWR@quickfile=lwarp_one_limage.txt
4298 \immediate\write\LWR@quickfile{%
4299     pdfseparate -f \LWRpercent 1 -l \LWRpercent 1 \LWRpercent 4_html.pdf %
4300     \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent\LWRpercent d.pdf%
4301 }
4302 \immediate\write\LWR@quickfile{%
4303     pdfcrop --hires \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf %
4304     \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4305 }
4306 \immediate\write\LWR@quickfile{%
4307     pdftocairo -svg -noshrink \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf %
4308     \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.svg%
4309 }
4310 \immediate\write\LWR@quickfile{%
4311     del \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%

```

```

4312 }
4313 \immediate\write\LWR@quickfile{%
4314     del \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf%
4315 }
4316 \immediate\write\LWR@quickfile{exit}
4317 \immediate\closeout\LWR@quickfile
4318 \end{LWRwriteconf}
```

39.11 lwarp_mathjax.txt

(Emulates or patches code by DAVIDE P. CERVONE.)

File `lwarp_mathjax.txt` The default MathJax script used by `lwarp` when using MATHJAX. A recent version of MathJax is used, as served by the recommended repository. Adjustments are made to allow L^AT_EX to control the equation tags and provide for starred macros.

`\MathJaxFilename` determines which script file is copied into the HTML pages, and defaults to `lwarp_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 `lwarp_mathjax.txt` to a new file, make changes while keeping `lwarp`'s adjustments for equation numbering and starred macros, and use `\MathJaxFilename` to select the new filename.

Config file:

```

4319 \begin{LWRwriteconf}
4320 \begin{filecontents*}[overwrite]{lwarp_mathjax.txt}
4321 <script>
4322 // Lwarp MathJax emulation code
4323 //
4324 // Based on code by Davide P. Cervone.
4325 // Equation numbering: https://github.com/mathjax/MathJax/issues/2427
4326 // Starred and ifnextchar macros: https://github.com/mathjax/MathJax/issues/2428
4327 // \left, \right delimiters: https://github.com/mathjax/MathJax/issues/2535
4328 //
4329 // Modified by Brian Dunn to adjust equation numbering and add subequations.
4330 //
4331 // LaTeX can use \seteqnumber{subequations?}{section}{number} before each equation.
4332 // subequations? is 0 usually, 1 if inside subequations.
4333 // section is a string printed as-is, or empty.
4334 // number is auto-incremented by MathJax between equations.
4335 //
4336 MathJax = {
4337     subequations: "0",
4338     section: "",
4339     loader: {
4340         load: ['[tex]/tagformat', '[tex]/textmacros'],
4341     },
4342     startup: {
4343         ready() {
4344             // These would be replaced by import commands if you wanted to make
4345             // a proper extension.
4346             const Configuration = MathJax._.input.tex.Configuration.Configuration;
4347             const CommandMap = MathJax._.input.tex.SymbolMap.CommandMap;
4348             const Macro = MathJax._.input.tex.Symbol.Macro;
```

```
4349     const TexError = MathJax._.input.tex.TexError.default;
4350     const ParseUtil = MathJax._.input.tex.ParseUtil.default;
4351     const expandable = MathJax._.util.Options.expandable;
4352
4353     // Insert the replacement string into the TeX string, and check
4354     // that there haven't been too many maxro substitutions (prevents
4355     // infinite loops).
4356     const useArgument = (parser, text) => {
4357       parser.string = ParseUtil.addArgs(parser, text, parser.string.slice(parser.i));
4358       parser.i = 0;
4359       if (++parser.macroCount > parser.configuration.options.maxMacros) {
4360         throw new TexError('MaxMacroSub1',
4361           'MathJax maximum macro substitution count exceeded; ' +
4362           'is there a recursive macro call?');
4363       }
4364     }
4365
4366     // Create the command map for \ifstar, \ifnextchar, \seteqnumber
4367     new CommandMap('ifstar-ifnextchar-seteqnumber', {
4368       ifstar: 'IfstarFunction',
4369       ifnextchar: 'IfnextcharFunction',
4370       seteqnumber: 'SeteqnumberFunction'
4371     },
4372     // This function implements an ifstar macro.
4373     IfstarFunction(parser, name) {
4374       const resultstar = parser.GetArgument(name);
4375       const resultnostar = parser.GetArgument(name);
4376       const star = parser.GetStar(); // true if there is a *
4377       useArgument(parser, star ? resultstar : resultnostar);
4378     },
4379
4380     // This function implements an ifnextchar macro.
4381     IfnextcharFunction(parser, name) {
4382       let whichchar = parser.GetArgument(name);
4383       if (whichchar.match(/^(:0x[0-9A-F]+|[0-9]+)$/i)) {
4384         // $ syntax highlighting
4385         whichchar = String.fromCodePoint(parseInt(whichchar));
4386       }
4387       const resultnextchar = parser.GetArgument(name);
4388       const resultnotnextchar = parser.GetArgument(name);
4389       const gotchar = (parser.GetNext() === whichchar);
4390       useArgument(parser, gotchar ? resultnextchar : resultnotnextchar);
4391     },
4392
4393     // This function modifies the equation numbers.
4394     SeteqnumberFunction(parser, name) {
4395       // Get the macro parameters
4396       const star = parser.GetStar(); // true if there is a *
4397       const optBrackets = parser.GetBrackets(name); // contents of optional brackets
4398       const newsubequations = parser.GetArgument(name); // the subequations argument
4399       const neweqsection = parser.GetArgument(name); // the eq section argument
4400       const neweqnumber = parser.GetArgument(name); // the eq number argument
4401       MathJax.config.subequations=newsubequations; // a string with boolean meaning
4402       MathJax.config.section=neweqsection; // a string with numeric meaning
4403       parser.tags.counter = parser.tags.allCounter = neweqnumber ;
```

```
4404     }
4405
4406 });
4407
4408 // Create the ifstar-ifnextchar-setequnumber package
4409 Configuration.create('ifstar-ifnextchar-setequnumber', {
4410   handler: {macro: ['ifstar-ifnextchar-setequnumber']}
4411 });
4412
4413 MathJax.startup.defaultReady();
4414
4415 // For forward references:
4416 MathJax.startup.input[0].preFilters.add(({math}) => {
4417   if (math.inputData.recompile){
4418     MathJax.config.subequations = math.inputData.recompile.subequations;
4419     MathJax.config.section = math.inputData.recompile.section;
4420   }
4421 });
4422 MathJax.startup.input[0].postFilters.add(({math}) => {
4423   if (math.inputData.recompile){
4424     math.inputData.recompile.subequations = MathJax.config.subequations;
4425     math.inputData.recompile.section = MathJax.config.section;
4426   }
4427 });
4428
4429 // For \left, \right with unicode-math:
4430 const {DelimiterMap} = MathJax._.input.tex.SymbolMap;
4431 const {Symbol} = MathJax._.input.tex.Symbol;
4432 const {MapHandler} = MathJax._.input.tex.MapHandler;
4433 const delimiter = MapHandler.getMap('delimiter');
4434 delimiter.add('\\lBrack', new Symbol('\\lBrack', '\u27E6'));
4435 delimiter.add('\\rBrack', new Symbol('\\rBrack', '\u27E7'));
4436 delimiter.add('\\lAngle', new Symbol('\\lAngle', '\u27EA'));
4437 delimiter.add('\\rAngle', new Symbol('\\rAngle', '\u27EB'));
4438 delimiter.add('\\lbrbrak', new Symbol('\\lbrbrak', '\u2772'));
4439 delimiter.add('\\rbrbrak', new Symbol('\\rbrbrak', '\u2773'));
4440 delimiter.add('\\lbag', new Symbol('\\lbag', '\u27C5'));
4441 delimiter.add('\\rbag', new Symbol('\\rbag', '\u27C6'));
4442 delimiter.add('\\llparenthesis', new Symbol('\\llparenthesis', '\u2987'));
4443 delimiter.add('\\rrparenthesis', new Symbol('\\rrparenthesis', '\u2988'));
4444 delimiter.add('\\llangle', new Symbol('\\llangle', '\u2989'));
4445 delimiter.add('\\rrangle', new Symbol('\\rrangle', '\u298A'));
4446 delimiter.add('\\Lbrbrak', new Symbol('\\Lbrbrak', '\u27EC'));
4447 delimiter.add('\\Rbrbrak', new Symbol('\\Rbrbrak', '\u27ED'));
4448 delimiter.add('\\lBrace', new Symbol('\\lBrace', '\u2983'));
4449 delimiter.add('\\rBrace', new Symbol('\\rBrace', '\u2984'));
4450 delimiter.add('\\lParen', new Symbol('\\lParen', '\u2985'));
4451 delimiter.add('\\rParen', new Symbol('\\rParen', '\u2986'));
4452 delimiter.add('\\lbrackubar', new Symbol('\\lbrackubar', '\u298B'));
4453 delimiter.add('\\rbrackubar', new Symbol('\\rbrackubar', '\u298C'));
4454 delimiter.add('\\lbrackultick', new Symbol('\\lbrackultick', '\u298D'));
4455 delimiter.add('\\rbracklrltick', new Symbol('\\rbracklrltick', '\u298E'));
4456 delimiter.add('\\lbracklltick', new Symbol('\\lbracklltick', '\u298F'));
4457 delimiter.add('\\rbrackkurtick', new Symbol('\\rbrackkurtick', '\u2990'));
4458 delimiter.add('\\langledot', new Symbol('\\langledot', '\u2991'));
```

```

4459     delimiter.add('\\rangledot', new Symbol('\\rangledot', '\u2992'));
4460     delimiter.add('\\lparenless', new Symbol('\\lparenless', '\u2993'));
4461     delimiter.add('\\rparengtr', new Symbol('\\rparengtr', '\u2994'));
4462     delimiter.add('\\Lparengtr', new Symbol('\\Lparengtr', '\u2995'));
4463     delimiter.add('\\Rparenless', new Symbol('\\Rparenless', '\u2996'));
4464     delimiter.add('\\lblkbrbrak', new Symbol('\\lblkbrbrak', '\u2997'));
4465     delimiter.add('\\rblkbrbrak', new Symbol('\\rblkbrbrak', '\u2998'));
4466     delimiter.add('\\lvzigzag', new Symbol('\\lvzigzag', '\u29D8'));
4467     delimiter.add('\\rvzigzag', new Symbol('\\rvzigzag', '\u29D9'));
4468     delimiter.add('\\Lvzigzag', new Symbol('\\Lvzigzag', '\u29DA'));
4469     delimiter.add('\\Rvzigzag', new Symbol('\\Rvzigzag', '\u29DB'));
4470     delimiter.add('\\lcurvyangle', new Symbol('\\lcurvyangle', '\u29FC'));
4471     delimiter.add('\\rcurvyangle', new Symbol('\\rcurvyangle', '\u29FD'));
4472     delimiter.add('\\Vvert', new Symbol('\\Vvert', '\u2980'));
4473 } // ready
4474 }, // startup
4475
4476 tex: {
4477   packages: {'[+]': ['tagformat', 'ifstar-ifnextchar-setequnumber', 'textmacros']},
4478   tags: "ams",
4479   tagformat: {
4480     number: function (n) {
4481       if(MathJax.config.subequations==0)
4482         return(MathJax.config.section + n);
4483       else
4484         return(MathJax.config.section + String.fromCharCode(96+n));
4485     },
4486   },
4487 }
4488 }
4489 </script>
4490
4491 <script
4492   id="MathJax-script"
4493   src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-chtml.js"
4494 ></script>
4495 \end{filecontents*}
4496 % \end{Verbatim}%
4497 \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		<code>lateximages</code> and <code>svg</code> math images are generated using multiple processes in parallel. For UNIX and LINUX, every 32 images the <code>wait</code> 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`.

```
4498 \begin{LWRcreatelwarpmk}

4499 \begin{filecontents*}[overwrite]{lwarpmk.lua}
4500 #!/usr/bin/env texlua
4501
4502 -- Copyright 2016-2020 Brian Dunn
4503
4504
4505 printversion = "v0.892"
4506 requiredconfversion = "2" -- also at *lwarpmk.conf
4507
4508 function printhelp ()
4509 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.") ;
4510 end
4511
4512
4513 function printusage ()
4514 --
4515 -- Print the usage of the lwarpmk command:
4516 --
4517 print ( [[
4518
4519 lwarpmk print [-p project]: Compile the print version if necessary.
4520 lwarpmk print1 [-p project]: Forced single compile of the print version.
4521 lwarpmk printindex [-p project]: Process print indexes.
4522 lwarpmk printglossary [-p project]: Process the glossary for the print version.
4523 lwarpmk html [-p project]: Compile the HTML version if necessary.
4524 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
4525 lwarpmk htmlindex [-p project]: Process HTML indexes.
4526 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.
4527 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
4528 lwarpmk limages [-p project]: Process the "lateximages" created by lwarp.sty.
4529 lwarpmk pdftohtml [-p project]:
4530     For use with latexmk or a Makefile:
4531     Converts project_html.pdf to project_html.html and individual HTML files.
4532     Finishes the HTML conversion even if there was a compile error.
4533 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
4534 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
4535 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
4536     *.idx, *.ind, *.bbl, *.log, *_html_inc.*., .gl*.,
4537     *_html.pdf, *_html.html, *_html.sidetoc
4538 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
4539 lwarpmk cleanlimages: Removes all images from the "lateximages" directory.
4540 lwarpmk -v: Print the version number.
4541 lwarpmk -h: Print this help message.
4542 lwarpmk --help: Print this help message.
4543
4544 ]] )
4545 -- printconf ()
```

```
4546 end
4547
4548
4549 function splitfilename ( pathandfilename )
4550 --
4551 -- Separates out the path and extension from a filename.
4552 -- Returns path, filename with extension, and extension.
4553 -- Ex: thispath, thisfilename, thisextension = splitfilename ("path/to/filename.ext")
4554 --
4555 -- https://www.fhug.org.uk/wiki/wiki/doku.php?id=plugins:code_snippets:
4556 --     split_filename_in_to_path_filename_and_extension
4557 --
4558     if lfs.attributes(pathandfilename,"mode") == "directory" then
4559         local strPath = pathandfilename:gsub("[\\/]$", "") -- $(syntax highlighting)
4560         return strPath.."\\", "", ""
4561     end
4562     pathandfilename = pathandfilename.."."
4563     return pathandfilename:match("^(.-)([^\\/]-)%.(^[^%.]-)%.?$")
4564 end
4565
4566
4567 function splitfile (destfile,sourcefile)
4568 --
4569 -- Split one large sourcefile into a number of files,
4570 -- starting with destfile.
4571 -- The file is split at each occurrence of <!--|Start file|newfilename|*
4572 --
4573 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;
4574 local sfile = io.open(sourcefile)
4575 io.output(destfile)
4576 for line in sfile:lines() do
4577 i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*)|")
4578 if ( (i~= nil) and (copen == "<!--") and (cstart == "Start file")) then
4579     -- split the file
4580     io.output(newfilename) ;
4581 else
4582     -- not a splitpoint
4583     io.write (line .. "\n") ;
4584 end
4585 end -- do
4586 io.close(sfile)
4587 end -- function
4588
4589
4590 function cvalueerror ( line, linenum , cvalue )
4591 --
4592 -- Incorrect value, so print an error and exit.
4593 --
4594     print ("lwarpmk: ===")
4595     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
4596     print (
4597         "lwarpmk: incorrect variable value \"\" .. cvalue ..
4598         "\" in lwarpmk.conf.\n"
4599     ) ;
4600     print ("lwarpmk: ===")
```

```
4601 --     printconf () ;
4602     os.exit(1) ;
4603 end
4604
4605
4606 function printhowtorecompile ()
4607 -- Tells the user how to recompile to regenerate the configuration files.
4608     print ("lwarpmk: The configuration files lwarpmk.conf and "..sourcename.."lwarpmkconf" )
4609     print ("lwarpmk: must be updated. To do so, recompile" )
4610     print ("lwarpmk: " , sourcename.."tex" )
4611     if ( printlatexcmd == "" ) then
4612         print ("lwarpmk: using xe/lua/pdflatex," )
4613     else
4614         print ("lwarpmk: using the command:")
4615         print ("lwarpmk: " , printlatexcmd )
4616     end
4617     print ("lwarpmk: then use lwarpmk again.")
4618 end -- printhowtorecompile
4619
4620
4621 function ignoreconf ()
4622 -- Global argument index
4623 argindex = 2
4624 end
4625
4626 function loadconf ()
4627 --
4628 -- Load settings from the project's "lwarpmk.conf" file:
4629 --
4630 -- Default configuration filename:
4631 local conffile = "lwarpmk.conf"
4632 local confroot = "lwarpmk"
4633 -- Global argument index
4634 argindex = 2
4635 -- Optional configuration filename:
4636 if ( arg[argindex] == "-p" ) then
4637     argindex = argindex + 1
4638     confroot = arg[argindex]
4639     conffile = confroot.."lwarpmkconf"
4640     argindex = argindex + 1
4641 end
4642 -- Additional defaults:
4643 confversion = "0"
4644 opsystem = "Unix"
4645 imagesdirectory = "lateximages"
4646 imagesname = "image-"
4647 latexmk = "false"
4648 printlatexcmd = ""
4649 HTMLlatexcmd = ""
4650 printindexcmd = ""
4651 HTMLindexcmd = ""
4652 latexmkindexcmd = ""
4653 -- to be removed:
4654 -- indexprog = "makeindex"
4655 -- makeindexstyle = "lwarp.ist"
```

```
4656 -- xindylanguage = "english"
4657 -- xindycodepage = "utf8"
4658 -- xindystyle = "lwarp.xdy"
4659 -- pdftotextenc = "UTF-8"
4660 glossarycmd = "makeglossaries"
4661 -- Verify the file exists:
4662 if (lfs.attributes(conffile,"mode")==nil) then
4663     -- file not exists
4664     print ("lwarpmk: ===")
4665     print ("lwarpmk: File \\" .. conffile .. "\\ does not exist.")
4666     print ("lwarpmk: Move to the project's source directory,")
4667     print ("lwarpmk: recompile using pdflatex, xelatex, or lualatex,")
4668     print ("lwarpmk: then try using lwarpmk again.")
4669     if ( arg[argindex] ~= nil ) then
4670         print (
4671             "lwarpmk: (\\\" .. confroot ..
4672             "\\ does not appear to be a project name.)"
4673         )
4674     end
4675     print ("lwarpmk: ===")
4676     printhelp () ;
4677     os.exit(1) -- exit the entire lwarpmk script
4678 else -- file exists
4679 -- Read the file:
4680 print ("lwarpmk: Reading " .. conffile .. ".")
4681 local cfile = io.open(conffile)
4682 -- Scan each line, parsing each line as: name = [[string]]
4683 local linenum = 0
4684 for line in cfile:lines() do -- scan lines
4685     linenum = linenum + 1
4686 i,j,cvarname,cvalue = string.find (line,"([%w_-]*%)%s*=%s*[%([%^])%]*%]" ) ;
4687 -- Error if incorrect enclosing characters:
4688 if ( i == nil ) then
4689     print ("lwarpmk: ===")
4690     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
4691     print ("lwarpmk: Incorrect entry in " .. conffile .. ".\n" ) ;
4692     print ("lwarpmk: ===")
4693 --     printconf () ;
4694     os.exit(1) ;
4695 end -- nil
4696 if ( cvarname == "confversion" ) then
4697     confversion = cvalue
4698 elseif ( cvarname == "opsystem" ) then
4699     -- Verify choice of opsistem:
4700     if ( (cvalue == "Unix") or (cvalue == "Windows") ) then
4701         opsistem = cvalue
4702     else
4703         cvalueerror ( line, linenum , cvalue )
4704     end
4705 elseif ( cvarname == "sourcename" ) then sourcename = cvalue
4706 elseif ( cvarname == "homehtmlfilename" ) then homehtmlfilename = cvalue
4707 elseif ( cvarname == "htmlfilename" ) then htmlfilename = cvalue
4708 elseif ( cvarname == "imagesdirectory" ) then imagesdirectory = cvalue
4709 elseif ( cvarname == "imagesname" ) then imagesname = cvalue
4710 elseif ( cvarname == "latexmk" ) then latexmk = cvalue
```

```
4711 elseif ( cvarname == "printlatexcmd" ) then printlatexcmd = cvalue
4712 elseif ( cvarname == "HTMLlatexcmd" ) then HTMLlatexcmd = cvalue
4713 elseif ( cvarname == "printindexcmd" ) then printindexcmd = cvalue
4714 elseif ( cvarname == "HTMLindexcmd" ) then HTMLindexcmd = cvalue
4715 elseif ( cvarname == "texmkindeindexcmd" ) then texmkindeindexcmd = cvalue
4716 elseif ( cvarname == "glossarycmd" ) then glossarycmd = cvalue
4717 elseif ( cvarname == "pdftotextenc" ) then pdftotextenc = cvalue
4718 else
4719     print ("lwarpmk: ===")
4720     print ("lwarpmk: " .. linenum .. " : " .. line) ;
4721     print (
4722         "lwarpmk: Incorrect variable name \".. cvarname .. \" in \"..
4723             conffile ..\".\n"
4724     ) ;
4725     print ("lwarpmk: ===")
4726 --     printconf () ;
4727 os.exit(1) ;
4728 end -- cvarname
4729 end -- do scan lines
4730 io.close(cfile)
4731 end -- file exists
4732 -- Error if sourcename is "lwarp".
4733 -- This could happen if a local copy of lwarp has recently been recompiled.
4734 if sourcename=="lwarp" then
4735     print ("lwarpmk: ===")
4736     print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
4737     print ("lwarpmk: and \"lwarpmk.conf\" is no longer set for your own project.")
4738     print ("lwarpmk: (Perhaps you are not in your project's directory?)")
4739     print ("lwarpmk: In your project directory, recompile your project")
4740     print ("lwarpmk: using pdf/lua/xelatex <projectname>.")
4741     print ("lwarpmk: After a recompile, \"lwarpmk.conf\" will be set for your project,")
4742     print ("lwarpmk: and you may again use lwarpmk.")
4743     print ("lwarpmk: ===")
4744     os.exit(1)
4745 end -- sourcename of "lwarp"
4746 -- Select some operating-system commands:
4747 if opsystem=="Unix" then -- For Unix / Linux / Mac OS:
4748     rmname = "rm"
4749     mvname = "mv"
4750     cpname = "cp"
4751     touchnamepre = "touch"
4752     touchnamepost = ""
4753     newtouchname = "touch"
4754     dirslash = "/"
4755     opquote= "\'"
4756     cmdgroupopenname = " ( "
4757     cmdgroupclosename = " ) "
4758     seqname = " && "
4759     bgname = " &"
4760 elseif opsystem=="Windows" then -- For Windows
4761     rmname = "DEL"
4762     mvname = "MOVE"
4763     cpname = "COPY"
4764     touchnamepre = "COPY /b"
4765     touchnamepost = "+,,"
```

```
4766     newtouchname = "echo empty >"  
4767     dirslash = "\\"  
4768     opquote= "\""  
4769     cmdgroupopenname = ""  
4770     cmdgroupcloseename = ""  
4771     seqname = " & "  
4772     bgname = ""  
4773 else  
4774     print ("lwarpmk: ===")  
4775     print ("lwarpmk: Select Unix or Windows for opsystem." )  
4776     print ("lwarpmk: ===")  
4777     os.exit(1)  
4778 end --- for Windows  
4779 -- Warning if the operating system does not appear to be correct,  
4780 -- in case files were transferred to another system.  
4781 if ( (package.config:sub(1,1)) ~= dirslash ) then  
4782     print ("lwarpmk: ===")  
4783     print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system." )  
4784     printhowtorecompile ()  
4785     print ("lwarpmk: ===")  
4786     os.exit(1)  
4787 end  
4788 -- Error if the configuration file's version is not current:  
4789 if ( confversion ~= requiredconfversion ) then  
4790     print ("lwarpmk: ===")  
4791     printhowtorecompile ()  
4792     print ("lwarpmk: ===")  
4793     os.exit(1)  
4794 end  
4795 end -- loadconf  
4796  
4797  
4798 function executecheckerror ( executecommands , errormessage )  
4799 --  
4800 -- Execute an operating system call,  
4801 -- and maybe exit with an error message.  
4802 --  
4803 local err  
4804 err = os.execute ( executecommands )  
4805 if ( err ~= 0 ) then  
4806     print ("lwarpmk: ===")  
4807     print ("lwarpmk: " .. errormessage )  
4808     print ("lwarpmk: ===")  
4809     os.exit(1)  
4810 end  
4811 end -- executecheckerror  
4812  
4813  
4814 function refreshdate ()  
4815 os.execute(touchnamepre .. " " .. sourcename .. ".tex" .. touchnamepost)  
4816 end  
4817  
4818  
4819  
4820 function reruntoget (filesource)
```

```
4821 --
4822 -- Scan the LaTeX log file for the phrase "Rerun to get",
4823 -- indicating that the file should be compiled again.
4824 -- Return true if found.
4825 --
4826 local fsource = io.open(filesource)
4827 for line in fsource:lines() do
4828 if ( string.find(line,"Rerun to get") ~= nil ) then
4829     io.close(fsource)
4830     return true
4831 end -- if
4832 end -- do
4833 io.close(fsource)
4834 return false
4835 end
4836
4837
4838
4839 function onetime (latexcmd, fsuffix)
4840 --
4841 -- Compile one time, return true if should compile again.
4842 -- fsuffix is "" for print, "_html" for HTML output.
4843 --
4844 print("lwarpmk: Compiling with: " .. latexcmd)
4845 executecheckerror (
4846     latexcmd ,
4847     "Compile error."
4848 )
4849 return (reruntoget(sourcename .. fsuffix .. ".log") ) ;
4850 end
4851
4852
4853 function manytimes (latexcmd, fsuffix)
4854 --
4855 -- Compile up to five times.
4856 -- fsuffix is "" for print, "_html" for HTML output
4857 --
4858 if onetime(latexcmd, fsuffix) == true then
4859 if onetime(latexcmd, fsuffix) == true then
4860 if onetime(latexcmd, fsuffix) == true then
4861 if onetime(latexcmd, fsuffix) == true then
4862 if onetime(latexcmd, fsuffix) == true then
4863 end end end end
4864 end
4865
4866
4867 function verifyfileexists (filename)
4868 --
4869 -- Exit if the given file does not exist.
4870 --
4871 if (lfs.attributes ( filename , "modification" ) == nil ) then
4872     print ("lwarpmk: ===")
4873     print ("lwarpmk: " .. filename .. " not found." ) ;
4874     print ("lwarpmk: ===")
4875     os.exit (1) ;
```

```
4876 end
4877 end
4878
4879
4880
4881 function pdftohtml ()
4882 --
4883 -- Convert <project>.html.pdf into HTML files:
4884 --
4885 -- Convert to text:
4886 print ("lwarpmk: Converting " .. sourcename
4887     .. "_html.pdf" to " .. sourcename .. "_html.html")
4888 os.execute("pdftotext -enc " .. pdftotextenc .. " -nopgbrk -layout "
4889     .. sourcename .. "_html.pdf" .. sourcename .. "_html.html")
4890 -- Split the result into individual HTML files:
4891 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
4892 end
4893
4894
4895 function removeaux ()
4896 --
4897 -- Remove auxiliary files:
4898 -- All .aux files are removed since there may be many bbl*.aux files.
4899 -- Also removes sourcename_html.pdf, sourcename_html.html,
4900 -- and sourcename_html.sidetoc, plus comment_*.cut.
4901 --
4902 os.execute ( rmname .. " *.aux" ..
4903     sourcename .. ".toc" .. sourcename .. "_html.toc" ..
4904     sourcename .. ".lof" .. sourcename .. "_html.lof" ..
4905     sourcename .. ".lot" .. sourcename .. "_html.lot" ..
4906     sourcename .. ".bbl" .. sourcename .. "_html.bbl" ..
4907     " *.idx" ..
4908     " *.ind" ..
4909     sourcename .. ".ps" .. sourcename .. "_html.ps" ..
4910     sourcename .. ".log" .. sourcename .. "_html.log" ..
4911     sourcename .. ".gl*" .. sourcename .. "_html.gl*" ..
4912     sourcename .. "_html.pdf" ..
4913     sourcename .. "_html.html" ..
4914     sourcename .. "_html.sidetoc" ..
4915     " *_html_inc.*" ..
4916     " comment_*.cut"
4917 )
4918 end
4919
4920 function checkhtmlpdfexists ()
4921 --
4922 -- Error if the HTML document does not exist.
4923 -- The lateximages are drawn from the HTML PDF version of the document,
4924 -- so "lwarpmk html" must be done before "lwarpmk limages".
4925 --
4926 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
4927 if ( htmlpdffile == nil ) then
4928     print ("")
4929     print ("lwarpmk: ===")
4930     print ("lwarpmk: The HTML version of the document does not exist.")
```

```
4931     print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
4932     print ("lwarpmk: ===")
4933     os.exit(1)
4934 end
4935 io.close (htmlpdffile)
4936 end -- checkhtmpdfexists
4937
4938
4939 function warnlimages ()
4940 --
4941 -- Warning of a missing <sourcename>-images.txt file:
4942     print ("lwarpmk: ===")
4943     print ("lwarpmk: \"\" .. sourcename .. "-images.txt\" does not exist.")
4944     print ("lwarpmk: Your project does not use SVG math or other lateximages,")
4945     print ("lwarpmk: or the file has been deleted somehow.")
4946     print ("lwarpmk: Use \"lwarpmk html1\" to recompile your project")
4947     print ("lwarpmk: and recreate \"\" .. sourcename .. "-images.txt\".")
4948     print ("lwarpmk: If your project does not use SVG math or other lateximages,")
4949     print ("lwarpmk: then \"\" .. sourcename .. "-images.txt\" will never exist, and")
4950     print ("lwarpmk: \"lwarpmk limages\" will not be necessary.")
4951     print ("lwarpmk: ===")
4952 end -- warnlimages
4953
4954
4955 function warnlimagesrecompile ()
4956 -- Warning if must recompile before creating limages:
4957     print ("")
4958     print ("lwarpmk: ===")
4959     print ("lwarpmk: Cross-references are not yet correct.")
4960     print ("lwarpmk: The document must be recompiled before creating the lateximages.")
4961     print ("lwarpmk: Enter \"lwarpmk html1\" again, then try \"lwarpmk limages\" again.")
4962     print ("lwarpmk: ===")
4963 end --warnlimagesrecompile
4964
4965
4966 function checklimages ()
4967 --
4968 -- Check <sourcename>.txt to see if need to recompile first.
4969 -- If any entry has a page number of zero, then there were incorrect images.
4970 --
4971 print ("lwarpmk: Checking for a valid \" .. sourcename .. "-images.txt file.")
4972 local limagesfile = io.open(sourcename .. "-images.txt", "r")
4973 if ( limagesfile == nil ) then
4974     warnlimages ()
4975     os.exit(1)
4976 end
4977 -- Track warning to recompile if find a page 0
4978 local pagezerowarning = false
4979 -- Scan <sourcename>.txt
4980 for line in limagesfile:lines() do
4981     -- lwimgpage is the page number in the PDF which has the image
4982     -- lwimghash is true if this filename is a hash
4983     -- lwimgname is the lateximage filename root to assign for the image
4984     i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
4985     -- For each entry:
```

```
4986 if ( (i~=nil) ) then
4987     -- If the page number is 0, image references are incorrect
4988     -- and must recompile the source document:
4989     if ( lwimgpage == "0" ) then
4990         pagezerowarning = true
4991     end
4992 end -- if i~=nil
4993 end -- do
4994 -- The last line should be |end|end|end|.
4995 -- If not, the compile must have aborted, and the images are incomplete.
4996 if ( lwimgpage ~= "end" ) then
4997     warnlimagesrecompile()
4998     os.exit(1) ;
4999 end
5000 if ( pagezerowarning ) then
5001     warnlimagesrecompile()
5002     os.exit(1) ;
5003 end -- pagezerowarning
5004 end -- checklimages
5005
5006
5007 function createuniximage ( lwimgfullname )
5008 --
5009 -- Create one lateximage for Unix / Linux / Mac OS.
5010 --
5011 executecheckerror (
5012     cmdgroupopenname ..
5013     "pdfseparate -f " .. lwimgpage .. " -l " .. lwimgpage .. " " ..
5014         sourcename .. "_html.pdf" ..
5015         imagesdirectory .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
5016         seqname ..
5017     -- Crop the image:
5018     "pdfcrop --hires " .. imagesdirectory .. dirslash .. "lateximagetemp-" ..
5019         lwimgpage .. ".pdf" ..
5020         imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5021         seqname ..
5022     -- Convert the image to svg:
5023     "pdftocairo -svg -noshrink " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5024         imagesdirectory .. dirslash .. lwimgname .. ".svg" ..
5025         seqname ..
5026     -- Remove the temporary files:
5027     rmname .. " " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" .. seqname ..
5028     rmname .. " " .. imagesdirectory .. dirslash .. "lateximagetemp-" .. lwimgpage .. ".pdf" ..
5029     cmdgroupclosename .. " >/dev/null " .. bgnname
5030     ,
5031     "File error trying to convert " .. lwimgfullname
5032 )
5033 -- Every 32 images, wait for completion at below normal priority,
5034 -- allowing other image tasks to catch up.
5035 numimageprocesses = numimageprocesses + 1
5036 if ( numimageprocesses > 32 ) then
5037     numimageprocesses = 0
5038     print ( "lwarpmk: waiting" )
5039     executecheckerror ( "wait" , "File error trying to wait." )
5040 end
```

```
5041 end -- createuniximage
5042
5043
5044 function createwindowsimage ( lwimgfullname )
5045 --
5046 -- Create one lateximage for Windows.
5047 --
5048 -- Every 32 images, wait for completion at below normal priority,
5049 -- allowing other image tasks to catch up.
5050 numimageprocesses = numimageprocesses + 1
5051 if ( numimageprocesses > 32 ) then
5052     numimageprocesses = 0
5053     thiswaitcommand = "/WAIT /BELOWNORMAL"
5054     print ( "lwarpmk: waiting" )
5055 else
5056     thiswaitcommand = ""
5057 end
5058 -- Execute the image generation command
5059 executecheckerror (
5060     "start /B " .. thiswaitcommand .. " \"\" lwarp_one_limage " ..
5061     lwimgpage .. " " ..
5062     lwimghash .. " " ..
5063     lwimgname .. " " ..
5064     sourcename .. " <nul >nul"
5065     ,
5066     "File error trying to create image."
5067 )
5068 end -- createwindowsimage
5069
5070
5071 function createonelateximage ( line )
5072 --
5073 -- Given the next line of <sourcename>.txt, convert a single image.
5074 --
5075 -- lwimgpage is the page number in the PDF which has the image
5076 -- lwimghash is true if this filename is a hash
5077 -- lwimgname is the lateximage filename root to assign for the image
5078 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5079 -- For each entry:
5080 if ( (i~=nil) ) then
5081     -- Skip if the page number is 0:
5082     if ( lwimgpage == "0" ) then
5083         pagezerowarning = true
5084     -- Skip if the page number is "end":
5085     else if ( lwimgpage == "end" ) then
5086         else
5087             -- Skip if this image is hashed and already exists:
5088             local lwimgfullname = imagesdirectory .. dirslash .. lwimgname .. ".svg"
5089             if (
5090                 (lwimghash ~= "true") or
5091                 (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
5092             )
5093             then -- not hashed or not exists:
5094                 -- Print the name of the file being generated:
5095                 print ( "lwarpmk: " .. lwimgname )
```

```
5096      -- Touch/create the dest so that only once instance tries to build it:
5097      executecheckerror (
5098          newtouchname .. " " .. lwimgfullname ,
5099          "File error trying to touch " .. lwimgfullname
5100      )
5101      -- Separate out the image into its own single-page pdf:
5102      if opsystem=="Unix" then
5103          createuniximage (lwimgfullname)
5104      elseif opsystem=="Windows" then
5105          createwindowsimage (lwimgfullname)
5106      end
5107      end -- not hashed or not exists
5108  end -- not page "end"
5109  end -- not page 0
5110 end -- not nil
5111 end -- createonelateximage
5112
5113
5114 function createlateximages ()
5115 --
5116 -- Create lateximages based on <sourcename>-images.txt:
5117 --
5118 -- See if the document must be recompiled first:
5119 checklimages ()
5120 -- See if the HTML version exists:
5121 checkhtlpdfexists ()
5122 -- Attempt to create the lateximages:
5123 print ("lwarpmk: Creating lateximages.")
5124 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5125 if (limagesfile == nil) then
5126     warnlimages ()
5127     os.exit(1)
5128 end
5129 -- Create the lateximages directory, ignore error if already exists
5130 err = os.execute("mkdir " .. imagesdirectory)
5131 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
5132 if opsystem=="Windows" then
5133     executecheckerror (
5134         cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
5135         "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
5136     )
5137 end -- create lwarp_one_limage.cmd
5138 -- Track the number of parallel processes
5139 numimageprocesses = 0
5140 -- Track warning to recompile if find a page 0
5141 pagezerowarning = false
5142 -- Scan <sourcename>.txt
5143 for line in limagesfile:lines() do
5144     createonelateximage (line)
5145 end -- do
5146 io.close(limagesfile)
5147 print ("lwarpmk limages: ===")
5148 print ("lwarpmk limages: Wait a moment for the images to complete" )
5149 print ("lwarpmk limages: before reloading the page." )
5150 print ("lwarpmk limages: ===")
```

```
5151 print ( "lwarpmk limages: Done." )
5152 if ( pagezerowarning == true ) then
5153   print ( "lwarpmk limages: WARNING: Images will be incorrect." )
5154   print ( "lwarpmk limages: Enter \"lwarpmk cleanlimages\", then" )
5155   print ( "lwarpmk limages: recompile the document one more time, then" )
5156   print ( "lwarpmk limages: repeat \"lwarpmk images\" again." )
5157 end -- pagezerowarning
5158 end -- function
5159
5160
5161 function convertepstopdf ()
5162 --
5163 -- Converts EPS files to PDF files.
5164 -- The filenames are arg[argindex] and up.
5165 -- arg[1] is the command "epstopdf".
5166 --
5167 ignoreconf ()
5168 for i = argindex , #arg do
5169   if (lfs.attributes(arg[i],"mode")==nil) then
5170     print ("lwarpmk: File \".. arg[i] .. \" does not exist.")
5171   else
5172     print ("lwarpmk: Converting \".. arg[i] .. \"")
5173     thispath, thisfilename, thisextension = splitfilename(arg[i])
5174     if ( thispath == nil ) then
5175       os.execute ( "epstopdf " .. arg[i] )
5176     else
5177       os.execute (
5178         "epstopdf " ..
5179         thispath .. thisfilename .. "." .. thisextension .. " " ..
5180         thispath .. thisfilename .. ".pdf"
5181       )
5182     end
5183   end -- if
5184 end -- do
5185 end --function
5186
5187
5188 function convertpdftosvg ()
5189 --
5190 -- Converts PDF files to SVG files.
5191 -- The filenames are arg[argindex] and up.
5192 -- arg[1] is the command "pdftosvg".
5193 --
5194 ignoreconf ()
5195 for i = argindex , #arg do
5196   if (lfs.attributes(arg[i],"mode")==nil) then
5197     print ("lwarpmk: File \".. arg[i] .. \" does not exist.")
5198   else
5199     print ("lwarpmk: Converting \".. arg[i] .. \"")
5200     thispath, thisfilename, thisextension = splitfilename(arg[i])
5201     if ( thispath == nil ) then
5202       os.execute ( "pdftocairo -svg " .. arg[i] )
5203     else
5204       os.execute (
5205         "pdftocairo -svg " ..
```

```
5206             thispath .. thisfilename .. "." .. thisextension .. " " ..
5207             thispath .. thisfilename .. ".svg"
5208         )
5209     end
5210   end -- if
5211 end -- do
5212 end --function
5213
5214
5215 -- Force an update and conclude processing:
5216 function updateanddone ()
5217 print ("lwarpmk: Forcing an update of " .. sourcename .. ".tex.")
5218 refreshdate ()
5219 print ("lwarpmk: " .. sourcename .. ".tex is ready to be recompiled.")
5220 print ("lwarpmk: Done.")
5221 end -- function
5222
5223
5224 -- Start of the main code: --
5225
5226
5227 -- lwarpmk --version :
5228
5229 if (arg[1] == "--version") then
5230 print ("lwarpmk: " .. printversion )
5231
5232 else -- not --version
5233
5234
5235 -- print intro:
5236
5237 print ("lwarpmk: " .. printversion .. " Automated make for the LaTeX Lwarp package.")
5238
5239
5240 -- lwarpmk print:
5241
5242 if arg[1] == "print" then
5243 loadconf ()
5244 if ( latexmk == "true" ) then
5245   print ("lwarpmk: Compiling with: " .. printlatexcmd)
5246   executecheckerror (
5247     printlatexcmd ,
5248     "Compile error."
5249   )
5250   print ("lwarpmk: Done.")
5251 else -- not latexmk
5252   verifyfileexists (sourcename .. ".tex") ;
5253   -- See if up to date:
5254   if (
5255     ( lfs.attributes ( sourcename .. ".pdf" , "modification" ) == nil ) or
5256     (
5257       lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5258       lfs.attributes ( sourcename .. ".pdf" , "modification" )
5259     )
5260   ) then
```

```
5261      -- Recompile if not yet up to date:
5262      manytimes(printlatexcmd, "")
5263      print ("lwarpmk: Done.") ;
5264  else
5265      print ("lwarpmk: " .. sourcename .. ".pdf is up to date.") ;
5266  end
5267 end -- not latexmk
5268
5269
5270 -- lwarpmk print1:
5271
5272 elseif arg[1] == "print1" then
5273   loadconf ()
5274   verifyfileexists (sourcename .. ".tex") ;
5275   onetime(printlatexcmd, "")
5276   print ("lwarpmk: Done.") ;
5277
5278
5279 -- lwarpmk printindex:
5280 -- Compile the index then touch the source
5281 -- to trigger a recompile of the document:
5282
5283 elseif arg[1] == "printindex" then
5284 loadconf ()
5285 os.execute ( printindexcmd )
5286 print ("lwarpmk: -----")
5287 updateanddone ()
5288
5289
5290 -- lwarpmk printglossary:
5291 -- Compile the glossary then touch the source
5292 -- to trigger a recompile of the document:
5293
5294 elseif arg[1] == "printglossary" then
5295 loadconf ()
5296 print ("lwarpmk: Processing the glossary.")
5297
5298 os.execute(glossarycmd .. " " .. sourcename)
5299 updateanddone ()
5300
5301
5302 -- lwarpmk html:
5303
5304 elseif arg[1] == "html" then
5305 loadconf ()
5306 if ( latexmk == "true" ) then
5307   print ("lwarpmk: Compiling with: " .. HTMLlatexcmd)
5308   executecheckerror (
5309     HTMLlatexcmd ,
5310     "Compile error."
5311   )
5312   pdftohtml ()
5313   print ("lwarpmk: Done.")
5314 else -- not latexmk
5315   verifyfileexists ( sourcename .. ".tex" ) ;
```

```
5316 -- See if exists and is up to date:
5317 if (
5318   ( lfs.attributes ( homehtmlfilename .. ".html" , "modification" ) == nil ) or
5319   (
5320     lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5321     lfs.attributes ( homehtmlfilename .. ".html" , "modification" )
5322   )
5323 ) then
5324   -- Recompile if not yet up to date:
5325   manytimes(HTMLLatexcmd, "_html")
5326   pdftohtml ()
5327   print ("lwarpmk: Done.")
5328 else
5329   print ("lwarpmk: " .. homehtmlfilename .. ".html is up to date.")
5330 end
5331 end -- not latexmk
5332
5333
5334 -- lwarpmk html1:
5335
5336 elseif arg[1] == "html1" then
5337   loadconf ()
5338   verifyfileexists ( sourcename .. ".tex" );
5339   onetime(HTMLLatexcmd, "_html")
5340   pdftohtml ()
5341   print ("lwarpmk: Done.")
5342
5343
5344 -- lwarpmk pdftohtml:
5345 elseif arg[1] == "pdftohtml" then
5346   loadconf ()
5347   pdftohtml ()
5348
5349
5350 -- lwarpmk htmlindex:
5351 -- Compile the index then touch the source
5352 -- to trigger a recompile of the document:
5353
5354 elseif arg[1] == "htmlindex" then
5355   loadconf ()
5356   os.execute ( HTMLIndexcmd )
5357   print ("lwarpmk: -----")
5358   updateanddone ()
5359
5360
5361 -- lwarpmk htmlglossary:
5362 -- Compile the glossary then touch the source
5363 -- to trigger a recompile of the document.
5364 -- The <sourcename>.xdy file is created by the glossaries package.
5365
5366 elseif arg[1] == "htmlglossary" then
5367   loadconf ()
5368   print ("lwarpmk: Processing the glossary.")
5369   os.execute(glossarycmd .. " " .. sourcename .. "_html")
5370   updateanddone ()
```

```
5371
5372
5373 -- lwarpmk limages:
5374 -- Scan the <sourcename>.txt file to create lateximages.
5375
5376 elseif arg[1] == "limages" then
5377 loadconf ()
5378 print ("lwarpmk: Processing images.")
5379 createlateximages ()
5380 print ("lwarpmk: Done.")
5381
5382
5383 -- lwarpmk again:
5384 -- Touch the source to trigger a recompile.
5385
5386 elseif arg[1] == "again" then
5387 loadconf ()
5388 updateanddone ()
5389
5390
5391 -- lwarpmk clean:
5392 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.* , .gl*
5393
5394 elseif arg[1] == "clean" then
5395 loadconf ()
5396 removeaux ()
5397 print ("lwarpmk: Done.")
5398
5399
5400 -- lwarpmk cleanall
5401 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.* , .gl*
5402 --     and also project.pdf, project.dvi, *.html
5403
5404 elseif arg[1] == "cleanall" then
5405 loadconf ()
5406 removeaux ()
5407 os.execute ( rmname .. " " ..
5408     sourcename .. ".pdf" .. sourcename .. "_html.pdf" ..
5409     sourcename .. ".dvi" .. sourcename .. "_html.dvi" ..
5410     "*.html"
5411     )
5412 print ("lwarpmk: Done.")
5413
5414
5415 -- lwarpmk cleanimages
5416 -- Remove images from the imagesdirectory.
5417
5418 elseif arg[1] == "cleanimages" then
5419 loadconf ()
5420 os.execute ( rmname .. " " .. imagesdirectory .. dirslash .. "*" )
5421 print ("lwarpmk: Done.")
5422
5423 -- lwarpmk epstopdf <list of file names>
5424 -- Convert EPS files to PDF using epstopdf
5425 elseif arg[1] == "epstopdf" then
```

```

5426 convertepstopdf ()
5427 print ("lwarpmk: Done.")
5428
5429
5430 -- lwarpmk pdftosvg <list of file names>
5431 -- Convert PDF files to SVG using pdftocairo
5432 elseif arg[1] == "pdftosvg" then
5433 convertpdftosvg ()
5434 print ("lwarpmk: Done.")
5435
5436
5437 -- lwarpmk with no argument :
5438
5439 elseif (arg[1] == nil) then
5440 printhelp ()
5441
5442
5443 -- lwarpmk -v:
5444
5445 elseif (arg[1] == "-v" ) then
5446 -- The version number has already been printed
5447 -- by the lwarpmk intro.
5448
5449 -- lwarpmk -h or lwarpmk --help :
5450
5451 elseif (arg[1] == "-h" ) or (arg[1] == "--help") then
5452 printusage ()
5453
5454
5455 -- Unknown command:
5456
5457 else
5458 printhelp ()
5459 print ("\nlwarpmk: ***** Unknown command \"..arg[1].." . *****\n")
5460 end
5461
5462 end -- not --version
5463 \end{filecontents*}
5464 % \end{Verbatim}% for syntax highlighting

5465 \end{LWRcreatelwarpmk}

```

40 Stacks

for HTML output: 5466 \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:

```
5467 \newcommand*\{\LWR@depthnone\}{-5}
```

All sectioning depths are deeper than \LWR@depthfinished:

```
5468 \newcommand*\{\LWR@depthfinished\}{-4}
5469 \newcommand*\{\LWR@depthbook\}{-2}
5470 \newcommand*\{\LWR@depthpart\}{-1}
5471 \newcommand*\{\LWR@depthchapter\}{0}
5472 \newcommand*\{\LWR@depthsection\}{1}
5473 \newcommand*\{\LWR@depthsubsection\}{2}
5474 \newcommand*\{\LWR@depthsubsubsection\}{3}
5475 \newcommand*\{\LWR@depthparagraph\}{4}
5476 \newcommand*\{\LWR@depth subparagraph\}{5}
```

Used by \itemize, \enumerate, \description:

```
5477 \newcommand*\{\LWR@depthlist\}{6}
```

Used by \item:

```
5478 \newcommand*\{\LWR@depthlistitem\}{7}
5479 \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.

```
5480 \newcommand*\{\LWR@closeone\}{}% top of the stack
5481 \newcommand*\{\LWR@closetwo\}{}%
5482 \newcommand*\{\LWR@closethree\}{}%
5483 \newcommand*\{\LWR@closefour\}{}%
5484 \newcommand*\{\LWR@closefive\}{}%
5485 \newcommand*\{\LWR@closesix\}{}%
5486 \newcommand*\{\LWR@closeseven\}{}%
5487 \newcommand*\{\LWR@closeeight\}{}%
5488 \newcommand*\{\LWR@closenine\}{}%
5489 \newcommand*\{\LWR@closeten\}{}%
5490 \newcommand*\{\LWR@closeeleven\}{}%
5491 \newcommand*\{\LWR@closetwelve\}{}%
```

40.3 Closing depths

A stack to record the depth of each level:

 Note that nested L^AT_EX structures may push depths which are non-sequential.

Ex:

```
\begin{itemize}
  \item{A}
    \begin{description}
      \item{B}
    \end{description}
\end{itemize}
```

```
5492 \newcommand*{\LWR@closedepthon}{\LWR@depthnone}% top of the stack
5493 \newcommand*{\LWR@closedepthtwo}{\LWR@depthnone}
5494 \newcommand*{\LWR@closedepththree}{\LWR@depthnone}
5495 \newcommand*{\LWR@closedepthfour}{\LWR@depthnone}
5496 \newcommand*{\LWR@closedepthfive}{\LWR@depthnone}
5497 \newcommand*{\LWR@closedepthsix}{\LWR@depthnone}
5498 \newcommand*{\LWR@closedepthseven}{\LWR@depthnone}
5499 \newcommand*{\LWR@closedeptheight}{\LWR@depthnone}
5500 \newcommand*{\LWR@closedepthnine}{\LWR@depthnone}
5501 \newcommand*{\LWR@closedepthten}{\LWR@depthnone}
5502 \newcommand*{\LWR@closedeptheleven}{\LWR@depthnone}
5503 \newcommand*{\LWR@closedephtwelve}{\LWR@depthnone}
```

40.4 Pushing and popping the stack

\LWR@pushclose {<sectiontype>}

Pushes one return action and its L^AT_EX depth onto the stacks.

```
5504 \NewDocumentCommand{\LWR@pushclose}{m}
5505 {%
5506 \global\let\LWR@closetwelve\LWR@closeeleven%
5507 \global\let\LWR@closeeleven\LWR@closeten%
5508 \global\let\LWR@closeten\LWR@closenine%
5509 \global\let\LWR@closenine\LWR@closeeight%
5510 \global\let\LWR@closeeight\LWR@closeseven%
5511 \global\let\LWR@closeseven\LWR@closesix%
5512 \global\let\LWR@closesix\LWR@closefive%
5513 \global\let\LWR@closefive\LWR@closefour%
5514 \global\let\LWR@closefour\LWR@closethree%
5515 \global\let\LWR@closethree\LWR@closetwo%
5516 \global\let\LWR@closetwo\LWR@closeone%
5517 \global\csletcs{\LWR@closeone}{\LWR@printclose#1}%
5518 \global\let\LWR@closedephtwelve\LWR@closedeptheleven%
5519 \global\let\LWR@closedeptheleven\LWR@closedepthten%
```

```

5520 \global\let\LWR@closedepthten\LWR@closedepthnine%
5521 \global\let\LWR@closedepthnine\LWR@closedeptheight%
5522 \global\let\LWR@closedeptheight\LWR@closedepthseven%
5523 \global\let\LWR@closedepthseven\LWR@closedepthsix%
5524 \global\let\LWR@closedepthsix\LWR@closedepthfive%
5525 \global\let\LWR@closedepthfive\LWR@closedepthfour%
5526 \global\let\LWR@closedepthfour\LWR@closedepththree%
5527 \global\let\LWR@closedepththree\LWR@closedephtwo%
5528 \global\let\LWR@closedephtwo\LWR@closedepthonne%
5529 \global\csletcs{\LWR@closedepthonne}{\LWR@depth#1}%
5530 }

```

\LWR@popclose Pops one action and its depth off the stacks.

```

5531 \newcommand*{\LWR@popclose}{%
5532 {%
5533 \global\let\LWR@closeone\LWR@closetwo%
5534 \global\let\LWR@closetwo\LWR@closethree%
5535 \global\let\LWR@closethree\LWR@closefour%
5536 \global\let\LWR@closefour\LWR@closefive%
5537 \global\let\LWR@closefive\LWR@closesix%
5538 \global\let\LWR@closesix\LWR@closeseven%
5539 \global\let\LWR@closeseven\LWR@closeeight%
5540 \global\let\LWR@closeeight\LWR@closenine%
5541 \global\let\LWR@closenine\LWR@closeten%
5542 \global\let\LWR@closeten\LWR@closeeleven%
5543 \global\let\LWR@closeeleven\LWR@closetwelve%
5544 \global\let\LWR@closedepthonne\LWR@closedepthtwo%
5545 \global\let\LWR@closedepthtwo\LWR@closedepththree%
5546 \global\let\LWR@closedepththree\LWR@closedepthfour%
5547 \global\let\LWR@closedepthfour\LWR@closedepthfive%
5548 \global\let\LWR@closedepthfive\LWR@closedepthsix%
5549 \global\let\LWR@closedepthsix\LWR@closedepthseven%
5550 \global\let\LWR@closedepthseven\LWR@closedeptheight%
5551 \global\let\LWR@closedeptheight\LWR@closedepthnine%
5552 \global\let\LWR@closedepthnine\LWR@closedepthten%
5553 \global\let\LWR@closedepthten\LWR@closedeptheleven%
5554 \global\let\LWR@closedeptheleven\LWR@closedepthtwelve%
5555 }

```

```

5556 \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: 5557 \begin{warpHTML}

\LWR@setexparray {<name>} {<index>} {<contents>}

5558 \NewDocumentCommand{\LWR@setexparray}{m m m}{%
5559   \let\LWR@temp@par\par%
5560   \let\par\relax%
5561   \edef\LWR@thisexparrayname{\#1\#2}%
5562   \ifstrempty{\#3}%
5563     {\csdef{\LWR@thisexparrayname}{}{}}%
5564     {\csedef{\LWR@thisexparrayname}{\#3}}%
5565   \let\par\LWR@temp@par%
5566 }

\LWR@getexparray {<name>} {<index>}

5567 \newcommand*{\LWR@getexparray}[2]{%
5568   \nameuse{\#1\#2}%
5569 }

5570 \end{warpHTML}
```

42 Localizing catcodes

for HTML & PRINT: 5571 \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.

```
5572 \newcommand{\StartDefiningTabulars}{%
5573   \LWR@traceinfo{StartDefiningTabulars}%
5574   \warpHTMLonly{\catcode`\&=\active}%
5575 }
```

`\StopDefiningTabulars` Place after defining something with & in it.

```
5576 \newcommand{\StopDefiningTabulars}{%
5577   \LWR@traceinfo{StopDefiningTabulars}%
5578   \warpHTMLonly{\catcode`\&=4}%
5579 }
```

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.

```
5580 \newbool{LWR@mathmacro}
5581 \boolfalse{LWR@mathmacro}
```

\StartDefiningMath Place before defining something with \$ in it.

```
5582 \newcommand{\StartDefiningMath}{%
5583     \LWR@traceinfo{StartDefiningMath}%
5584     \warpHTMLonly{\catcode`\$=\active}%
5585 }
```

\StopDefiningMath Place after defining something with \$ in it.

```
5586 \newcommand{\StopDefiningMath}{%
5587     \LWR@traceinfo{StopDefiningMath}%
5588     \warpHTMLonly{\catcode`\$=3}% math shift
5589 }
```

5590 \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{\macroname}
    {$math expression$}
    {\inlinemathother$math expression$\inlinemathnormal}
    {}
    {\typeout{Error patching macroname.}}
```

for HTML & PRINT: 5591 \begin{warpall}

Bool LWR@dynamicmath True to mark inline math which is dynamic in nature, thus should not be hashed for reuse.
Default: false

```
5592 \newbool{LWR@dynamicmath}
5593 \boolfalse{LWR@dynamicmath}
```

\inlinemathother Place before using \$... \$ or \(...\) if the contents of the math are not static, depending on counters or dynamic macros.

```
5594 \newcommand{\inlinemathother}{%
5595 \LWR@traceinfo{inlinemathother}%
5596 \booltrue{LWR@dynamicmath}%
5597 }
```

\inlinemathnormal Place after using \$... \$ or \(...\) with dynamic contents.

```
5598 \newcommand{\inlinemathnormal}{%
5599 \LWR@traceinfo{inlinemathnormal}%
5600 \boolfalse{LWR@dynamicmath}%
5601 }
```

```
5602 \end{warpall}
```

44 HTML entities

for HTML output: 5603 \begin{warpHTML}

HTML Unicode entities:

```
5604 \let\LWR@origampersand\&
```

\HTMLentity {*entitytag*}

```
5605 \newcommand*{\HTMLentity}[1]{%
5606 % \LWR@traceinfo{HTMLentity} \detokenize{\#1}%
5607 \begingroup%
5608 \LWR@FBcancel%
5609 \LWR@origampersand#1;%
5610 \endgroup%
5611 % \LWR@traceinfo{HTMLentity done}%
5612 }
```

\HTMLunicode {*hex_unicode*}

```
5613 \newcommand*{\HTMLunicode}[1]{\HTMLentity{\LWR@origpound{}x#1}}
```

\&

```
5614 \renewrobustcmd*{\&}{\HTMLentity{amp}}
```

```
\textless

5615 \let\LWR@origtextless\textless
5616 \renewrobustcmd*\{\textless\}{\HTMLentity{lt}}


\textgreater

5617 \let\LWR@origtextgreater\textgreater
5618 \renewrobustcmd*\{\textgreater\}{\HTMLentity{gt}}


5619 \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: 5620 `\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.

5621 `\providetcommand*\{\BaseJobname\}{\jobname}`

`\HTMLFilename` The prefix for all generated `HTML` files other than the home page, defaulting to empty. See section [7.6.1](#).

5622 `\providetcommand*\{\HTMLFilename\}{}`

`\HomeHTMLFilename` The filename of the home page, defaulting to the `\BaseJobname`. See section [7.6.1](#).

5623 `\providetcommand*\{\HomeHTMLFilename\}{\BaseJobname}`

`\SetHTMLFileName` `\{\langle number \rangle\}`

Sets the file number for the next file to be generated. 0 is the home page. Use just before the next sectioning command, and set it to one less than the desired number of the next section. May be used to generate numbered groups of nodes such as 100+ for one chapter, 200+ for another chapter, etc.

```
5624 \newcommand*\{\SetHTMLFileName\}[1]{%
5625     \setcounter{LWR@htmlfilename}{#1}%
5626 }
```

Bool FileSectionNames Selects how to create HTML file names.
 Defaults to use section names in the filenames.

```
5627 \newbool{FileSectionNames}
5628 \booltrue{FileSectionNames}

5629 \end{warpall}
```

for HTML output: 5630 \begin{warpHTML}

Updated each time a new HTML file is begun. Used to provide HTML previous/next web page links.

```
5631 \newcounter{LWR@HTMLpagenum}
5632 \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.

```
5633 \newcounter{LWR@htmlseqfilename}
5634 \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.

```
5635 \newbool{LWR@setseqfilelabel}
5636 \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.

```
5637 \newcounter{LWR@htmlfilename}
5638 \setcounter{LWR@htmlfilename}{0}
```

\LWR@htmlsectionfilename {<htmlfilename or name>}

Prints the filename for a given section: \HTMLFileName{}filename/name.html

```
5639 \newcommand*{\LWR@htmlsectionfilename}[1]{%
5640 \LWR@traceinfo{\LWR@htmlsectionfilename A !\detokenize{\#1}!}%
5641 \begingroup%
```

Disable CJK xpinyin while generating file names.

```
5642 \LWR@disablepinyin%
```

Section 0 or empty is given the home filename. The filename must be detokenized for underscores.

```

5643 \% \LWR@traceinfo{about to assign temp}%
5644 \LWR@sanitize{#1}%
5645 \LWR@traceinfo{about to compare with ??}%
5646 \ifdefstring{\LWR@sanitized}{??}%
5647   {\LWR@traceinfo{found ??}}%
5648   {\LWR@traceinfo{not found ??}}%
5649 \LWR@traceinfo{about to compare with zero or empty}%
5650 \ifboolexpr{%
5651   test {\ifdefstring{\LWR@sanitized}{0}} or
5652   test {\ifdefstring{\LWR@sanitized}{}} or
5653   test {\ifdefstring{\LWR@sanitized}{??}}%
5654 }%
5655 {%
5656   \LWR@traceinfo{\LWR@htmlsectionfilename B \HomeHTMLFilename.html}%
5657   \HomeHTMLFilename.html%
5658 }%

```

For a L^AT_EX section named “Index” or “index” without a prefix, create a filename with a trailing `-0` to avoid colliding with the HTML filename `index.html`:

```

5659 {%
5660   \LWR@traceinfo{\LWR@htmlsectionfilename C \LWR@sanitized}%
5661   \ifboolexpr{%
5662     test{\ifdefvoid{\HTMLFilename}} and
5663     (
5664       test{\ifdefstring{\LWR@sanitized}{Index}} or
5665       test{\ifdefstring{\LWR@sanitized}{index}}%
5666     )%
5667   }%
5668 {%
5669   \LWR@traceinfo{Adding a zero to the index filename.}%
5670   \LWR@sanitized-0.html%
5671 }%

```

Otherwise, create a filename with the chosen prefix:

```

5672 {%
5673   \HTMLFilename\LWR@isolate{\LWR@sanitized}.html%
5674 }%
5675 }%
5676 \LWR@traceinfo{\LWR@htmlsectionfilename Z}%
5677 \endgroup%
5678 }%

```

`\LWR@htmlrefsectionfilename {<label>}`

Prints the filename for the given label

```

5679 \newcommand*{\LWR@htmlrefsectionfilename}[1]{%
5680   \LWR@traceinfo{\LWR@htmlrefsectionfilename: !\detokenize{#1}!}%

```

\LWR@nullfonts to allow math in a section name.

```

5681      \begingroup%
5682      \LWR@nullfonts%
5683      \LWR@htmalsectionfilename{\LWR@htmlfileref{#1}}%
5684      \endgroup%
5685      \LWR@traceinfo{\LWR@htmlrefsectionfilename: done}%
5686 }

5687 \end{warpHTML}

```

46 Homepage link

for HTML & PRINT: 5688 \begin{warpall}

\linkhomename Holds the default name for the home link.

```

5689 \newcommand{\linkhomename}{Home}

5690 \end{warpall}

```

for HTML output: 5691 \begin{warpHTML}

\LinkHome May be used wherever you wish to place a link back to the homepage. The filename must be detokenized for underscores.

```

5692 \newcommand*{\LinkHome}{%
5693     \LWR@subhyperrefclass{\HomeHTMLFilename.html}{\linkhomename}{linkhome}%
5694 }
5695 \end{warpHTML}

```

for PRINT output: 5696 \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.

```

5697 \AtBeginDocument{
5698 \@ifundefined{hyperref}{
5699     \newcommand*{\LinkHome}{%
5700         \linkhomename\ --- page \pageref{\BaseJobname-page-LWRfirstpage}%
5701     }
5702 }{
5703     \newcommand*{\LinkHome}{%

```

```

5704           \hyperref[\BaseJobname-page-LWRfirstpage]{\linkhomename}%
5705     }
5706   }
5707   }
5708
5709 \AfterEndPreamble{\label{\BaseJobname-page-LWRfirstpage}}
5710 \end{warpprint}

```

for HTML output: 5711 \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.

```

5712 \newcommand*\LWR@topnavigation{%
5713   \LWR@htmlelementclassline{nav}{topnavigation}{\LinkHome}%
5714 }

```

\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.

```

5715 \newcommand*\LWR@botnavigation{%
5716   \LWR@htmlelementclassline{nav}{botnavigation}{\LinkHome}%
5717 }

```

5718 \end{warpHTML}

47 Previous/next navigation links

for HTML & PRINT: 5719 \begin{warpall}

\linkpreviousname What to call the link to the previous web page.

```
5720 \newcommand*\linkpreviousname{Previous}
```

\linknextname What to call the link to the next web page.

```
5721 \newcommand*\linknextname{Next}
```

5722 \end{warpall}

for PRINT output: 5723 \begin{warpprint}

\LinkPrevious Creates a link to the previous web page if there is one.

```
5724 \newcommand*\LinkPrevious{}
```

\LinkNext Creates a link to the next web page if there is one.

```
5725 \newcommand*\{\LinkNext\}{}  
5726 \end{warpprint}  
  
for HTML output: 5727 \begin{warpHTML}
```

\LinkPrevious Creates a link to the previous web page if there is one.

The links refer to the L^AT_EX labels \Basejobname-autofile-*

```
5728 \newcommand*\{\LinkPrevious\}{%  
5729     \ifnumless{\value{LWR@htmlseqfilenumber}}{1}{%  
5730         \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}-1}%  
5731         \LWR@subhyperrefclass{  
5732             \LWR@htmlrefsectionfilename{  
5733                 \BaseJobname-autofile-\arabic{LWR@tempcountone}}%  
5734             }%  
5735         }{\linkpreviousname}{linkhome}}%  
5736     }%  
5737 }
```

\LinkNext Creates a link to the next web page if there is one.

The links refer to the L^AT_EX labels \Basejobname-autofile-* and the last is the label \Basejobname-autofile-last

```
5738 \newcommand*\{\LinkNext\}{%  
5739     \ifcsdef{r@\BaseJobname-autofile-last@lwarp}{%  
5740         \edef\LWR@tempone{  
5741             \LWR@htmlfileref{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}}%  
5742         }%  
5743         \edef\LWR@temptwo{  
5744             \LWR@htmlfileref{\BaseJobname-autofile-last}}%  
5745         }%  
5746         \ifdefequal{\LWR@tempone}{\LWR@temptwo}{%  
5747             \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}+1}%  
5748             \LWR@subhyperrefclass{  
5749                 \LWR@htmlrefsectionfilename{  
5750                     \BaseJobname-autofile-\arabic{LWR@tempcountone}}%  
5751                     }%  
5752                 }{\linknextname}{linkhome}}%  
5753             }%  
5754         }{}%  
5755 }  
  
5756 \end{warpHTML}
```

48 \LWRPrintStack diagnostic tool

 Diagnostics tool: Prints the L^AT_EX 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: 5757 \begin{warpHTML}

\LWRPrintStack Prints the closeddepth stack.

```
5758 \newcommand*\LWR@subprintstack[]{%
5759 \LWR@closedepthonetwo\ \LWR@closedepthtwo\ \LWR@closedepththree\%
5760 \LWR@closedepthfour\ \LWR@closedepthfive\ \LWR@closedepthsix\%
5761 \LWR@closedepthseven\ \LWR@closedeptheight\ \LWR@closedeptnine\%
5762 \LWR@closedephten\ \LWR@closedeptheleven\ \LWR@closedepthtwelve\%
5763 }%
5764 %
5765 \newcommand*\LWRPrintStack[]{%
5766 \LWR@startpars%
5767 \LWR@subprintstack%
5768 }%
5769 \end{warpHTML}
```

for PRINT output: 5770 \begin{warpprint}

```
5771 \newcommand*\LWRPrintStack{}%
5772 \end{warpprint}
```

49 Closing stack levels

for HTML output: 5773 \begin{warpHTML}

Close one nested level:

```
5774 \newcommand*\LWR@closeoneprevious}{%
5775 %
5776 \LWR@closeone%
5777 %
5778 \LWR@popclose%
5779 }
```

\LWR@closeprevious {<sectintype>} Close everything up to the given depth:

```
5780 \newcommand*\LWR@closeprevious}[1]{%
5781 \LWR@traceinfo{%
5782 \LWR@closeprevious to depth \csuse{\LWR@depth#1}, %
5783 depths are \LWR@subprintstack%
5784 }%
```

Close any pending paragraph:

```
5785 \LWR@stoppars%
```

Close anything nested deeper than the desired depth. First close anything deeper, then at most one of the same level.

```
5786 \whileboolexpr{test{\ifnumcomp{\LWR@closedepthone}{>}{\csuse{\LWR@depth#1}}}}%
5787 {%
5788     \LWR@traceinfo{\LWR@closeprevious: closing out depth \LWR@closedepthone}%
5789     \LWR@closeoneprevious%
5790 }%
5791 \ifboolexpr{test{\ifnumcomp{\LWR@closedepthone}{=}{\csuse{\LWR@depth#1}}}}%
5792 {%
5793     \LWR@traceinfo{\LWR@closeprevious: closing out depth \LWR@closedepthone}%
5794     \LWR@closeoneprevious%
5795 }{}%
5796 \LWR@traceinfo{\LWR@closeprevious: done, depths are \LWR@subprintstack}%
5797 }

5798 \end{warpHTML}
```

50 PDF pages and styles

for HTML output: 5799 \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.

```
5800 \newcommand{\LWR@forcenewpage}{%
5801 \LWR@traceinfo{\LWR@forcenewpage}%
5802 \ifinner\else%
5803     \LWR@traceinfo{\LWR@forcenewpage A}%
5804     \LWR@stoppars%
5805     \LWR@traceinfo{\LWR@forcenewpage B}%
5806     \LWR@maybe@orignewpage%
5807     \LWR@traceinfo{\LWR@forcenewpage C}%
5808     \LWR@startpars%
5809 \fi%
5810 \LWR@traceinfo{\LWR@forcenewpage done}%
5811 }
```

\pagestyle, etc. are nullified for HTML output.

\pagestyle {\langle style\rangle}

```
5812 \renewcommand*{\pagestyle}[1]{}
```

```
\thispagestyle {⟨style⟩}

5813 \renewcommand*{\thispagestyle}[1]{}

\markboth {⟨left⟩} {⟨right⟩}

5814 \renewcommand*{\markboth}[2]{}

\markright {⟨right⟩}

5815 \renewcommand*{\markright}[1]{}

\raggedbottom

5816 \renewcommand*{\raggedbottom}{}

\flushbottom

5817 \renewcommand*{\flushbottom}{}

\sloppy

5818 \renewcommand*{\sloppy}{}

\fussy

5819 \renewcommand*{\fussy}{}

\pagenumbering * {⟨commands⟩}

5820 \RenewDocumentCommand{\pagenumbering}{s m}{}

5821 \end{warpHTML}
```

51 HTML tags, spans, divs, elements

for HTML output: 5822 \begin{warpHTML}

51.1 Mapping L^AT_EX sections to HTML sections

```
5823 \newcommand*{\LWR@tagtitle}{h1}
5824 \newcommand*{\LWR@tagtitleend}{/h1}
5825 \newcommand*{\LWR@tagbook}{div class="book"}
5826 \newcommand*{\LWR@tagbookend}{/div}
5827 \newcommand*{\LWR@tagpart}{h2}
```

```

5828 \newcommand*{\LWR@tagpartend}{/h2}
5829 \newcommand*{\LWR@tagchapter}{h3}
5830 \newcommand*{\LWR@tagchapterend}{/h3}
5831 \newcommand*{\LWR@tagsection}{h4}
5832 \newcommand*{\LWR@tagsectionend}{/h4}
5833 \newcommand*{\LWR@tagsubsection}{h5}
5834 \newcommand*{\LWR@tagsubsectionend}{/h5}
5835 \newcommand*{\LWR@tagsubsubsection}{h6}
5836 \newcommand*{\LWR@tagsubsubsectionend}{/h6}
5837 \newcommand*{\LWR@tagparagraph}{span class="paragraph"}
5838 \newcommand*{\LWR@tagparagraphend}{/span}
5839 \newcommand*{\LWR@tagsubparagraph}{span class="subparagraph"}
5840 \newcommand*{\LWR@tagsubparagraphend}{/span}
5841
5842 \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.)

```

5843 \providetcommand*{\LWR@FBcancel}{}
5844
5845 \AtBeginDocument{%

```

In some circumstances, *\NoAutoSpacing* may be defined when *\frenchbsetup* is not.

```

5846 @ifundefined{NoAutoSpacing}%
5847     {}%
5848     {%
5849         \LetLtxMacro{\LWR@FBcancel}{\NoAutoSpacing}%
5850     }%
5851
5852 @ifundefined{frenchbsetup}%
5853 {}%
5854 {%
5855     \frenchbsetup{FrenchFootnotes=false}%
5856 %
5857     \renewrobustcmd*{\FBcolonspace}{%
5858         \begingroup%
5859         \LWR@FBcancel%
5860         \LWR@origampersand{}nbsp;%
5861         \endgroup%
5862     }%
5863     \renewrobustcmd*{\FBthinspace}{%
5864         \begingroup%
5865         \LWR@FBcancel%
5866         \LWR@origampersand{\LWR@origpound{}x202f;}%,%
5867         \endgroup%
5868     }%
5869     \renewrobustcmd*{\FBguillspace}{%

```

```

5870      \begingroup%
5871      \LWR@FBcancel%
5872      \LWR@origampersand{}nbsp;% ~, for \og xyz \fg{%
5873      \endgroup%
5874  }%
5875  \DeclareDocumentCommand{\FBmedkern}{}{%
5876      \begingroup%
5877      \LWR@FBcancel%
5878      \LWR@origampersand\LWR@origpound{}x202f;% ,
5879      \endgroup%
5880  }%
5881  \DeclareDocumentCommand{\FBthickkern}{}{%
5882      \begingroup%
5883      \LWR@FBcancel%
5884      \LWR@origampersand{}nbsp;% ~
5885      \endgroup%
5886  }%
5887  \renewrobustcmd*{\~}{\HTMLentity{nbsp}}% was overwritten by babel-french
5888  \iffBunicode%
5889  \else%
5890      \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}%
5891      \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
5892  \fi%
5893 }%
5894 }

```

51.3 HTML output formatting

Helps format the output HTML code for human readability.

\LWR@indentHTML Newline and indent the output HTML code.

```

5895 \newcommand*{\LWR@indentHTML}{%
5896     \LWR@orignewline\LWR@origrule{2em}{0pt}%
5897 }

```

\LWR@indentHTMLtwo Newline and indent the output HTML code.

```

5898 \newcommand*{\LWR@indentHTMLtwo}{%
5899     \LWR@orignewline\LWR@origrule{4em}{0pt}%
5900 }

```

51.4 HTML tags

\LWR@htmlltagc {\langle tag \rangle} Break ligatures and use upright apostrophes in HTML tags.

\protect is in case the tag appears in TOC, LOF, LOT.

```

5901 \newcommand*{\LWR@htmlltagc}[1]{%
5902 \LWR@traceinfo{\LWR@htmlltagc !\detokenize{\#1}!}%

```

```

5903 \begingroup%
5904 \LWR@FBcancel%
5905 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
5906 \protect\LWR@origtextless%
5907 \LWR@isolate{#1}%
5908 \protect\LWR@origtextgreater%
5909 \endgroup%
5910 }

```

\LWR@spanwarnformat {*object*}

Warns if the given object is used inside a span.

```

5911 \newcommand*{\LWR@spanwarnformat}[1]{%
5912     \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
5913         \PackageWarning{l warp}{%
5914             A #1 is being used inside a span.\MessageBreak
5915             Formatting may be lost,%
5916         }%
5917     }{}%
5918 }

```

\LWR@spanwarninvalid {*object*}

Warns if the given object is used inside a span.

```

5919 \newcommand*{\LWR@spanwarninvalid}[1]{%
5920     \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
5921         \PackageWarning{l warp}{%
5922             A #1 is being used inside a span.\MessageBreak
5923             This generates invalid HTML,%
5924         }%
5925     }{}%
5926 }

```

Env \LWR@nestspan Disable minipage, \parbox, and HTML <div>s inside a .

- ⚠ \begin{LWR@nestspan} must follow the opening tag to allow a paragraph to start if the span is at the beginning of a new paragraph.
- ⚠ \end{LWR@nestspan} must follow the or a <p> may appear inside the span.

```

5927 \newcommand*{\LWR@nestspanitem}{%
5928 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
5929 \LWR@origitem%
5930 }%
5931
5932 \newenvironment*{LWR@nestspan}
5933 {%
5934 \LWR@traceinfo{LWR@nestspan starting}%
5935 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
5936 {%
5937     \LWR@traceinfo{LWR@nestspan: inside a lateximage}%

```

```

5938 }%
5939 {%
5940     \LWR@traceinfo{\LWR@nestspan: NOT inside a lateximage}%
5941     \addtocounter{\LWR@spandepth}{1}%

```

Nullify several objects inside the span:

```

5942     \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}%
5943         {\LWR@spanwarnformat{minipage or \protect\parbox}}%
5944         {}%
5945     \RenewDocumentEnvironment{BlockClass}{o m}%
5946         {\LWR@spanwarnformat{multi-paragraph object}}%
5947         {}%
5948     \renewcommand{\BlockClassSingle}[2]{%
5949         {\LWR@spanwarnformat{multi-paragraph object}}%
5950         ##2%
5951     }%
5952     \renewcommand{\LWR@forcenewpage}{}%
5953     \renewcommand{\LWR@liststart}{%
5954         \let\item\LWR@nestspanitem%
5955     }%
5956     \renewcommand{\LWR@listend}{\LWR@htmltagc{br /}\LWR@htmltagc{br /}}%
5957     \renewenvironment{quote}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
5958     \renewenvironment{quotation}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
5959 }% not in a lateximage
5960 \LWR@traceinfo{\LWR@nestspan starting: done}%
5961 }% starting env
5962 {%
5963 \LWR@traceinfo{\LWR@nestspan ending}%
5964 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
5965 {}%
5966 {\addtocounter{\LWR@spandepth}{-1}}%
5967 \LWR@traceinfo{\LWR@nestspan ending: done}%
5968 }%
5969
5970 \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.

```

5971 \NewDocumentCommand{\LWR@htmlspan}{m +m}%
5972 \LWR@ensuredoingapar%
5973 \LWR@htmltagc{#1}%
5974 \begin{\LWR@nestspan}%
5975 #2%
5976 \LWR@htmltagc{/#1}%
5977 \end{\LWR@nestspan}%
5978 }

```

\LWR@htmlspanclass [*style*] {*class*} {*text*}

```

5979 \NewDocumentCommand{\LWR@htmlspanclass}{o m +m}{%
5980 \LWR@traceinfo{\LWR@htmlspanclass |#1|#2|}%
5981 \LWR@ensuredoingapar%
5982 \LWR@subhtmlelementclass{span}[#1]{#2}%
5983 \begin{\LWR@nestspan}%
5984 #3%
5985 \LWR@htmllagc{/span}%
5986 \LWR@traceinfo{\LWR@htmlspanclass done}%
5987 \end{\LWR@nestspan}%
5988 }

\LWR@htmltag {<tag>}

Print an HTML tag: <tag>

5989 \newcommand*{\LWR@htmltag}[1]{%
5990 % \LWR@traceinfo{\LWR@htmllagb !\detokenize{#1}!}%
5991 \LWR@htmllagc{#1}%
5992 % \LWR@traceinfo{\LWR@htmllagb: done}%
5993 }

```

51.5 Block tags and comments

In the following, `\origttfamily` breaks ligatures, which may not be used for HTML codes:

```

\LWR@htmlopencomment
\LWR@htmlclosecomment
5994 \newcommand*{\LWR@htmlopencomment}{%
5995 {%
5996 % \LWR@traceinfo{\LWR@htmlopencomment}%
5997 \begingroup%
5998 \LWR@FBcancel%
5999 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6000 \LWR@print@mbox{\LWR@origtextless{}!-/-}%
6001 \endgroup%
6002 }%
6003 }
6004
6005 \newcommand*{\LWR@htmlclosecomment}{%
6006 {%
6007 % \LWR@traceinfo{\LWR@htmlclosecomment}%
6008 \begingroup%
6009 \LWR@FBcancel%
6010 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6011 \LWR@print@mbox{-/-\LWR@origtextgreater}%
6012 \endgroup%
6013 }%
6014 }

```

`\LWR@htmlcomment {<comment>}`

```

6015 \newcommand{\LWR@htmlcomment}[1]{%
6016 \LWR@htmlopencomment{}%
6017 {%
6018     \LWR@print@normalfont%
6019     \LWR@origttfamily% break ligatures
6020     #1%
6021 }%
6022 \LWR@htmlclosecomment{}}

\LWR@htmlblockcomment  {\langle comment\rangle}

6023 \newcommand{\LWR@htmlblockcomment}[1]%
6024 {\LWR@stoppars\LWR@htmlcomment{\#1}\LWR@startpars}

\LWR@htmlblocktag  {\langle tag\rangle} print a stand-alone HTML tag

6025 \newcommand*{\LWR@htmlblocktag}[1]{%
6026 \LWR@stoppars%
6027 \LWR@htmlltag{\#1}%
6028 \LWR@startpars%
6029 }

```

51.6 Div class and element class

\LWR@subhtmlelementclass {\langle element\rangle} [{\langle style\rangle}] { {\langle class\rangle} }

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.

```

6030 \NewDocumentCommand{\LWR@subhtmlelementclass}{m O{} m}{%
6031 \LWR@traceinfo{\LWR@subhtmlelementclass !#1!#2!#3!}%
6032 \ifblank{\#2}%
6033 {%
6034     \LWR@htmlltag{%
6035         #1%
6036         \ifblank{\#3}{}{ class=\textquotedbl#3\textquotedbl\ }% spaces
6037     }%
6038 }%
6039 {%
6040     \LWR@htmlltag{%
6041         #1\LWR@indentHTML%
6042         \ifblank{\#3}{}{class=\textquotedbl#3\textquotedbl\LWR@indentHTML}%
6043         style=\textquotedbl#2\textquotedbl\LWR@orignewline%
6044     }%
6045 }%
6046 \LWR@traceinfo{\LWR@subhtmlelementclass done}%
6047 }

```

```
\LWR@htmlelementclass {<element>} {<class>} [<style>]

6048 \NewDocumentCommand{\LWR@htmlelementclass}{m o m}{%
6049 \LWR@stoppars%
6050 \LWR@forceemptyline%
6051 \LWR@subhtmlelementclass{#1}[#2]{#3}%
6052 \LWR@startpars%
6053 }

\LWR@htmlelementclassend {<element>} {<class>}

6054 \newcommand*{\LWR@htmlelementclassend}[2]{%
6055 \LWR@stoppars%
6056 \LWR@htmlltag{/#1}%
6057 \ifbool{HTMLDebugComments}{%
6058 \LWR@htmlcomment{End of #1 '#2'}%
6059 }{}%
6060 \LWR@startpars%
6061 }

\LWR@htmldivclass [<style>] {<class>}

6062 \NewDocumentCommand{\LWR@htmldivclass}{o m}{%
6063 \LWR@htmlelementclass{div}[#1]{#2}%
6064 }

\LWR@htmldivclassend {<class>}

6065 \newcommand*{\LWR@htmldivclassend}[1]{%
6066 \LWR@htmlelementclassend{div}{#1}%
6067 }
```

51.7 Single-line elements

A single-line element, without a paragraph tag for the line of text:

```
\LWR@htmlelementclassline {<element>} [<style>] {<class>} {<text>}

6068 \NewDocumentCommand{\LWR@htmlelementclassline}{m o m +m}{%
6069 \LWR@stoppars%
6070 \LWR@forceemptyline%
6071 \LWR@subhtmlelementclass{#1}[#2]{#3}%
6072 #4%
6073 \LWR@htmlltag{/#1}%
6074 \LWR@startpars%
6075 }
```

51.8 HTML5 semantic elements

```
\LWR@htmlelement  {\langle element \rangle}

6076 \newcommand*{\LWR@htmlelement}[1]{%
6077 \LWR@htmlblocktag{#1}%
6078 }

\LWR@htmlelementend  {\langle element \rangle}

6079 \newcommand*{\LWR@htmlelementend}[1]{%
6080 \LWR@stoppars
6081 \LWR@htmlltag{/#1}
6082 \LWR@startpars
6083 }
6084
6085 \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** [*style*] {*class*} High-level interface for <div> classes.

Ex: \begin{BlockClass}{class} text \end{BlockClass}

for PRINT output: 6086 \begin{warpprint}
6087 \NewDocumentEnvironment{BlockClass}{o m}{}{%
6088 \end{warpprint}

for HTML output: 6089 \begin{warpHTML}
6090
6091 \NewDocumentEnvironment{\LWR@print@BlockClass}{o m}{}{%
6092
6093 \NewDocumentEnvironment{\LWR@HTML@BlockClass}{o m}%
6094 {\LWR@htmldivclass[#1]{#2}}%
6095 {\LWR@htmldivclassend{#2}}%
6096
6097 \LWR@formattedenv{BlockClass}
6098 \end{warpHTML}

\BlockClassSingle {\i class \rangle} {\i text \rangle} A single-line <div>, without a paragraph tag for the line of text.

for HTML & PRINT: 6099 \begin{warpall}
6100 \newcommand{\BlockClassSingle}[2]{#2}%
6101 \end{warpall}

```
for HTML output: 6102 \begin{warpHTML}
6103 \newcommand{\LWR@HTML@BlockClassSingle}[2]{%
6104     \LWR@htmlelementclassline{div}{#1}{#2}%
6105 }
6106
6107 \LWR@formatted{BlockClassSingle}
6108 \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: 6109 \begin{warpprint}
6110 \NewDocumentCommand{\InlineClass}{D{(){} }{} o m +m}{#4}%
6111 \end{warpprint}
```

```
for HTML output: 6112 \begin{warpHTML}
6113 \NewDocumentCommand{\LWR@print@InlineClass}{D{(){} }{} o m +m}{#4}%
6114
6115 \NewDocumentCommand{\LWR@HTML@InlineClass}{D{(){} }{} o m +m}{%
6116 \ifbool{FormatWP}{%
6117     \LWR@htmllspanclass[#1]{#3}{#4}%
6118 }{%
6119     \LWR@htmllspanclass[#2]{#3}{#4}%
6120 }%
6121 }
6122
6123 \LWR@formatted{InlineClass}
6124 \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: 6125 \begin{warpprint}
6126 \NewDocumentEnvironment{\LWR@BlockClassWP}{m m m}{ }{ }%
6127 \end{warpprint}
```

```
for HTML output: 6128 \begin{warpHTML}
6129 \NewDocumentEnvironment{\LWR@print@LWR@BlockClassWP}{m m m}{ }{ }%
6130 \NewDocumentEnvironment{\LWR@HTML@LWR@BlockClassWP}{m m m}{ }{ }%
6131 {%
6132 \LWR@stopars%
6133 \ifbool{FormatWP}{%
6134 {%
6135     \addtocounter{\LWR@thisautoidWP}{1}%
6136     \LWR@htmlltag{%
```

```

6137     div class=\textquotedbl#3\textquotedbl\ % space
6138     id=\textquotedbl%
6139         \LWR@print@mbox{autoidWP-\arabic{LWR@thisautoidWP}}%
6140         \textquotedbl%
6141         \ifblank{#1}{}{ style=\textquotedbl#1\textquotedbl}%
6142     }%
6143 }% FormatWP
6144 {%
6145     \LWR@htmlltag{%
6146         div class=\textquotedbl#3\textquotedbl%
6147             \ifblank{#2}{}{ style=\textquotedbl#2\textquotedbl}%
6148     }%
6149 }% not FormatWP
6150 \LWR@startpars%
6151 }
6152 {\LWR@htmldivclassend{#3}}
6153
6154 \LWR@formattedenv{LWR@BlockClassWP}
6155 \end{warpHTML}

```

51.10 Closing HTML tags

for HTML output: 6156 \begin{warpHTML}

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```

6157 \newcommand*{\LWR@printclosebook}%
6158     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing book}}{}}
6159 \newcommand*{\LWR@printclosepart}%
6160     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing part}}{}}
6161 \newcommand*{\LWR@printclosechapter}%
6162     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing chapter}}{}}
6163 \newcommand*{\LWR@printclosesection}%
6164     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing section}}{}}
6165 \newcommand*{\LWR@printclosesubsection}%
6166     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
6167 \newcommand*{\LWR@printclosesubsubsection}%
6168     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsubsection}}{}}
6169 \newcommand*{\LWR@printcloseparagraph}%
6170     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing paragraph}}{}}
6171 \newcommand*{\LWR@printclosesubparagraph}%
6172     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subparagraph}}{}}

```

Lists require closing HTML tags:

```

6173 \newcommand*{\LWR@printcloselistitem}%
6174     {\LWR@htmlltag{/li}}
6175 \newcommand*{\LWR@printclosedescitem}%
6176     {\LWR@htmlltag{/dd}}
6177 \newcommand*{\LWR@printcloseitemize}%
6178     {\LWR@htmlltag{/ul}}
6179 \newcommand*{\LWR@printcloseenumerate}%

```

```

6180      {\LWR@htmltag{/ol}}
6181 \newcommand*{\LWR@printclosedescription}
6182      {\LWR@htmltag{/dl}}
6183 \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^AT_EX paragraph is being used (`\LWR@doingapar`). `\LWR@lateximagedepth` is used to prevent nesting tags inside a `\textrm`. `\LWR@spandepth` is used to prevent nesting paragraph tags inside a paragraph, which became important inside `\fbox` commands and other spans.

for HTML output: 6184 `\begin{warpHTML}`

`Ctr \LWR@spandepth` Do not create paragraph tags inside of an HTML span.

```

6185 \newcounter{\LWR@spandepth}
6186 \setcounter{\LWR@spandepth}{0}

```

`Bool \LWR@doingstartpars` Tells whether paragraphs may be generated.

```

6187 \newbool{\LWR@doingstartpars}
6188 \boolfalse{\LWR@doingstartpars}

```

`Bool \LWR@doingapar` Tells whether have actually generated and are currently processing paragraph text.

```

6189 \newbool{\LWR@doingapar}
6190 \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:

```

6191 \newcommand*{\LWR@ensuredoingapar}%
6192 \ifbool{\LWR@doingstartpars}%
6193 {\global\booltrue{\LWR@doingapar}}%
6194 {}%
6195 }

```

`\PN@parnotes@auto` Redefined by `\parnotes` to print paragraph notes at the end of each paragraph.

```

6196 \def\PN@parnotes@auto{}%

```

`\LWR@openparagraph`

```
6197 \newcommand*{\LWR@openparagraph}
6198 {%
```

See if paragraph handling is enabled:

```
6199 \ifbool{LWR@doingstartpars}%
6200 {%
  handling pars
```

See if have already started a `\teximage` or a ``. If so, do not generate nested paragraph tags.

```
6201   \ifboolexpr{
6202     test {\ifnumcomp{\value{LWR@teximagedepth}}{>}{0}} or
6203     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6204   }% nested par tags?
```

If so: Do nothing if already started a `\teximage` page. Cannot nest a `\teximage`. Also do nothing if already inside a ``. Do not nest paragraph tags inside a ``.

```
6205   {}% no nested par tags
```

Else: No `\teximage` or `` has been started yet, so it's OK to generate paragraph tags.

```
6206   {}% yes nest par tags
```

If `parnotes` is used, paragraph notes are inserted before starting the next paragraph:

```
6207   \PN@parnotes@auto%
```

The opening paragraph tag:

```
6208   \LWR@htmlltagc{\LWR@tagregularparagraph}\LWR@orignewline%
```

Now have started a paragraph.

```
6209   \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.)

```
6210   \let\par\LWR@closeparagraph%
6211   }% end of yes nest par tags
6212 }% end of handling pars
6213 {}% not handling pars
6214 }
```

`\LWR@closeparagraph@br` Add an HTML break if in a span, and not in a `\teximage`, and not in tabular metadata. Factored from `\LWR@closeparagraph`.

```
6215 \newcommand*{\LWR@closeparagraph@br}%
6216 {%
```

```

6217   \ifboolexpr{
6218     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0} and
6219     test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0} and
6220     not bool {LWR@intabularmetadata}
6221   }%
6222   {\unskip\LWR@htmltagc{br /}}%
6223   {}%
6224 }

```

\LWR@closeparagraph

```

6225 \newcommand*{\LWR@closeparagraph}{%
6226 }%
6227 % \LWR@traceinfo{\LWR@closeparagraph}%

```

See if paragraph handling is enabled:

```
6228 \ifbool{LWR@doingapar}{%
```

If currently in paragraph mode:

```
6229 {%
  handling pars
}
```

See if already started a `lateximage` or a ``:

```

6230   \ifboolexpr{
6231     test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0} or
6232     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6233   }%

```

Add a `parbreak` if in a span, not in a `lateximage`, and not in table metadata.

```

6234   {%
6235     no nested par tags
6236     \LWR@closeparagraph@br%
6237   }%
  no nested par tags

```

If have not already started a `lateximage` or a ``:

```
6237   {%
    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.)

```

6238   @hspacer{\fill}%
6239   \leavevmode\LWR@orignewline%
6240   \LWR@htmltagc{/LWR@tagregularparagraph}%

```

No longer doing a paragraph:

```
6241   \global\boolfalse{LWR@doingapar}%

```

Disable the special `minipage` & `\hspace` interaction until a new minipage is found:

```
6242     \global\boolfalse{LWR@minipagethispar}%
```

If `parnotes` is used, paragraph notes are inserted after ending the previous paragraph:

```
6243     \PN@parnotes@auto%
6244 }% end of yes nest par tags
6245 }% end of handling pars
```

Add a `parbreak` if in a span, not in a `lateximage`, and not in table metadata.

```
6246 {%
6247     \LWR@closeparagraph@br%
6248 }% not handling pars
```

In most cases, finish with a L^AT_EX `\par`, but in the case of paragraphs between lines in a tabular fetch the next token instead:

```
6249 \ifboolexpr{%
6250     not bool {LWR@doingapar} and
6251     test {\ifnumcomp{\value{LWR@tabulardepth}}{>}{0}} and
6252     test {
6253         \ifnumcomp{\value{LWR@tabulardepth}}{=}{\value{LWR@tabularpardepth}}
6254     } and
6255     bool {LWR@intabularmetadata} and
6256     not bool {LWR@tableparcell} and
6257     test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}}
6258 }%
6259 {%
6260     \LWR@getmynexttoken%
6261 }{%
6262     \LWR@origpar%
6263 }%
6264 }

6265 \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: 6266 `\begin{warpHTML}`

`\LWR@startpars` Begin handling HTML paragraphs. This allows an HTML paragraph to start, but one has not yet begun.

```
6267 \newcommand*\LWR@startpars{%
6268 {%
6269 % \LWR@traceinfo{\LWR@startpars}%
```

Ignore if inside a `\textrimage` or ``:

```
6270 \ifboolexpr{%
6271     test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
6272     test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}%
6273 }%
6274 {}%
6275 {%
```

See if currently handling `HTML` paragraphs:

```
6276 \ifbool{\LWR@doingstartpars}{%
```

If already in paragraph mode, do nothing.

```
6277 {}%
```

If not currently in paragraph mode:

```
6278 {}%
```

At the start of each paragraph, generate an opening tag:

```
6279 \PushPreHook{par}{\LWR@openparagraph}%
```

At the end of each paragraph, generate closing tag then do regular `/par` actions:

```
6280 \let\par\LWR@closeparagraph
6281
6282 }% an intentionally blank line
```

Are now handling paragraphs, but have not yet actually started one:

```
6283 \global\setbool{\LWR@doingstartpars}{true}%
```

No `<par>` tag yet to undo:

```
6284 \global\boolfalse{\LWR@doingapar}%
6285 }% nestspan
6286 % \LWR@traceinfo{\LWR@startpars: done}%
6287 }
```

`\LWR@stopars` Stop handling `HTML` paragraphs. Any currently open `HTML` paragraph is closed, and no more will be opened.

```
6288 \newcommand*\LWR@stopars{%
6289 {%
```

Ignore if inside a `\teximage` or ``:

```
6290 \ifboolexpr{  
6291     test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or  
6292     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}  
6293 }%  
6294 {}%  
6295 {}%
```

See if currently handling `HTML` paragraphs:

```
6296 \ifbool{LWR@doingapar}{%
```

if currently in an `HTML` paragraph:

```
6297 {}%
```

Print a closing tag:

```
6298 \leavevmode\LWR@orignewline%  
6299 \LWR@htmlltagc{/LWR@tagregularparagraph}%  
6300 \LWR@orignewline%
```

No longer have an open `HTML` paragraph:

```
6301 \global\boolfalse{LWR@doingapar}{%
```

Disable the special `\minipage` & `\hspace` interaction until a new `\minipage` is found:

```
6302 \global\boolfalse{LWR@minipagethispar}  
6303 }%
```

If was not in an `HTML` paragraph:

```
6304 {}%
```

See if currently allowing `HTML` paragraphs:

```
6305 \ifbool{LWR@doingstartpars}{%
```

If so: clear the `par` hook to no longer catch paragraphs:

```
6306 {\ClearPreHook{par}}%
```

Else: Do nothing:

```
6307 {}%
```

No longer in paragraph mode:

```
6308 \global\setbool{LWR@doingstartpars}{false}{%
```

No <p> tag to undo:

```
6309     \global\boolfalse{LWR@doingapar}%
6310 }% nestspan
6311 }

6312 \end{warpHTML}
```

54 Indentfirst

Pkg indentfirst indentfirst redefines \@afterindentfalse to be \@afterindenttrue. This is reversed \AtBeginDocument here.

for HTML output: 6313 \begin{warpHTML}

```
6314 \AtBeginDocument{
6315     \def\@afterindentfalse{\let\if@afterindent\iffalse}
6316     \@afterindentfalse
6317 }
6318 \let\LWR@afterindent@syntaxhighlight\fi% syntax highlighting

6319 \end{warpHTML}
```

55 Page headers and footers

for HTML & PRINT: 6320 \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.

```
6321 \newcommand{\LWR@firstpagetop}{} % for the home page alone
6322 \newcommand{\LWR@firstpagebottom}{} % for the home page alone
6323 \newcommand{\LWR@pagetop}{} % for all other pages
6324 \newcommand{\LWR@pagebottom}{}%
```

\HTMLFirstPageTop {\textit{<text and logos>}}

```
6325 \newcommand{\HTMLFirstPageTop}[1]{%
6326     \renewcommand{\LWR@firstpagetop}{#1}%
6327 }
```

\HTMLFirstPageBottom {\textit{<text and logos>}}

```
6328 \newcommand{\HTMLFirstPageBottom}[1]{%
6329     \renewcommand{\LWR@firstpagebottom}{#1}%
6330 }
```

```
\HTMLPageTop {<text and logos>}

6331 \newcommand{\HTMLPageTop}[1]{%
6332     \renewcommand{\LWR@pagetop}{#1}%
6333 }

\HTMLPageBottom {<text and logos>}

6334 \newcommand{\HTMLPageBottom}[1]{%
6335     \renewcommand{\LWR@pagebottom}{#1}%
6336 }

6337 \end{warpall}
```

56 CSS

for HTML output: 6338 \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.

```
6339 \newcommand*{\LWR@currentcss}{lwarp.css}
```

\CSSFilename {<new-css-filename.css>} Assigns the css file to be used by the following HTML pages.

```
6340 \newcommand*{\CSSFilename}[1]{%
6341 \renewcommand*{\LWR@currentcss}{#1}%
6342 @onelvel@sanitize\LWR@currentcss%
6343 }
6344
6345 \end{warpHTML}
```

for PRINT output: 6346 \begin{warpprint}
6347 \newcommand*{\CSSFilename}[1]{}
6348 \end{warpprint}

57 MathJax script

for HTML output: 6349 \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.

```
6350 \newcommand*{\LWR@mathjaxfilename}{lwarp_mathjax.txt}
```

\MathJaxFilename {*filename*} Assigns the MathJax script file to be used by the following HTML pages.

```

6351 \newcommand*{\MathJaxFilename}[1]{%
6352     \renewcommand*{\LWR@mathjaxfilename}{#1}%
6353     \@onelvel@sanitize\LWR@mathjaxfilename%
6354 }
6355
6356 \end{warpHTML}
```

for PRINT output: 6357 \begin{warpprint}
6358 \newcommand*{\MathJaxFilename}[1]{}
6359 \end{warpprint}

58 Title, HTML meta author, HTML meta description

for HTML output: 6360 \begin{warpHTML}

\title {*title*} Modified to remember \thetitle, which is used to set the HTML page titles.

```

6361 \let\LWR@origtitle\title
6362
6363 \renewcommand*{\title}[1]{%
6364     \LWR@origtitle{#1}%
6365     \begingroup%
6366         \renewcommand{\thanks}[1]{}%
6367         \protected@xdef\thetitle{#1}%
6368     \endgroup%
6369 }
```

```
6370 \end{warpHTML}
```

for HTML & PRINT: 6371 \begin{warpall}

\HTMLTitle {*TitleName*} The Title to place into an HTML meta tag. The default is to use the document \title's setting.

```

6372 \providecommand{\thetitle}{\BaseJobname}
6373
6374 \newcommand{\theHTMLTitle}{\thetitle}
6375
6376 \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.

```

6377 \providecommand{\theauthor}{}
6378
6379 \newcommand{\theHTMLAuthor}{\theauthor}
6380
6381 \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.

```
6382 \newcommand{\LWR@currentHTMLDescription}{}  
6383  
6384 \newcommand{\HTMLDescription}[1]{%  
6385 \renewcommand{\LWR@currentHTMLDescription}{#1}  
6386 }  
6387  
6388 \end{warpall}
```

59 Footnotes

lwarp uses native LATEX footnote code, although with its own \box to avoid the LATEX output routine. The usual functions mostly work as-is.

footnote numbering To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For **bigfoot**, **manyfoot**, or **perpage**:

```
\MakePerPage{footnoteX}  
— or —  
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by FootnoteDepth, which is not necessarily by HTML page. This is recommended for \alph, \Alph, or \fnsymbol footnotes, due to the limited number of symbols which are available.

-  **MathJax**, 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 `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 handled 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: 6389 `\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^AT_EX section headings.

```
6390 \newcounter{FootnoteDepth}
6391 \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.)

```
6392 \newcounter{footnoteReset}
6393 \setcounter{footnoteReset}{0}
```

```
6394 \end{warpall}
```

for HTML output: 6395 `\begin{warpHTML}`

`\LWR@footnotebox` Patch L^AT_EX 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.

```
6396 \newbox{\LWR@footnotebox}
```

Much of the following has unneeded print-mode formatting removed.

```
\@makefntext {\langle text\rangle}
```

```
6397 \long\def\@makefntext#1{\textsuperscript{\@thefnmark}~#1}
```

```
\@makefnmark
```

```
6398 \def\@makefnmark{%
6399     \textsuperscript{\@thefnmark}%
6400 }
```

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`.

```
6401 \long\def\LWR@@footnotetext#1#2{%
6402 \LWR@traceinfo{\LWR@footnotetext}%
6403 \global\setbox\csname #2\endcsname=\vbox{%
```

Add to any current footnotes:

```
6404 \unvbox\csname #2\endcsname%
```

Remember the footnote number for `\ref`:

```
6405 \protected@edef@\currentlabel{%
6406 \csname p@footnote\endcsname\@thefnmark%
6407 }% @currentlabel
```

Open a group:

```
6408 \color@begingroup%
```

Disable CJK `xpinyin` while generating footnotes.

```
6409 \LWR@disablepinyin%
```

Use `HTML` superscripts in the footnote even when the main text is inside a `lateximage`, because the footnote will be in `HTML`:

```
6410 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
6411 \ifthenelse{%
6412 \boolean{\LWR@doingstartpars} \AND%
6413 \cnttest{\value{\LWR@lateximagedepth}}{=}{0}%
6414 }%
6415 {}%
6416 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
```

Append the footnote to the list:

```
6417 \makefntext{#1}%
```

Closing paragraph tag:

```
6418 \ifthenelse{%
6419 \boolean{\LWR@doingstartpars} \AND%
6420 \cnttest{\value{\LWR@lateximagedepth}}{=}{0}%
6421 }%
6422 {\par}%
6423 {}%
6424 {\LWR@htmltagc{/}\LWR@tagregularparagraph}%
```

```

6425           \LWR@orignewline%
6426       }%

```

Close the group:

```

6427     \color@endgroup%
6428 }% vbox

```

Paragraph handling:

```

6429 \LWR@ensuredoingapar%
6430 }%

```

```

\LWR@footnotetext {<text>}

6431 \long\def\LWR@footnotetext#1{\LWR@@footnotetext{#1}{\LWR@footnotebox} }

@footnotetext {<text>}

6432 \LetLtxMacro{@footnotetext}{\LWR@footnotetext}

```

59.5 Minipage footnote implementation

Patch L^AT_EX 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.

```
6433 \newbox{\LWR@mpfootnotes}
```

```

@mpfootnotetext {<text>}

6434 \long\def{@mpfootnotetext#1}{%
6435 \LWR@traceinfo{@mpfootnotetext}%
6436 \global\setbox{\LWR@mpfootnotes}\vbox{%
6437   \unvbox{\LWR@mpfootnotes}%
6438   \reset@font\footnotesize%
6439   \hsize\columnwidth%
6440   \parboxrestore%
6441   \protected\edef{\currentlabel}%
6442     {\csname p@mpfootnote\endcsname\@thefnmark}%
6443   \color@begingroup%

```

Use paragraph tags if in a tabular data cell or a lateximage:

```

6444 \ifthenelse{%
6445   \boolean{\LWR@doingstartpars} \AND%
6446   \cnttest{\value{\LWR@lateximagedepth}}{=}{0}%
6447 }%
6448 {}%
6449 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%

```

```

6450     \makefntext{%
6451         \ignorespaces#1%
6452     }%

```

Don't add the closing paragraph tag if are inside a `\textrimage`:

```

6453     \ifthenelse{\cnttest{\value{LWR@lateximagedepth}}{>}{0}}{%
6454         {}%
6455         {%
6456             \leavevmode\orignewline%
6457             \origtagc{\origregularparagraph}%
6458             \origpar%
6459         }%
6460         \color@endgroup%
6461     }% vbox

```

Paragraph handling:

```

6462 \ensuredoingapar%
6463 \traceinfo{@mpfootnotetext: done}%
6464 }

```

`\thempfootnote` Redefined to remove the `\itshape`, which caused an obscure compiling error in some situations.

```

6465 \AtBeginDocument{%
6466     \def\thempfootnote{\alph{mpfootnote}}
6467 }

```

59.6 Printing pending footnotes

`\LWR@printpendingfootnotes {<footnote counter name>}`

```

6468 \newcommand*{\LWR@printpendingfootnotes}[1]{%
6469 \expandafter\ifvoid\csname LWR@#1box\endcsname\else
6470     \LWR@forcenewpage
6471     \begin{BlockClass}{footnotes}
6472     \null
6473     \unvbox\csuse{LWR@#1box}
6474     \setbox\csuse{LWR@#1box}=\vbox{%
6475     \end{BlockClass}
6476     \ifltxcounter{#1Reset}{%
6477         \ifnumgreater{\value{#1Reset}}{0}{%
6478             \setcounter{#1}{\value{#1Reset}}%
6479             \addtocounter{#1}{-1}%
6480         }%
6481     }%
6482 \fi
6483 }

```

\LWR@printpendingfootnotes Enclose the footnotes in a class, print, then clear. For `manynotes`, new footnotes may be added via `\appto`.

```
6484 \newcommand*{\LWR@printpendingfootnotes}{%
6485     \LWR@@printpendingfootnotes{footnote}%
6486 }
```

\LWR@maybeprintpendingfootnotes {*<depth>*} Used to print footnotes before sections only if formatting for an EPUB or word processor:

```
6487 \newcommand*{\LWR@maybeprintpendingfootnotes}[1]{%
6488 \ifboolexpr{%
6489     not test{\ifnumcomp{#1}{>}{{\value{FootnoteDepth}}}} or
6490     bool{FormatEPUB} or
6491     bool{FormatWP}%
6492 }%
6493 {\LWR@printpendingfootnotes}%
6494 {}%
6495 }
```

\LWR@printpendingmpfootnotes Enclose the minipage footnotes in a class, print, then clear.

```
6496 \newcommand*{\LWR@printpendingmpfootnotes}{%
6497 \ifvoid\LWR@mpfootnotes\else
6498     \LWR@forcenewpage
6499     \begin{BlockClass}{footnotes}
6500         \null
6501         \unvbox\LWR@mpfootnotes
6502         \setbox\LWR@mpfootnotes=\vbox{%
6503             \end{BlockClass}%
6504 \fi
6505 }

6506 \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 `
` tags.

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

for HTML output: 6507 `\begin{warpHTML}`

\marginpar [⟨left⟩] {⟨right⟩}

```
6508 \renewcommand{\marginpar}[2][]{%
6509 \ifbool{FormatWP}{%
6510 {%
6511 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{}{marginblock}%
6512 #2
6513 \end{LWR@BlockClassWP}
6514 }%
6515 {%
6516 \LWR@htmlspanclass{marginpar}{#2}%
6517 }%
6518 }
```

\marginparBlock [⟨left⟩] {⟨right⟩}

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

HTML version.

```
6519 \newcommand{\marginparBlock}[2][]{%
6520 \LWR@stoppars%
6521 \ifbool{FormatWP}{%
6522 {%
6523 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{}{marginblock}%
6524 #2
6525 \end{LWR@BlockClassWP}
6526 }%
6527 \begin{BlockClass}[width:2in; float:right; margin:10pt]{marginparblock}%
6528 #2
6529 \end{BlockClass}
6530 }%
6531 \LWR@startpars%
6532 }
```

\reversemarginpar

```
6533 \renewcommand*{\reversemarginpar}{}{}
```

\normalmarginpar

```
6534 \renewcommand*{\normalmarginpar}{}{}
```

```
6535 \end{warpHTML}
```

for PRINT output: 6536 \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.

6537 \LetLtxMacro\marginparBlock\marginpar

6538 \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: 6539 \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.

6540 \newcounter{FileDepth}
6541 \setcounter{FileDepth}{-5}

`Bool CombineHigherDepths` Comile higher-level sections together into one file?

6542 \newbool{CombineHigherDepths}
6543 \booltrue{CombineHigherDepths}

`\FilenameLimit` Maximum length of the generated filenames.

6544 \newcommand*\{\FilenameLimit}{80}

6545 \end{warpall}

for HTML output: 6546 \begin{warpHTML}

`\LWR@thisfilename` The currently-active filename or number. At first, this is the homepage.

6547 \AtBeginDocument{
6548 \ifbool{FileSectionNames}{%
6549 {\newcommand*\{\LWR@thisfilename}{\HomeHTMLfilename}}
6550 {\newcommand*\{\LWR@thisfilename}{\emptyset}}
6551 }}

`\LWR@thisnewfilename` The filename being sanitized.

6552 \newcommand*\{\LWR@thisnewfilename}{}

\LWR@simplifyname * {*expression*} Simplify \LWR@thisfilename.

If starred, detokenizes the input expression. If found, changes the expression to a single detokenized dash.

```

6553 \NewDocumentCommand{\LWR@simplifyname}{s m}{%
6554 \IfBooleanTF{#1}{%
6555   \StrSubstitute{\LWR@thisfilename}%
6556   {\detokenize{#2}}%
6557   {\detokenize{-}}[\LWR@thisfilename]%
6558 }{%
6559   \StrSubstitute{\LWR@thisfilename}%
6560   {#2}%
6561   {\detokenize{-}}[\LWR@thisfilename]%
6562 }%
6563 }
```

\LWR@simplifycustom User-defined filename simplifications. Redefine with \newcommand.

```
6564 \newcommand*{\LWR@simplifycustom}{}%
```

\FilenameSimplify * {*phrase*} Assign a user-defined filename simplification. Appends to \LWR@simplifycustom.

```

6565 \NewDocumentCommand{\FilenameSimplify}{s m}{%
6566 \IfBooleanTF{#1}{%
6567   \appto{\LWR@simplifycustom}{%
6568     \LWR@simplifyname*{#2}}%
6569   }%
6570 }{%
6571   \appto{\LWR@simplifycustom}{%
6572     \LWR@simplifyname{#2}}%
6573   }%
6574 }%
6575 }
```

\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.

```

6576 \newcommand*{\LWR@avoiddupfilenames}{%
6577   To avoid duplicate filenames, use the optional\MessageBreak
6578   short Table of Contents entry:\MessageBreak
6579   \space\space\protect\section[Unique name, no math]{Name with math}%
6580   \MessageBreak
6581   or use \protect\texorpdfstring, from the hyperref package:\MessageBreak
6582   \space\space%
6583   \protect\section{\MessageBreak
6584     \space\space\space\space\protect\texorpdfstring\MessageBreak
6585     \space\space\space\space\space\space\space\%%
6586     {Name with math}{Unique name, no math}\MessageBreak
6587   \space\space}%
6588 }
```

```
\LWR@filenamenoblanks {<filename>}
```

Convert blanks into dashes, removes short words, store result in
`\LWR@thisfilename`.

Also see `\LWR@nullfonts` for nullified macros.

```
6589 \newcommand*{\LWR@filenamenoblanks}[1]{%
6590 \begingroup
```

Locally temporarily disable direct-formatting commands, not used in filenames:

```
6591 \LWR@nullfonts%
6592 \renewcommand*{\LWR@htmllagc}[1]{}%
```

```
6593 \edef\LWR@thisnewfilename{#1}%
```

Replaces common macros with hyphens. (`\&` is done by `\LWR@nullfonts`.)

```
6594 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%
6595 \LWR@simplifyname{\_}
6596 \LWR@simplifyname{\#}
6597 \LWR@simplifyname{\textbackslash}
6598 \LWR@simplifyname{\protect}
6599 \LWR@simplifyname{\ }
6600 \LWR@simplifyname{\textless}
6601 \LWR@simplifyname{\textgreater}
```

```
6602 \edef\LWR@thisnewfilename{\detokenize\expandafter{\LWR@thisnewfilename}}%
```

Warn if there is dollar math in the section name:

```
6603 \ifbool{FileSectionNames}{%
6604   \IfSubStr{\LWR@thisnewfilename}{\LWRdollar}{%
6605     \PackageWarning{lwarf}%
6606     {%
6607       This section name:\MessageBreak
6608       \space\space``\detokenize\expandafter{\#1}''\MessageBreak
6609       at the line number listed below,\MessageBreak
6610       is using $dollar-delimited math$,
6611       which generates\MessageBreak
6612       complicated file names. It is better to use\MessageBreak
6613       \space\space%
6614       \protect\section{Name with \protect\left( parenthesis math\protect\right)}%
6615       \MessageBreak
6616       The math then will be removed from the file name.\MessageBreak
6617       \MessageBreak
6618       \LWR@avoiddupfilenames%
6619       \MessageBreak
6620       This section is found before or%
6621     }%
6622   }{}%
6623 }{}}
```

```
6624 \LWR@traceinfo{\LWR@filenamenoblanks edef: !\LWR@thisnewfilename! }%
6625 \fullexpandarg%
```

Convert spaces into hyphens:

```
6626 \LWR@simplifyname*{ }
```

Convert punctuation into hyphens:

```
6627 \LWR@simplifyname*{*}
6628 \LWR@simplifyname*{()}
6629 \LWR@simplifyname*{}}
6630 \LWR@simplifyname*{.}
6631 \LWR@simplifyname*{!}
6632 \LWR@simplifyname*{,}
6633 \LWR@simplifyname*{'}
6634 \LWR@simplifyname*{+}
6635 \LWR@simplifyname*{/}
6636 \LWR@simplifyname*{:}
6637 \LWR@simplifyname*{;}
6638 \LWR@simplifyname*{=}
6639 \LWR@simplifyname*{?}
6640 \LWR@simplifyname*{@}
6641 \LWR@simplifyname*{^}
6642 \LWR@simplifyname*{&}
6643 \LWR@simplifyname*{"}
6644 \LWR@simplifyname*{<}
6645 \LWR@simplifyname*{>}
```

```
6646 \LWR@simplifyname{\LWRbackslash}
```

Braces are removed entirely to avoid extra dashes in the result.

```
6647 \StrSubstitute{\LWR@thisnewfilename}%
6648     {\LWRleftbrace}{\LWRrightbrace}[\LWR@thisnewfilename]%
6649 \StrSubstitute{\LWR@thisnewfilename}%
6650     {\LWRrightbrace}[\LWR@thisnewfilename]%

6651 \LWR@simplifyname{\LWRpercent}
6652 \LWR@simplifyname{\LWRdollar}

6653 \LWR@simplifyname*{[]}
6654 \LWR@simplifyname*{^}
6655 \LWR@simplifyname*{~}
6656 \LWR@simplifyname*{[]}
6657 \LWR@simplifyname*{[]}
6658 \LWR@simplifyname*{`}
```

Convert short words:

```
6659 \LWR@simplifyname*{-s-}
6660 \LWR@simplifyname*{-S-}
6661 \LWR@simplifyname*{-a-}
```

```

6662 \LWR@simplifyname*{-A-}
6663 \LWR@simplifyname*{-an-}
6664 \LWR@simplifyname*{-AN-}
6665 \LWR@simplifyname*{-to-}
6666 \LWR@simplifyname*{-TO-}
6667 \LWR@simplifyname*{-by-}
6668 \LWR@simplifyname*{-BY-}
6669 \LWR@simplifyname*{-of-}
6670 \LWR@simplifyname*{-OF-}
6671 \LWR@simplifyname*{-and-}
6672 \LWR@simplifyname*{-AND-}
6673 \LWR@simplifyname*{-for-}
6674 \LWR@simplifyname*{-FOR-}
6675 \LWR@simplifyname*{-the-}
6676 \LWR@simplifyname*{-THE-}

```

Convert custom words:

```
6677 \LWR@simplifycustom%
```

If pdflATEX and not utf8 encoding, don't try to convert emdash, endash:

```

6678 \ifPDFTeX% pdflatex or dvi latex
6679 \ifdefstring{\inputencodingname}{utf8}{%
6680     \LWR@simplifyname*{-}
6681 %     emdash
6682     \LWR@simplifyname*{-}
6683 %     endash
6684 }{}%
6685 \else% not PDFTeX
6686     \LWR@simplifyname*{-}
6687     \LWR@simplifyname*{-}
6688 \fi%

```

Convert multiple hyphens:

```

6689 \LWR@simplifyname*{----}
6690 \LWR@simplifyname*{---}
6691 \LWR@simplifyname*{--}
6692 \LWR@simplifyname*{--}

```

If starts with a dash, remove the leading dash:

```

6693 \IfBeginWith{\LWR@thisnewfilename}{\detokenize{-}}{%
6694     \StrGobbleLeft{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
6695 }{}%

```

If ends with a dash, remove the trailing dash:

```

6696 \IfEndWith{\LWR@thisnewfilename}{\detokenize{-}}{%
6697     \StrGobbleRight{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
6698 }{}%

```

Limits the length of the filename:

```
6699 \StrLeft{\LWR@thisfilename}{\FilenameLimit}[\LWR@thisfilename]%
```

Return the global result:

```
6700 \global\let\LWR@thisfilename\LWR@thisfilename%
6701 \endgroup%
6702 \LWR@traceinfo{\LWR@filenamenoblanks: result is \LWR@thisfilename}%
6703 }
```

`\LWR@previousautopagelabel` Ctr Remembers which autopage label was most recently generated. Used to avoid duplicates.

```
6704 \newcounter{\LWR@previousautopagelabel}
6705 \setcounter{\LWR@previousautopagelabel}{-1}
```

File `*_html.aux` A new entry in the `*_html.aux` file is used to help cross-references:

```
\newlabel{autopause-<nnn>}{{<x>}{<y>}}
```

`\LWR@newautopagelabel` *{⟨pagenumber counter⟩}*

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```
6706 \newcommand*{\LWR@newautopagelabel}[1]{%
6707 \ifnumequal{\value{\LWR@previousautopagelabel}}{\value{page}}{%
6708 {}% no action if this autopage label has already been defined
6709 {}%
6710 \label{\BaseJobname-autopause-\arabic{#1}}%
6711 \setcounter{\LWR@previousautopagelabel}{\value{page}}%
6712 }%
6713 }
```

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` *{⟨search⟩} {⟨replace⟩}*

Replaces strings inside `\tmpb`.

Modified from the original by PETR OLSAK, from the `opmac` package.

```
6714 \bgroup
6715 \catcode`!=3 \catcode`?=3
6716
6717 \long\gdef\LWR@replacestrings@addto#1#2{%
```

```

6718     \expandafter\def\expandafter#1\expandafter{#1#2}%
6719 }
6720
6721 \gdef\LWR@replacesstrings#1#2{%
6722     \long\def\LWR@replacesstringsA##1{\def\tmpb{##1}\LWR@replacesstringsB}%
6723     \long\def\LWR@replacesstringsB##1#1{%
6724         \ifx!##1\relax \else\LWR@replacesstrings@addto\tmpb{##2##1}%
6725             \expandafter\LWR@replacesstringsB\fi%
6726     }% improved version <May 2016> inspired
6727     \expandafter\LWR@replacesstringsA\tmpb?#1!#1% from pysyntax.tex by Petr Krajnik
6728     \long\def\LWR@replacesstringsA##1?{%
6729         \def\tmpb{##1}%
6730     }\expandafter\LWR@replacesstringsA\tmpb%
6731 }
6732 \egroup

```

\LWR@subHTMLsanitize \LWR@strresult must first be set by \LWR@HTMLsanitize, \LWR@HTMLsanitizeexpand, or \CustomizeMathJax.

```

6733 \catcode`\#=12
6734 \catcode`\&=12
6735 \newcommand{\LWR@subHTMLsanitize}{%

```

The &, <, and > may be interpreted by the browser:

```

6736     \edef\tmpb{\detokenize\expandafter{\LWR@strresult}}%
6737     \LWR@replacesstrings{&}{&}%
6738     \LWR@replacesstrings{<}{<}%
6739     \LWR@replacesstrings{>}{>}%

```

The quotes occasionally causes problems.

```

6740     \LWR@replacesstrings{"}{"}%
6741     \LWR@replacesstrings{'}{'}%
6742     \LWR@replacesstrings{'}{`}

```

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.

```

6743     \LWR@replacesstrings{##}{#}%
6744     \edef\LWR@strresult{\detokenize\expandafter{\tmpb}}%
6745 }
6746 \catcode`\#=6
6747 \catcode`\&=4

```

\LWR@HTMLsanitize {*text*}

```
6748 \newrobustcmd{\LWR@HTMLsanitize}[1]{%
```

Cancel French **babel** character handling, and fully expand the strings:

```

6749 \begingroup%
6750 \LWR@FBcancel%
6751 \edef\LWR@strresult{\detokenize{#1}}%
6752 \LWR@subHTMLsanitize%
6753 \LWR@strresult%
6754 \endgroup%
6755 }

```

\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.

```

6756 \edef\LWR@beginspaceleftbrace{\begin \LWRleftbrace}
6757 \edef\LWR@beginspaceleftbrace{\detokenize\expandafter{\LWR@beginspaceleftbrace}}
6758 \edef\LWR@beginleftbrace{\begin\LWRleftbrace}
6759 \edef\LWR@beginleftbrace{\detokenize\expandafter{\LWR@beginleftbrace}}
6760
6761 \edef\LWR@endspacerrightbrace{\end \LWRrightbrace}
6762 \edef\LWR@endspacerrightbrace{\detokenize\expandafter{\LWR@endspacerrightbrace}}
6763 \edef\LWR@endrightbrace{\end\LWRrightbrace}
6764 \edef\LWR@endrightbrace{\detokenize\expandafter{\LWR@endrightbrace}}
6765
6766 \newrobustcmd{\LWR@HTMLsanitizeexpand}[1]{%

```

Cancel French **babel** character handling, and fully expand the strings:

```

6767 \begingroup%
6768 \LWR@FBcancel%

```

The difference between this and \LWR@HTMLsanitize (without “expand”) is the following \expandafter:

```
6769 \edef\LWR@strresult{\detokenize\expandafter{#1}}%
```

The math expression may includes spaces between tokens, but MATHJAX does not want a space between \begin or \end and the following brace. This space is removed here.

```

6770 \protect\StrSubstitute{\LWR@strresult}%
6771   {\LWR@beginspaceleftbrace}{\LWR@beginleftbrace}[\LWR@strresult]%
6772 \protect\StrSubstitute{\LWR@strresult}%
6773   {\LWR@endspacerrightbrace}{\LWR@endrightbrace}[\LWR@strresult]%
6774
6775 \LWR@subHTMLsanitize%
6776 \LWR@strresult%
6777 \endgroup%
6778 }

```

61.2 Customizing MATHJAX

\LWR@customizedMathJax Additional MATHJAX definitions to be added to the start of each HTML page.

```
6778 \newcommand*\LWR@customizedMathJax{}
```

Bool Used to issue only one warning about using a \CustomizeMathJax per macro.

```
LWR@warnedcustomizemathjax
6779 \newbool{LWR@warnedcustomizemathjax}
6780 \boolfalse{LWR@warnedcustomizemathjax}
```

\LWR@subcustomizedmathjax {*macro definition*}

```
6781 \newcommand*\LWR@subcustomizedmathjax[1]{%
6782     \begingroup%
6783     \LWR@FBcancel%
6784     \edef\LWR@strresult{\detokenize{\#1}}%
6785     \LWR@subHTMLsanitize%
6786     \xdef\LWR@customizedMathJax{%
6787         \LWR@customizedMathJax%
6788         \LWR@strresult%
6789     }%
6790     \endgroup%
6791 }
6792 \@onlypreamble\LWR@subcustomizedmathjax
```

\CustomizeMathJax {*macro definition*}

A warning is issued if a very long argument is given.

```
6793 \newcommand*\CustomizeMathJax[1]{%
6794     \ifbool{LWR@warnedcustomizemathjax}{}{%
6795         \StrLen{\detokenize{\#1}}[\LWR@tempone]%
6796         \ifnumgreater{\LWR@tempone}{200}{%
6797             \AtEndDocument{%
6798                 \PackageWarningNoLine{lwarp}{%
6799                     To ensure faster MathJax compilation, place each\MessageBreak
6800                     custom macro in its own \protect\CustomizeMathJax.\MessageBreak
6801                     See the Lwarp documentation regarding customizing\MessageBreak
6802                     MathJax%
6803                 }%
6804             }%
6805             \booltrue{LWR@warnedcustomizemathjax}%
6806         }{}%
6807     }%
6808     \appto{\LWR@customizedMathJax{\LWRbackslash}{}}%
6809     \LWR@subcustomizedmathjax{\#1}%
6810     \appto{\LWR@customizedMathJax{\LWRbackslash}\par}{}
6811 }
6812 \@onlypreamble\CustomizeMathJax
```

```
\LWR@infoprocessingmathjax {⟨package name⟩}

6813 \newcommand*{\LWR@infoprocessingmathjax}[1]{%
6814 \typeout{---}
6815 \typeout{Package lwarp: Processing MathJax customizations for #1.}
6816 \typeout{\space\space This may take a moment.}
6817 \typeout{---}
6818 }
```

defaults Default customizations:

In the MATHJAX code, footnotes are only referenced. For equations, they are also generated in the HTML when the L^AT_EX 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^AT_EXin \LWR@doendequation.

First, \footnotename for MATHJAX is copied from L^AT_EX.

```
6819 \providecommand{\footnotename}{footnote}
6820
6821 % due to warpMathJax:
6822 \end{warpHTML}
6823
6824 \begin{warpMathJax}
6825 \xdef\LWR@customizedMathJax{\LWR@customizedMathJax%
6826     \LWRbackslash(%
6827     \LWRbackslash{}newcommand%
6828     \{\LWRbackslash{}footnotename\}%
6829     \{\footnotename\}%
6830     \LWRbackslash)\par%
6831 }
6832 \end{warpMathJax}
```

\LWRfootnote is set per equation if a footnote is detected in the equation's math expression, otherwise it defaults to \footnotename.

```
6833 \begin{warpMathJax}
6834 \CustomizeMathJax{\def\LWRfootnote{1}}
6835 \CustomizeMathJax{\newcommand{\footnote}[2][\LWRfootnote]{{}^{\mathrm{\#1}}}}
6836 \CustomizeMathJax{\newcommand{\footnotemark}[1][\LWRfootnote]{{}^{\mathrm{\#1}}}}
```

Various other customizations:

```
6837 \CustomizeMathJax{\newcommand\ensuremath[1]{#1}}
6838 \CustomizeMathJax{%
6839     \newcommand{\LWRframebox}[2][]{\fbox{#2}}
6840     \newcommand{\framebox}[1][]{\LWRframebox}
6841 }
6842 \CustomizeMathJax{\newcommand{\setlength}[2]{}}
6843 \CustomizeMathJax{\newcommand{\addtolength}[2]{}}
6844 \CustomizeMathJax{\newcommand{\setcounter}[2]{}}
```

```

6845 \CustomizeMathJax{\newcommand{\addtocounter}{2}{}}
6846 \CustomizeMathJax{\newcommand{\cline}[1]{}}
6847 \CustomizeMathJax{\newcommand{\directlua}[1]{\text{(directlua)}}}
6848 \CustomizeMathJax{\newcommand{\luatexdirectlua}[1]{\text{(directlua)}}}

\protect, \mathchar, and \delimiter are silently discarded; and \mathcode and
\delcode are ignored.

6849 \CustomizeMathJax{\newcommand{\protect}{}}
6850 \CustomizeMathJax{\def\LWRabsorbnr{\#1 {}}}
6851 \CustomizeMathJax{\def\LWRabsorbqtnr{\#1 {}}}
6852 \CustomizeMathJax{\def\mathchar{\ifnextchar"\LWRabsorbqtnr\LWRabsorbnr}}
6853 \CustomizeMathJax{\def\mathcode{\#1=\mathchar}}
6854 \CustomizeMathJax{\let\delcode\mathcode}
6855 \CustomizeMathJax{\let\delimiter\mathchar}
6856 \end{warpMathJax}
6857
6858 \begin{warpHTML}% due to warpMathJax

```

\LWR@customizeMathJax Prints MathJax commands to the HTML output.

```

6859 \newcommand{\LWR@customizeMathJax}{%
6860 \ifbool{mathjax}{%
6861 \LWR@stopars
6862 \LWR@htmlcomment{MathJax customizations:}
6863
6864 \begin{BlockClass}{hidden}
6865 \LWR@stopars

```

Avoid ligatures while printing MATHJAX customizations:

```

6866 {
6867     \LWR@print@ttfamily
6868     \LWR@customizedMathJax
6869 }
6870 \LWR@startpars
6871 \end{BlockClass}
6872
6873 \LWR@startpars
6874 }{%
6875 }

6876 \end{warpHTML}

```

for PRINT output: 6877 \begin{warpprint}

\CustomizeMathJax The print-mode version:

```

6878 \newcommand*{\CustomizeMathJax}[1]{}
6879 \FilenameSimplify * {\langle expression \rangle}

```

6879 \NewDocumentCommand{\FilenameSimplify}{s m}{}{}

6880 \end{warpprint}

for HTML output: 6881 \begin{warpHTML}

\LWR@createfooter If specified, create the first or later web page footer.

```
6882 \newcommand*{\LWR@createfooter}{%
6883     \ifnumless{\value{LWR@htmleqfilenumber}}{1}{%
6884         \ifdefempty{\LWR@firstpagebottom}{%
6885             \LWR@htmlelement{footer}%
6886             \LWR@firstpagebottom%
6887             \LWR@htmlelementend{footer}%
6888         }%
6889     }{%
6890         \ifdefempty{\LWR@pagebottom}{%
6891             \LWR@htmlelement{footer}%
6892             \LWR@pagebottom%
6893             \LWR@htmlelementend{footer}%
6894         }%
6895     }%
6896 }
```

\LWR@newhtmlfile {*<section name>*}

Finishes the current HTML page with footnotes, footer, navigation, then starts a new HTML page with an HTML comment telling where to split the page and what the new filename and css are, then adds navigation, side toc, header, and starts the text body.

```
6901 \newcommand*{\LWR@newhtmlfile}[1]{%
6902 \LWR@traceinfo{\LWR@newhtmlfile}}
```

At the bottom of the ending file:

```
6903 \LWR@htmlelementclassend{section}{textbody}%
6904 \LWR@htmlelementclassend{div}{bodycontainer}%
6905 \LWR@htmlelementclassend{div}{bodyandsidetoc}%
6906 %
6907 \LWR@printpendingfootnotes%
6908 %
```

No footer between files if EPUB:

```
6909 \ifbool{FormatEPUB}{}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

```

6910 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
6911   {}
6912   {\ifnumcomp{\value{LWR@htmlfilename}}{>}{0}{\LWR@botnavigation}{}}

```

End of this HTML file:

```

6913 \LWR@stoppars
6914 \LWR@htmlltag{/body}\LWR@orignewline
6915 \LWR@htmlltag{/html}\LWR@orignewline
6916 \LWR@traceinfo{\LWR@newhtmlfile: about to \LWR@orignewline}
6917 \LWR@maybe@orignewline

6918 \addtocounter{\LWR@htmlfilename}{1}%
6919 \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.

```

6920 \ifbool{FileSectionNames}%
6921 {%

```

Convert the section name to a filename with blanks and common words removed. The resulting filename is in \LWR@thisfilename.

```

6922 \LWR@filenamenoblanks{#1}%

```

Create a macro name from the MD5 hash of the file name, to detect duplicates:

```

6923 \edef\LWR@hashedname{\LWR@mdfive{\LWR@thisfilename}}%

```

If the macro name is not yet defined, this filename is unique.

```

6924 \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.

```

6925 \csdef{\LWR@filename\LWR@hashedname}{}%
6926 }{%

```

If the filename is not unique, create an error.

```

6927 \PackageError{lwarp}%
6928   {%
6929     The section name:\MessageBreak
6930     '#1',\MessageBreak
6931     at the line number listed below,\MessageBreak
6932     generates the filename\MessageBreak
6933     '\LWR@thisfilename',\MessageBreak

```

```

6934           which appears to be a duplicate. There is a\MessageBreak
6935           previous section with an identical or similar name.\MessageBreak
6936           While generating file names, Lwarp sanitizes math,\MessageBreak
6937           most symbols, and a few common short words,\MessageBreak
6938           and this may cause a conflict.\MessageBreak
6939           Enter 'H' for possible solutions%
6940       }%
6941   {%
6942       \LWR@avoiddupfilenames%
6943   }%
6944 }%
6945 }%

```

If using file numbers instead of names, the name is set to the next file number.

```
6946 {\renewcommand*{\LWR@thisfilename}{\arabic{LWR@htmlfilename}}}
```

Include an HTML comment to instruct lwarpmk where to split the files apart. Uses pipe-separated fields for `split_html.gawk`. Uses monospaced font with ligatures disabled for everything except the title.

```
6947 \LWR@traceinfo{\LWR@newhtmlfile: about to print start file}%


```

\LWR@nullfonts to allow math in a section name.

```

6948 \begingroup%
6949 \LWR@nullfonts%
6950 \LWR@htmlblockcomment{%
6951 |Start file|%
6952 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
6953 }
6954 \endgroup%

```

At the top of the starting file:

```
6955 \LWR@stopars
6956
```

Start a new file with the given section name:

```
6957 \LWR@filestart[#1]
6958
```

Track the PDF page numbers of the HTML output:

```
6959 \setcounter{\LWR@latestautopage}{\value{page}}%
6960 \LWR@newautopagelabel{\LWR@latestautopage}%
```

No navigation between files if formatting for an EPUB or word processor:

```

6961 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
6962   {}
6963   {\LWR@topnavigation}
6964
```

No header if between files if formatting for an EPUB or word processor:

```

6965 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
6966     {}
6967     {

6968         \ifdefempty{\LWR@pagetop}{}{
6969             \LWR@htmlelement{header}
6970
6971             \LWR@pagetop
6972
6973             \LWR@htmlelementend{header}
6974         }
6975     }
6976

```

The container for the sidetoc and text body:

```
6977 \LWR@htmlelementclass{div}{bodyandsidetoc}
```

No sidetoc if formatting for an EPUB or word processor:

```

6978 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
6979     {}
6980     {\LWR@sidetoc}
6981

```

Start of the <textbody>:

```

6982 \LWR@htmlelementclass{div}{bodycontainer}
6983 \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.

```
6984 \boolfalse{\LWR@setseqfilelabel}
```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```

6985 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}%
6986     {}%
6987     {%
6988         \ifcsvvoid{thetitle}{}{%
6989             \LWR@printthetitle%
6990         }%
6991     }%

```

Keep paragraph tags disabled for now:

```

6992 \LWR@stoppars
6993

```

If using MATHJAX, print the customizations here.

```

6994 \LWR@customizeMathJax

6995 \LWR@traceinfo{\LWR@newhtmlfile: done}
6996 }

6997 \end{warpHTML}

```

62 Sectioning

Sectioning and cross-references have been emulated from scratch, rather than try to patch several layers of existing L^AT_EX 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^EL^AT_EX and LuaL^AT_EX directly support accented section and file names, but it may be necessary to use L^AT_EX accents instead of native Unicode accents. L^AT_EX 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: 6998 \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.

```

6999 \newbool{\LWR@forcinghtmlpage}
7000 \boolfalse{\LWR@forcinghtmlpage}
7001
7002 \newcommand*{\ForceHTMLPage}{%
7003 \global\booltrue{\LWR@forcinghtmlpage}%
7004 }

```

- \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.

```

7005 \newbool{LWR@forcinghtmtoc}
7006 \boolfalse{LWR@forcinghtmtoc}
7007
7008 \newcommand*{\ForceHTMLTOC}{%
7009 \global\booltrue{LWR@forcinghtmtoc}%
7010 }

7011 \end{warpHTML}

for PRINT output: 7012 \begin{warpprint}
7013 \newcommand*{\ForceHTMLPage}{}%
7014 \newcommand*{\ForceHTMLTOC}{}%
7015 \end{warpprint}

for HTML output: 7016 \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.

```

7017 \newbool{LWR@mainmatter}
7018 \DeclareDocumentCommand{\mainmatter}{}{%
7019 \booltrue{LWR@mainmatter}%
7020 }

```

`\frontmatter` Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```

7021 \DeclareDocumentCommand{\frontmatter}{}{%
7022 \boolfalse{LWR@mainmatter}%
7023 }

```

`\backmatter` Declare the back matter section of the document. Does not reset the page number.

```

7024 \DeclareDocumentCommand{\backmatter}{}{%
7025 \boolfalse{LWR@mainmatter}%
7026 }

```

62.3 Sectioning support macros

`\LWR@sectionnumber {<section type>}`

Typeset a section number and its trailing space with css formatting:

```

7027 \newcommand*{\LWR@sectionnumber}[1]{%
7028 \InlineClass{sectionnumber}{#1}%
7029 }

```

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.

```
7030 \newcommand*{\LWR@createautosec}[1]{%
7031 \LWR@htmltag{%
7032     #1 % space
7033     id=\textquotedbl\LWR@print@mbox{autosec-\arabic{page}}\textquotedbl%
7034 }%
7035 }
```

\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.

```
7036 \NewDocumentCommand{\LWR@pushoneclose}{m}{%
7037 \LWR@traceinfo{\LWR@pushoneclose #1}%
7038     \LWR@pushclose{#1}%
7039 }
```

\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.

```
7040 \NewDocumentCommand{\LWR@startnewdepth}{m}{%
```

Close any stacked sections up to this new one.

```
7041 \LWR@closeprevious{#1}%
```

Push a new section depth:

```
7042 \LWR@pushoneclose{#1}%
7043 }
```

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.

```
7044 \newcounter{LWR@prevFileDepth}
7045 \setcounter{LWR@prevFileDepth}{\LWR@depthsubparagraph}
```

\@secCntFormat {<sectiontype>}

7046 \def\@secCntFormat#1{\csname the#1\endcsname\quad}

\simpleChapterDelim Used by `tocbibind` and `anonchap`.

7047 \newcommand*\simpleChapterDelim{}

\@chapCntFormat {<sectiontype>}

\let to \@secCntFormat by default, but may be redefined by `\simplechapter` and `\restorechapter` from `tocbibind` or `anonchap`.

7048 \let\@chapCntFormat\@secCntFormat

\@partCntFormat {<sectiontype>}

\let to \@secCntFormat by default, but may be redefined by `ctex`.

7049 \let\@partCntFormat\@secCntFormat

\@partNameFormat Prints “Part” for part sections.

Nullified by `ctex`.

7050 \newcommand*\@partNameFormat{\LWR@isolate{\partname}~}%

\LWR@printChapterName Print `\chaptername` in most cases, but this is nullified for `ctexbook`, `komascript`, `ujt*` classes.

7051 \newcommand*\@LWR@printChapterName{%
 7052 \ifdefvoid{\chaptername}{}{\chaptername~}%
 7053 }

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.)

7054 \newcounter{LWR@currentautosec}

7055 \setcounter{LWR@currentautosec}{1}

\LWR@section * [<TOC name>] {<name>} {<sectiontype>}

The common actions for the high-level sectioning commands.

7056 \DeclareDocumentCommand{\LWR@section}{m m m m}{%
 7057 \IfValueTF{#2}{%
 7058 {\LWR@traceinfo{\LWR@section: starting #4 #2}}%
 7059 {\LWR@traceinfo{\LWR@section: starting #4 #3}}%

Warn if starting a section inside a :

```
7060     \LWR@spanwarninvalid{section}%
7061 \LWR@maybeprintpendingfootnotes{\csuse{\LWR@depth#4}}%
7062 \LWR@stoppars%
7063 \LWR@startnewdepth{#4}%
```

Cancel special `minipage` horizontal space interaction:

```
7064 \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^AT_EX page so that toc and index page number points to the section:

```
7065 \LWR@traceinfo{\LWR@section: testing whether to start a new HTML file}%
7066 \IfBooleanT{#1}{\LWR@traceinfo{\LWR@section: starred}{}}
7067 \ifbool{\LWR@forcinghtmlpage}{\LWR@traceinfo{\LWR@section: forcinghtmlpage}{}{}}
7068 \ifthenelse{%
7069   \(%
7070     \(\NOT\equal{#1}{\BooleanTrue}\)\OR%
7071     \(\cnttest{\@nameuse{\LWR@depth#4}}{=}{\LWR@depthpart}\)\OR%
7072     \(\boolean{\LWR@forcinghtmlpage}\)\%
7073   \)%
7074   \AND%
7075   \cnttest{\@nameuse{\LWR@depth#4}}{<=}{\value{FileDepth}}%
7076   \AND%
7077   \(%
7078     \NOT\boolean{CombineHigherDepths}\OR%
7079     \cnttest{\@nameuse{\LWR@depth#4}}{<=}{\value{LWR@prevFileDepth}}%
7080   \)%
7081   \AND%
7082   \(% phantomsection
7083     \NOT\isempty{#3}%
7084     \OR%
7085     \(\NOT\equal{#1}{\BooleanTrue}\)\%
7086   \)%
7087 }%
```

If so: start a new HTML file:

```
7088 {%
7089   \LWR@traceinfo{\LWR@section: new HTML file}%
}
```

See if there was an optional toc name entry:

```
7090 \IfNoValueTF{#2}{%
```

If no optional entry

```
7091      {\LWR@newhtmlfile{#3}}%
```

If yes an optional entry

```
7092      {\LWR@newhtmlfile{#2}}%
7093 }% new file
```

Else: No new HTML file:

```
7094 { % not new file
```

Generate a new L^AT_EX page so that TOC and index page number points to the section:

```
7095 \LWR@traceinfo{\LWR@section: not a new HTML file, about to \LWR@orignewpage}%
7096 \LWR@maybe@\orignewpage%
7097 }% not new file
7098
```

Remember this section's name for \nameref:

```
7099 \IfValueT{#3}{%
7100   \LWR@traceinfo{\LWR@section: about to \LWR@setlatestname}%
7101   \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
7102 }%
```

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.

```
7103 \ifbool{HTMLDebugComments}{%
7104   \begingroup%
7105   \LWR@nullfonts%
7106   \IfBooleanTF{#1}{starred}{%
7107     {\LWR@htmlcomment{Opening #4*}}%
7108   }%
7109   \IfNoValueTF{#2}{short TOC}{%
7110     {\LWR@htmlcomment{Opening #4 ‘#3’}}%
7111     {\LWR@htmlcomment{Opening #4 ‘#2’}}%
7112   }\LWR@newline%
7113   \endgroup%
7114 }{}}
```

For inline sections paragraph and subparagraph, start a new paragraph now:

```
7115 \ifthenelse{%
7116   \cnttest{@nameuse{\LWR@depth#4}}{>=}{\LWR@depthparagraph}%
7117 }%
7118 {\LWR@startpars}%
7119 {}%
```

Create the opening tag with an autosec:

```
7120 \LWR@traceinfo{LWR@section: about to LWR@createautosec}%
7121 \LWR@createautosec{@nameuse{LWR@tag#4}}%
```

```
7122 \setcounter{LWR@currentautosec}{\value{page}}%
```

Check if starred:

```
7123 \IfBooleanTF{#1}%
7124 {%
7125   \LWR@traceinfo{LWR@section: starred}%
}
```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```
7126   \ifbool{LWR@forcinghtmltoc}%
7127   {%
7128     \addcontentsline{toc}{#4}{%
7129       \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7130     }%
7131   }%
7132   {}%
7133 }% starred
```

Not starred, so step counter and add to TOC:

```
7134 {}% not starred
```

Only add a numbered TOC entry if section number is not too deep:

```
7135 \ifthenelse{%
7136   \cnttest{@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7137 }%
7138 {}% if secnumdepth
```

If in the main matter, step the counter and add the TOC entry. For article class, lwarp assumes that all is mainmatter.

```
7139   \LWR@traceinfo{LWR@section: about to test main matter}%
7140   \ifbool{LWR@mainmatter}%
7141   {%
7142     \LWR@traceinfo{LWR@section: yes mainmatter}%
7143     \refstepcounter{#4}%
```

Add main matter numbered TOC entry with the TOC name or the regular name:

```
7144   \LWR@traceinfo{LWR@section: about to addcontentsline}%
7145   \addcontentsline{toc}{#4}%
7146   {%
7147     \protect\numberline{%
7148       @nameuse{pre#4name}%
7149       @nameuse{the#4}%
7150       @nameuse{post#4name}%
7151     }%
7152   }%
```

```

7153           \ignorespaces%
7154           \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
7155           }%
7156       }%
7157       \LWR@traceinfo{LWR@section: finished addcontentsline}%
7158   }% end of if main matter

```

If not main matter, add unnumbered TOC name or regular name:

```

7159   {%
7160     \LWR@traceinfo{LWR@section: no main matter}%
7161     \addcontentsline{toc}{#4}{%
7162       \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7163       }%
7164     }% end of not main matter
7165   }% end of secnumdepth

```

Deeper than secnumdepth, so add an unnumbered TOC entry:

```

7166   {%
7167     \addcontentsline{toc}{#4}{%
7168       \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7169     }%
7170   }%

```

For part, print “Part”:

```

7171   \ifbool{LWR@mainmatter}{%
7172     {%
7173       \ifthenelse{%
7174         \cnttest{@nameuse{LWR@depth#4}}{<=}{%
7175           {\value{secnumdepth}}\ AND%
7176           \cnttest{@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}}%
7177       }%
7178       {\@partnameformat}%
7179     }%

```

Print the section number:

```

7180   \LWR@traceinfo{LWR@section: about to print section number}%
7181   \ifthenelse{%
7182     \cnttest{@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7183   }%
7184   {%
7185     \ifstreq{#4}{part}{%
7186       \protect\LWR@sectionnumber{@partcntformat{#4}}%
7187     }%
7188     \ifstreq{#4}{chapter}{%
7189       \%
7190         \LWR@printchaptername%
7191         \protect\LWR@sectionnumber{@chapcntformat{#4}}%
7192       }%
7193     \protect\LWR@sectionnumber{@seccntformat{#4}}%

```

```

7194          }%
7195          }%
7196          {}%
7197          \LWR@traceinfo{\LWR@section: finished print section number}%
7198          }{ }%
7199 }% not starred

```

Print the section name:

```

7200 \LWR@traceinfo{\LWR@section: about to print the section name}%
7201 \LWR@isolate{\#3}%

```

Close the heading tag, such as /H2:

```

7202 \LWR@traceinfo{\LWR@section: about to close the heading tag}%
7203 \LWR@htmltag{@nameuse{\LWR@tag#4end}}%
7204 \LWR@orignewline%

```

Generate a L^AT_EX label.

Track the PDF page numbers of the HTML output.

```

7205 \LWR@traceinfo{\LWR@section: about to create the LaTeX label}%
7206 \setcounter{\LWR@latestautopage}{\value{page}}%
7207 \LWR@newautopagelabel{\LWR@currentautosec}\LWR@orignewline%

```

If this is the first section found in this file, create a label for previous/next links:

```

7208 \ifbool{\LWR@setseqfilelabel}{}{%
7209     \label{\BaseJobname-autofile-\arabic{\LWR@htmlseqfilenumber}}%
7210     \booltrue{\LWR@setseqfilelabel}%
7211 }%

```

Start paragraph handing unless is an inline paragraph or subparagraph:

```

7212 \ifthenelse{%
7213     \cnttest{@nameuse{\LWR@depth#4}}{<}{\LWR@depthparagraph}%
7214 }%
7215     {\LWR@startpars}%
7216     {}%

```

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.

```

7217 \ifthenelse{%
7218     \NOT\equal{\#1}{\BooleanTrue}\OR%
7219     \cnttest{@nameuse{\LWR@depth#4}}{=}{\LWR@depthpart}%

```

```

7220 }%
7221     {%
7222         \setcounter{LWR@prevFileDepth}{\@nameuse{LWR@depth#4}}%
7223     }%
7224     {}%

```

Reset to defaults if not a phantomsection:

```

7225 \ifstrempty{#3}%
7226     {}%
7227     {%
7228         \global\boolfalse{LWR@forcinghtmlpage}%
7229         \global\boolfalse{LWR@forcinghtmltoc}%
7230     }%
7231 %
7232 \LWR@traceinfo{LWR@section: done}%
7233 }

```

62.4 Pre- and post- sectioning names

\prebookname Usually null, but is used by `uj*` and `ut*` Japanese classes.

\postbookname

```

7234 \providecommand*\prebookname{}%
7235 \providecommand*\postbookname{}%

```

\prepartname Usually null, but is used by `uj*` and `ut*` Japanese classes.

\postpartname

```

7236 \providecommand*\prepartname{}%
7237 \providecommand*\postpartname{}%

```

\prechaptername Usually null, but is used by `uj*` and `ut*` Japanese classes.

\postchaptername

```

7238 \providecommand*\prechaptername{}%
7239 \providecommand*\postchaptername{}%

```

\presectionname Always null, but provided here for algorithmic simplicity in `\LWR@section`.

\postsectionname

```

7240 \providecommand*\presectionname{}%
7241 \let\postsectionname\presectionname
7242
7243 \let\presubsectionname\presectionname
7244 \let\postsubsectionname\postsectionname
7245
7246 \let\presubsubsectionname\presectionname
7247 \let\postsubsubsectionname\postsectionname
7248
7249 \let\preparagraphname\presectionname
7250 \let\postparagraphname\postsectionname
7251
7252 \let\presubparagraphname\presectionname
7253 \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>}

7254 \newcommand{\part@preamble}{}% for koma-script
7255
7256 \DeclareDocumentCommand{\part}{s d() o o d() m}{%
7257     \LWR@section{#1}{#3}{#6}{part}%
7258
7259     \part@preamble% for koma-script
7260     \renewcommand{\part@preamble}{}%
7261 }

\chapter * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7262 \let@\printcites\relax% for quotchap package
7263
7264 \newcommand{\chapter@preamble}{}% for koma-script
7265
7266 \@ifundefined{chapter}
7267 {}
7268 {%
7269     \DeclareDocumentCommand{\chapter}{s d() o o d() m}{%
7270         \LWR@section{#1}{#3}{#6}{chapter}%
7271
7272         \printcites% for quotchap package
7273
7274         \chapter@preamble% for koma-script
7275         \renewcommand{\chapter@preamble}{}%
7276     }
7277 }

\section * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7278 \DeclareDocumentCommand{\section}{s d() o o d() m}{%
7279     \LWR@section{#1}{#3}{#6}{section}%
7280 }

\subsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7281 \DeclareDocumentCommand{\subsection}{s d() o o d() m}{%
7282     \LWR@section{#1}{#3}{#6}{subsection}%
7283 }
```

```
\subsubsection * {<2:PDF name>} [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
7284 \DeclareDocumentCommand{\subsubsection}{s d() o o d() m}{%
7285     \LWR@section{#1}{#3}{#6}{subsubsection}%
7286 }

\paragraph * {<2:PDF name>} [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
7287 \DeclareDocumentCommand{\paragraph}{s d() o o d() m}{%
7288     \LWR@section{#1}{#3}{#6}{paragraph}%
7289 }

\subparagraph * {<2:PDF name>} [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
7290 \DeclareDocumentCommand{\subparagraph}{s d() o o d() m}{%
7291     \LWR@section{#1}{#3}{#6}{subparagraph}%
7292 }

7293 \end{warpHTML}
```

63 Starting a new file

for HTML & PRINT: 7294 \begin{warpall}

\HTMLLanguage Default language for the HTML lang tag.

```
7295 \newcommand*{\LWR@currentHTMLLanguage}{en-US}
7296
7297 \newcommand*{\HTMLLanguage}[1]{%
7298     \renewcommand*{\LWR@currentHTMLLanguage}{#1}%
7299 }
```

\theHTMLTitleSeparator May be used inside \theHTMLTitleSection to separate the website's overall HTML title and the particular page's section name.

```
7300 \ifPDFTeX% pdflatex or dvi latex
7301     \ifdefstring{\inputencodingname}{utf8}{%
7302         \newcommand*{\theHTMLTitleSeparator}{-\ }% EMdash
7303     }{%
7304         \newcommand*{\theHTMLTitleSeparator}{-\ }% hyphen
7305     }%
7306 \else%
7307     \ifpTeX%
7308         \newcommand*{\theHTMLTitleSeparator}{-\ }% hyphen
7309     \else%
7310         \newcommand*{\theHTMLTitleSeparator}{-\ }% EMdash
7311     \fi%
7312 \fi%
```

\HTMLTitleBeforeSection Sets the HTML page's meta title tag to show the website title before the section name.

```
7313 \newcommand*{\HTMLTitleBeforeSection}{%
7314     \def\theHTMLTitleSection{%
7315         \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
7316     }%
7317 }
```

\HTMLTitleAfterSection Sets the HTML page's meta title tag to show the section name before the website title.

```
7318 \newcommand*{\HTMLTitleAfterSection}{%
7319     \def\theHTMLTitleSection{%
7320         \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
7321     }%
7322 }
```

\theHTMLTitleSection Forms the HTML page's meta title tag. The default is to show the website title before the section name.

```
7323 \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.

```
7324 \newcommand*{\theHTMLSection}{}%
7325 \end{warpall}
```

for HTML output: 7326 \begin{warpHTML}

\LWR@filestart [*<section name>*] Creates the opening HTML tags.

```
7327 \newcommand*{\LWR@filestart}[1][]{%
7328 \LWR@traceinfo{\LWR@filestart !#1!}%
```

Locally temporarily disable direct-formatting commands:

```
7329 \begingroup%
7330 \LWR@nullfonts%
```

Save the section name for use while creating the HTML meta title tag:

```
7331 \edef\theHTMLSection{\#1}%
```

Remove extra material:

```
7332 \StrSubstitute{\theHTMLSection}{\protect}{\detokenize{-}}[\theHTMLSection]
7333 \StrSubstitute{\theHTMLSection}{\detokenize{---}}{\detokenize{-}}[\theHTMLSection]
7334 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]
7335 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]
7336 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]
```

If starts with a dash, remove the leading dash:

```
7337 \IfBeginWith{\theHTMLSection}{\detokenize{-}}{%
7338     \StrGobbleLeft{\theHTMLSection}{1}[\theHTMLSection]%
7339 }{}}
```

Create the page's HTML header:

```
7340 \LWR@htmltag{!DOCTYPE html}\LWR@orignewline
```

The language is user-adjustable:

```
7341 \LWR@htmltag{%
7342     html lang=\LWR@orig@textquotedbl\currentHTMLLanguage\LWR@orig@textquotedbl%
7343 }\LWR@orignewline
```

Start of the meta data:

```
7344 \LWR@htmltag{head}\LWR@orignewline
```

Charset is fixed at UTF-8:

```
7345 \LWR@htmltag{%
7346     meta charset=\LWR@orig@textquotedbl{}UTF-8\LWR@orig@textquotedbl\ /%
7347 }\LWR@orignewline
```

Author:

```
7348 \ifthenelse{\equal{\theHTMLAuthor}{}}{%
7349     {}%
7350     {%
7351         \LWR@htmltag{%
7352             meta name=\LWR@orig@textquotedbl{}author\LWR@orig@textquotedbl\ % space
7353             content=\LWR@orig@textquotedbl{}\theHTMLAuthor\LWR@orig@textquotedbl\ /%
7354         }\LWR@orignewline%
7355     }%
7356 }
```

lwarp is the generator:

```
7356 \LWR@htmltag{%
7357     meta % space
7358     name=\LWR@orig@textquotedbl{}generator\LWR@orig@textquotedbl\ % space
7359     content=\LWR@orig@textquotedbl{}LaTeX Lwarp package\LWR@orig@textquotedbl\ /%
7360 }\LWR@orignewline%
```

If there is a description, add it now:

```
7361 \ifdefempty{\LWR@currentHTMLDescription}{%
7362     \LWR@htmltag{%
7363         meta name=\LWR@orig@textquotedbl{}description\LWR@orig@textquotedbl\ % space
7364         content=\LWR@orig@textquotedbl{}\LWR@currentHTMLDescription\LWR@orig@textquotedbl\ /%
7365     }\LWR@orignewline%
7366 }
```

Mobile-friendly viewport:

```
7367 \LWR@htmltag{%
7368     meta % space
7369     name=\LWR@orig@textquotedbl{}viewport\LWR@orig@textquotedbl\ % space
7370     content=\LWR@orig@textquotedbl{}width=device-width, initial-scale=1.0\LWR@orig@textquotedbl\ /%
7371 }\LWR@orignewline
```

IE patch:

```
7372 \LWR@htmltag{!-\/-[if lt IE 9]}\LWR@orignewline
7373 \LWR@htmltag{%
7374     script % space
7375     src=\LWR@orig@textquotedbl{}%
7376         http://html5shiv.googlecode.com/svn/trunk/html5.js%
7377     \LWR@orig@textquotedbl%
7378 }%
7379 \LWR@htmltag{/script}\LWR@orignewline
7380 \LWR@htmltag{![endif]-\/-}\LWR@orignewline
```

The page's title, if there is one. A section name is also added if given.

```
7381 \ifthenelse{\equal{\theHTMLTitle}{}}{%
7382     {}%
7383     {%
7384         \LWR@htmltag{title}%
7385         \ifdefempty{\theHTMLSection}{%
7386             {\theHTMLTitle}%
7387             {\theHTMLTitleSection}%
7388         \LWR@htmltag{/title}\LWR@orignewline%
7389     }%
```

The page's stylesheet:

```
7390 \LWR@htmltag{%
7391     link % space
7392     rel=\LWR@orig@textquotedbl{}stylesheet\LWR@orig@textquotedbl\ % space
7393     type=\LWR@orig@textquotedbl{}text/css\LWR@orig@textquotedbl\ % space
7394     href=\LWR@orig@textquotedbl{}\LWR@currentcss\LWR@orig@textquotedbl\ /%
7395 }%
7396 \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.

```
7397 \ifbool{mathjax}{%
7398 {%
7399     \begingroup%
7400     \LWR@restoreoriglists%
7401     \boolfalse{\LWR@verbtags}%
7402     \IfFileExists{\LWR@mathjaxfilename}{%
7403         {\verbatiminput{\LWR@mathjaxfilename}}%
```

```

7404      {%
7405          \PackageError{lwarp}{%
7406              {%
7407                  \protect\MathJaxFilename\space specified the file\MessageBreak
7408                      \space\space\LWR@mathjaxfilename\MessageBreak
7409                      which does not exist%
7410              }%
7411          {Specify an existing file, or remove \protect\MathJaxFilename.}%
7412      }%
7413
7414     \booltrue{\LWR@verbtags}%
7415     \endgroup%
7416 \LWR@stopars%
7416 }% end of mathjax
7417 {}%

```

End of the header:

```
7418 \LWR@htmltag{/head}\LWR@orignewline
```

Start of the body:

```

7419 \LWR@htmltag{body}\LWR@orignewline
7420 \endgroup
7421 \LWR@traceinfo{\LWR@filestart: done}
7422 }

7423 \end{warpHTML}

```

64 Starting HTML output

for HTML output: 7424 \begin{warpHTML}

\LWR@LwarpStart Executed at the beginning of the entire document.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```

7425 \catcode`\$=\active
7426 \newcommand*\LWR@LwarpStart{%
7427 {%
7428 \LWR@traceinfo{\LWR@l warpStart}}

```

If formatting for a word processor, force filedepth to single-file only, force HTML debug comments off.

```

7429 \ifbool{FormatWP}{%
7430     \setcounter{FileDepth}{-5}%
7431     \boolfalse{HTMLDebugComments}%
7432 }{%

```

Expand and detokenize \HomeHTMLFilename and \HTMLFilename:

```
7433 \edef\LWR@strresult{\HomeHTMLFilename}
7434 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
7435 \edef\LWR@strresult{\HTMLFilename}
7436 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}
```

Force onecolumn and empty page style:

```
7437 \LWR@origonecolumn%
7438 \LWR@origpagestyle{empty}%
```

No black box for overfull lines:

```
7439 \overfullrule=0pt
```

Reduce chance of line overflow when HTML tags are added:

```
7440 \LWR@print@footnotesize%
```

In PDF output, don't allow line breaks to interfere with HTML tags:

```
7441 \LWR@print@raggedright%
7442 \LetLtxMacro{\\"}{\LWR@endofline}%
```

Spread the lines for *pdftotext* to read them well:

```
7443 \linespread{1.3}%
```

For *pdftotext* to reliably identify paragraph splits:

```
7444 \setlength{\parindent}{0pt}
7445 \setlength{\parskip}{2ex}
```

For the *lateximage* record file:

```
7446 \immediate\openout\LWR@lateximagesfile=\BaseJobname-images.txt
```

Removes space around the caption in the HTML:

```
7447 \setlength{\belowcaptionskip}{0ex}
7448 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
7449 \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:

```
7450 \let\LWR@origcaption\caption
```

Not yet started any paragraph handling:

```
7451 \global\boolfalse{LWR@doingapar}
7452 \global\boolfalse{LWR@doingstartpars}
```

Document and page settings:

```
7453 \mainmatter
7454 \LWR@origpagenumbering{arabic}
```

Start a new HTML file and a header:

```
7455 \LWR@traceinfo{LWR@lwarpStart: Starting new file.}
7456 \LWR@filestart
7457 \LWR@traceinfo{LWR@lwarpStart: Generating first header.}
```

```
7458 \ifdefempty{\LWR@firstpagetop}{}{%
7459   \LWR@htmlltag{header}\LWR@orignewline
7460   \LWR@startpars
7461   \LWR@firstpagetop
7462   \LWR@stoppars
7463   \LWR@htmlltag{/header}\LWR@orignewline
7464 }%
```

```
7465 \LWR@htmlelementclass{div}{bodywithoutsidetoc}
7466 \LWR@htmlelementclass{div}{bodycontainer}
7467 \LWR@traceinfo{LWR@lwarpStart: Generating textbody.}
7468 \LWR@htmlelementclass{section}{textbody}
```

Create a label for previous/next links, and remember it has been done:

```
7469 \booltrue{LWR@setseqfilelabel}%
7470 \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}
```

Patch the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native L^AT_EX environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```
7471 \LWR@patchlists
```

Ensure that math mode is active to call `lwarp`'s patches:

```
7472 \catcode`\$=\active
```

Required for `\nameref` to work with SVG math:

```
7473 \immediate\write\@mainaux{\catcode`\string$\active}%
7474 \LetLtxMacro{\LWR@syntaxhighlightone}{$ balance for editor syntax highlighting}
```

Allow HTML paragraphs to begin:

```
7475 \LWR@startpars
```

If using MATHJAX, disable \ensuremath by printing a nullified definition at the start of each file, and add further customizations:

```

7476 \ifbool{mathjax}{
7477     \typeout{---}
7478     \typeout{Package lwarp:}
7479     \typeout{Processing MathJax customizations for the first HTML page.}
7480     \typeout{Later HTML pages will take the same amount of time.}
7481     \typeout{If this takes too long, see the Lwarp manual regarding customizing MathJax.}
7482 }{}
7483
7484 \LWR@customizeMathJax
7485
7486 \ifbool{mathjax}{
7487     \typeout{Done.}
7488     \typeout{---}
7489 }{}

```

First autopage label in case a figure occurs early.

```

7490 \setcounter{LWR@latestautopage}{\value{page}}%
7491 \LWR@newautoglabel{LWR@currentautosec}%

7492 \LWR@traceinfo{LWR@lwarpStart: done}
7493 }
7494 \catcode`\$=3% math shift until lwarp starts

7495 \end{warpHTML}

```

65 Ending HTML output

for HTML output: 7496 \begin{warpHTML}

\LWR@requesttoc {<boolean>} {<suffix>} Requests that a TOC, LOF, or LOTbe generated.

```

7497 \newcommand*{\LWR@requesttoc}[2]{%
7498 \ifbool{#1}{%
7499 {
7500     \expandafter\newwrite\@nameuse{tf@#2}%
7501     \immediate\openout \nameuse{tf@#2} \jobname.#2\relax
7502 }{}%
7503 }

```

\LWR@LwarpEnd Final stop of all HTML output:

```

7504 \newcommand*{\LWR@LwarpEnd}{%
7505 {
7506 \LWR@stopars
7507 \LWR@closeprevious{finished}

```

At the bottom of the ending file:

Close the textbody:

```
7508 \label{\BaseJobname-autofile-last}
7509 \LWR@htmlelementclassend{section}{textbody}
7510 \LWR@htmlelementclassend{div}{bodycontainer}
7511 \LWR@htmlelementclassend{div}{bodyandsidetoc}
```

Print any pending footnotes:

```
7512 \LWR@printpendingfootnotes
```

Create the footer if not EPUB

```
7513 \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.

```
7514 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7515   {}
7516   {
7517     \ifnumcomp{\value{\LWR@htmlfilename}}{>}{0}{\LWR@botnavigation}{}
7518   }
```



```
7519 \LWR@stoppars% final stop of all paragraphs
```

Finish the HTML file:

```
7520 \LWR@htmlltag{/body}\LWR@orignewline
7521 \LWR@htmlltag{/html}\LWR@orignewline
```

Seems to be required sometimes:

```
7522 \LWR@maybe@orignewpage
7523 }
```

\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`.

```
7524 \ifdef{\AddToHook}{%
7525   \AddToHook{\enddocument/info}{%
7526     \if@filesw
7527       \ifx \multiplelabels \relax
7528         \if@tempswa
```

This is where warnings of duplicate labels would appear.

```
7529   \else
```

No duplicate labels, so safe to create images.

```

7530           \immediate\write\LWR@lateximagesfile{%
7531               |end|end|end|%
7532           }%
7533           \fi
7534           \fi\fi
7535       }
7536 }% newer kernel
7537 {%
7538     \xpatchcmd{\enddocument}
7539     {%
7540         \if@tempswa
7541             \@latex@warning@no@line{Label(s) may have changed.
7542             Rerun to get cross-references right}%
7543         \fi
7544     }
7545     {%
7546         \if@tempswa
7547             \@latex@warning@no@line{Label(s) may have changed.
7548             Rerun to get cross-references right}%
7549     }%

```

No duplicate labels, so safe to create images.

```

7550           \immediate\write\LWR@lateximagesfile{%
7551               |end|end|end|%
7552           }%
7553           \fi
7554       }
7555     {}
7556     {
7557         \AtEndDocument{
7558             \PackageWarningNoLine{lwarp}
7559             {%
7560                 Could not patch \protect\enddocument.\MessageBreak
7561                 If labels have changed, be sure to recompile before\MessageBreak
7562                     creating lateximages with\MessageBreak
7563                     \space\space lwarpmk limages,\MessageBreak
7564                     or the images may be corrupt%
7565             }
7566         }
7567     }
7568 }% older kernel

```

66 Nullifying foreground/background hooks

See **texdoc lthooks-doc** and **texdoc ltshipout-doc**.

```

7569 \ifdef{\RemoveFromHook}{%
7570     \AfterEndPreamble{%
7571         \IfHookEmptyTF{\shipout/background}{}{%

```

```

7572          \PackageInfo{lwarp}{Removing background hook}
7573          \RemoveFromHook{shipout/background}[@]
7574      }
7575      \IfHookEmptyTF{shipout/foreground}{}{
7576          \PackageInfo{lwarp}{Removing foreground hook}
7577          \RemoveFromHook{shipout/foreground}[@]
7578      }
7579  }
7580 }{ }

7581 \end{warpHTML}

```

67 Title page

package support

⚠ load order

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

\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^AT_EX 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: 7582 `\begin{warpall}`

`\if@titlepage` Some classes do not provide `\if@titlepage`. In this case, provide it and force it `false`.

```
7583 \ifcsvoid{@titlepagefalse} {
7584     \newif\if@titlepage
```

```

7585     \@titlepagefalse
7586 }{ }

7587 \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: 7588 \begin{warpall}
7589 \providerobustcmd{\affiliation}[1]{}
7590 \end{warpall}

for PRINT output: 7591 \begin{warpprint}

```

7592 \AtBeginEnvironment{titlepage}{%
7593 \renewrobustcmd{\affiliation}[1]{\textsc{\small#1}}%
7594 }
7595
7596 \AtBeginDocument{%
7597 \@ifpackageloaded{titling}{%
7598 \AtBeginEnvironment{titlingpage}{%
7599 \renewrobustcmd{\affiliation}[1]{\textsc{\small#1}}%
7600 }
7601 }% titling loaded
7602 }% AtBeginDocument
```

7603 \end{warpprint}

for HTML output: 7604 \begin{warpHTML}

Env titlepage Sets up a <div> of class titlepage. Provided even for memoir class, since it is used by \maketitle.

```

7605 \DeclareDocumentEnvironment{titlepage}{}%
7606 {
7607 \renewrobustcmd{\affiliation}[1]{\InlineClass{affiliation}{##1}}%
7608 \LWR@printpendingfootnotes
7609 \LWR@forcenewpage
7610 \BlockClass{titlepage}
7611 }
7612 {
7613 \endBlockClass
7614 \LWR@printpendingfootnotes
7615 }
```

7616 \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:

```
7617 \begin{warpprint}
7618 \newcommand*{\printthanks}{\@thanks}
7619 \end{warpprint}
```

for HTML output:

```
7620 \begin{warpHTML}
7621 \newcommand*{\printthanks}{\LWR@stoppars\@thanks\LWR@startpars}
7622 \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:

```
7623 \begin{warpHTML}
```

```
\printtitle
7624 \newcommand*{\printtitle}{%
7625 {%
7626   \LWR@stoppars%
7627   \LWR@htmlltag{\LWR@tagtitle}%
7628   \@title%
7629   \LWR@htmlltag{\LWR@tagtitleend}%
7630   \LWR@startpars%
7631 }}
```

\LWR@printthetitle A private version which prints the title without footnotes, used to title each `HTML` page.

```
7632 \newcommand*{\LWR@printthetitle}{%
7633 {%
7634   \LWR@stoppars%
7635   \LWR@htmlltag{\LWR@tagtitle}%
7636   \thetitle%
7637   \LWR@htmlltag{\LWR@tagtitleend}%
7638   \LWR@startpars%
7639 }}
```

\printauthor HTML version.

```
7640 \newcommand*{\printauthor}{
```

The entire author block is contained in a `<div>` named `author`:

```
7641 \begin{BlockClass}{author}
```

\and finishes one author and starts the next:

```
7642 \renewcommand{\and}{%
7643 \end{BlockClass}%
7644 \begin{BlockClass}{oneauthor}%
7645 }
```

Individual authors are contained in a <div> named oneauthor:

```
7646 \begin{BlockClass}{oneauthor}%
7647 @author%
7648 \end{BlockClass}%
7649 \end{BlockClass}%
7650 }
```

\printdate

```
7651 \newcommand*{\printdate}{%
7652 \begin{BlockClass}{titledate}%
7653 @date%
7654 \end{BlockClass}%
7655 }
```

```
7656 \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: 7657 \begin{warpprint}

\printtitle

```
7658 \newcommand*{\printtitle}{{\Huge @title}}
```

\printauthor Print mode.

```
7659 \newcommand*{\printauthor}%
7660     {{\large\begin{tabular}[t]{c}\@author\end{tabular}}}
```

\printdate

```
7661 \newcommand*{\printdate}{{\small\textit{@date}}}
```

```
7662 \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: 7663 \begin{warpHTML}

```

7664 \@ifclassloaded{memoir}
7665 {
7666 \newcommand{\LWR@setfootnoteseries}{%
7667     \renewcommand\thefootnote{\@arabic\c@footnote}%
7668 }
7669 }% not memoir
7670 \if@titlepage
7671 \newcommand{\LWR@setfootnoteseries}{%
7672     \renewcommand\thefootnote{\@arabic\c@footnote}%
7673 }
7674 \else
7675 \newcommand{\LWR@setfootnoteseries}{%
7676     \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
7677 }
7678 \fi
7679 }% not memoir

```

\LWR@maketitlesetup Patches \thanks macros.

```
7680 \newcommand*\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```

7681 \LWR@setfootnoteseries%
7682 \def\@makefnmark{\textsuperscript{\thefootnote}}
    \thefootnote \Rightarrow \nameuse{arabic}{footnote}, or
    \thefootnote \Rightarrow \nameuse{fnsymbol}{footnote}

```

Redefine the footnote text:

```
7683 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```

7684 \textsuperscript{\@thefnmark}%
    \makethanksmark \Rightarrow \thanksfootmark \Rightarrow \tamark \Rightarrow
    \thefnmark \Rightarrow \itshape a (or similar)

```

Print the text:

```
7685 ##1%
7686 }%
7687 }
```

```
\@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*.

```
7688 \def\LWR@HTML@fnsymbol#1{%
7689     \ifcase#1\or *\or
7690     \HTMLentity{dagger}\or
7691     \HTMLentity{Dagger}\or
7692     \HTMLentity{sect}\or
7693     \HTMLentity{para}\or
7694     \HTMLunicode{2016}\or
7695     **\or
7696     \HTMLentity{dagger}\HTMLentity{dagger} \or
7697     \HTMLentity{Dagger}\HTMLentity{Dagger} \else
7698     \@ctrerr\fi%
7699 }
7700 \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.

```
7701 \renewcommand*\maketitle}{%
```

An HTML titlepage <div> is used for all classes.

```
7702 \begin{titlepage}
```

Set up special patches:

```
7703 \LWR@maketitlesetup
```

Typeset the title, etc:

```
7704 \maketitle
```

Immediately generate any \thanks footnotes:

```
7705 \LWR@stoppars\@thanks\LWR@startpars
```

Close the HTML titlepage div and cleanup:

```
7706 \end{titlepage}
7707 \setcounter{footnote}{0}%
7708 \global\let\thanks\relax
```

```

7709 \global\let\maketitle\relax
7710 \global\let@\maketitle\relax
7711 \global\let@\thanks@\empty
7712 \global\let@\author@\empty
7713 \global\let@\date@\empty
7714 \global\let@\title@\empty
7715 \global\let\title\relax
7716 \global\let\author\relax
7717 \global\let\date\relax
7718 \global\let\and\relax
7719 }

```

\@maketitle HTML mode. Typesets the title, etc.:

```

7720 \DeclareDocumentCommand{\@maketitle}{}{%
7721     \LWR@stopars%
7722     \LWR@htmlltag{\LWR@tagtitle}%
7723     \@title%
7724     \LWR@htmlltag{\LWR@tagtitleend}%
7725     \LWR@startpars%
7726     \begin{BlockClass}{author}%

```

For **IEEEtran** class:

```

7727     \renewcommand*{\cr}{\%}
7728     \renewcommand*{\crcr}{\%}
7729     \renewcommand*{\noalign}{\%}

7730     \renewcommand{\and}{%
7731         \end{BlockClass}%
7732         \begin{BlockClass}{oneauthor}%
7733     }%
7734         \begin{BlockClass}{oneauthor}%
7735             \@author%
7736         \end{BlockClass}%
7737     \end{BlockClass}%
7738     \begin{BlockClass}{titledate}%
7739         \@date%
7740     \end{BlockClass}%
7741 }

```

\LWR@titlingmaketitle \maketitle for use inside an HTML titlingpage environment.

```

7742 \newcommand*{\LWR@titlingmaketitle}{%

```

Keep pending footnotes out of the title block:

```

7743 \LWR@stopars \@thanks \LWR@startpars

```

Set up special patches:

```

7744 \LWR@maketitlesetup

```

Typeset the title, etc:

```
7745 \@maketitle
```

Immediately generate any \thanks footnotes:

```
7746 \LWR@stopars\@thanks\LWR@startpars
7747 }
```

```
7748 \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: 7749 `\begin{warpall}`

`\AddSubtitlePublished` Adds `\published` and `\subtitle`, and related.

```
7750 \newcommand*\{\AddSubtitlePublished\}{%
7751 \@ifpackageLoaded{titling}\{%
7752     \newcommand{\@published}{}%
7753     \newcommand{\published}[1]{\gdef\@published{\##1}}%
7754     \renewcommand*\{\maketitlehooka\}{\printpublished}%
7755     \newcommand*\{\printpublished\}{%
7756         \warpprintonly{\begin{center}\unskip}%
7757         \begin{BlockClass}{published}%
7758             \warpprintonly{\large\itshape}%
7759             \@published%
7760         \end{BlockClass}%
7761         \warpprintonly{\end{center}}%
7762     }%
7763     \newcommand{\@subtitle}{}%
7764     \newcommand{\subtitle}[1]{\gdef\@subtitle{\##1}}%
7765     \renewcommand*\{\maketitlehookb\}{\printsubtitle}%
7766     \newcommand*\{\printsubtitle\}{%
7767         \warpprintonly{\begin{center}\unskip}%
7768         \begin{BlockClass}{subtitle}%
7769             \warpprintonly{\Large\itshape}%
7770             \@subtitle%
7771     }%
7772 }
```

```

7771      \end{BlockClass}%
7772      \warpprintonly{\end{center}}%
7773  }%
7774 }% yes titling package
7775 {%- no titling package

7776  \def\@published{}%
7777  \DeclareDocumentCommand{\published}{m}{\gdef\@published{\#1}}%
7778  \DeclareDocumentCommand{\printpublished}{}{%
7779  \def\@subtitle{}%
7780  \DeclareDocumentCommand{\subtitle}{m}{\gdef\@subtitle{\#1}}%
7781  \DeclareDocumentCommand{\prints_subtitle}{}{%
7782 }% no titling package
7783 }% \AddSubTitlePublished

7784 \end{warpall}

```

68 Abstract

The following code replaces the L^AT_EX default, and will itself be replaced later if the `abstract` package is loaded.

for HTML output: 7785 `\begin{warpHTML}`

`\abstractname` User-redefinable title for the abstract.

Also over-written by the `babel` package.

7786 `\providecommand*{\abstractname}{Abstract}`

Some classes allow an optional name, so it is allowed here.

Env `abstract`

```

7787 \DeclareDocumentEnvironment{abstract}{O{\abstractname}}
7788 {
7789   \LWR@forcenewpage
7790   \BlockClass{abstract}
7791   \BlockClassSingle{abstracttitle}{#1}
7792 }
7793 {
7794   \endBlockClass
7795 }

7796 \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: 7797 \begin{warpall}
 7798 \newcommand{\attribution}[1]{
 7799 \begin{flushright}
 7800 \unskip
 7801 #1
 7802 \end{flushright}%
 7803 }
 7804 \end{warpall}

for HTML output: 7805 \begin{warpHTML}
 7806 \newcommand{\LWR@HTML@attribution}[1]{%
 7807 \LWR@stoppars%
 7808 \begin{BlockClass}{attribution}
 7809 #1
 7810 \end{BlockClass}
 7811 \LWR@startpars%
 7812 }
 7813 \LWR@formatted{attribution}
 7814 \end{warpHTML}

69.2 Quotes, quotations

for HTML output: 7815 \begin{warpHTML}

Env quote
 7816 \newenvironment*{\LWR@HTML@quote}{
 7817 {
 7818 \LWR@forcenewpage
 7819 \LWR@htmlblocktag{blockquote}
 7820 }
 7821 {\LWR@htmlblocktag{/blockquote}}
 7822
 7823 \LWR@formattedenv{quote}

Env quotation

7824 \newenvironment*{\LWR@HTML@quotation}{
 7825 {
 7826 \LWR@forcenewpage

```

7827     \LWR@htmlblocktag{blockquote}
7828 }
7829 {\LWR@htmlblocktag{/blockquote}}
7830
7831 \LWR@formattedeenv{quotation}

7832 \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. `l warp` provides `\attribution`, which works for both print and `HTML` output. To combine the two so that `\attrib` is used for print and `\attribution` is used for `HTML`:

```

\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}

```

- `\Len \vleftskip` 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^AT_EX core verse environment

for HTML output: 7833 `\begin{warpHTML}`

Env `verse`

```

7834 \newenvironment{\LWR@HTML@verse}
7835         {\let\\newline% l warp
7836          \list{}{\itemsep      \z@
7837                  \itemindent   -1.5em%
7838                  \listparindent\itemindent
7839                  \rightmargin \leftmargin

```

```
7840           \advance\leftmargin 1.5em}%
7841           \item\relax}
7842           {\endlist}
7843
7844 \LWR@formattede{verse}

7845 \end{warpHTML}
```

for HTML & PRINT: 7846 \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.

```
7847 \newlength{\HTMLvleftskip}
7848 \setlength{\HTMLvleftskip}{1em}
```

Len `\HTMLleftmargini` Sets `\leftmargini` inside a `verse` environment in HTML.

```
7849 \newlength{\HTMLleftmargini}
7850 \setlength{\HTMLleftmargini}{4.5em}

7851 \end{warpall}
```

70 Verbatim and tabbing

for HTML & PRINT: 7852 \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.

```
7853 \newlength{\VerbatimHTMLWidth}
7854 \setlength{\VerbatimHTMLWidth}{4in}
7855 \end{warpall}
```

for HTML output: 7856 \begin{warpHTML}

Bool `LWR@verbtags` Used to temporarily turn off verbatim tags while doing `\verbatiminput` in the HTML head.

```
7857 \newbool{LWR@verbtags}
7858 \booltrue{LWR@verbtags}
```

\verb Patched to encapsulate the verbatim text inside span with a class of `texttt`.

```

7859 \LetLtxMacro{\LWR@orig@verb}{\verb}
7860
7861 \def\verb{\LWR@verb@egroup@endspan{%
7862   \LWR@orig@verb@egroup%
7863   \LWR@htmltag{/span}%
7864   \endgroup%
7865 }%
7866
7867 \xpretocmd{\verb}{%
7868   {%
7869     \begingroup%
7870     \LWR@htmltag{span class="texttt"}%
7871     \let\verb\verb@egroup\verb@verb@egroup@endspan%
7872   }%
7873   {}%
7874   {\LWR@patcherror{LaTeX}{\verb}}}
```

\LWR@atbeginverbatim [⟨1: style⟩] {⟨2: class⟩}

Encloses a verbatim environment with the given css class.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```

7875 \newcommand*{\LWR@atbeginverbatim}[2][]{%
7876 {%
```

Stop generating HTML paragraph tags:

```
7877 \LWR@stopars%
```

Avoid excessive space between lines:

```

7878 \setlength{\parskip}{0ex}%
7879 \setlength{\topsep}{0pt}%
7880 \setlength{\partopsep}{0pt}%

```

Create a new pre of the given class. The tags may temporarily be turned off for internal use, such as loading the MATHJAX script.

```

7881 \ifbool{\LWR@verbtags}{%
7882   \LWR@htmltag{pre class=\textquotedbl#2\textquotedbl}%
7883   \ifthenelse{\equal{\#1}{}}{\style=\textquotedbl#1\textquotedbl}{}%
7884 }%
7885 \par%
7886 }{}}
```

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.

```
7887 \begingroup%
```

```
7888 \LWR@print@normalfont%
7889 \LWR@origttfamily%
7890 \LWR@print@scriptsize%
```

Since inside a <pre>, restore the original list processing:

```
7891 \LWR@restoreoriglists%
```

Turn off babel-french extra space before punctuation:

```
7892 \LWR@FBcancel%
```

Do not produce HTML tags for \hspace inside a verse par. Restore plain L^AT_EX \hspace functionality:

```
7893 \LWR@select@print@hspace%
7894 }
```

\LWR@afterendverbatim Finishes enclosing a verbatim environment.

```
7895 \newcommand*{\LWR@afterendverbatim}{%
7896 \endgroup%
7897 \par%
```

At the end of the environment, close the pre:

```
7898 \ifbool{\LWR@verbtags}{%
7899     \noindent\LWR@htmltag{/pre}\par% pre
7900 }{}}%
```

Resume regular paragraph handling:

```
7901 \LWR@startpars%
7902 }
```

\verbatiminput {<filename>}

Patch \verbatiminput to add HTML tags:

```
7903 \newcommand{\LWR@HTML@verbatim@input}[2]{%
7904     \ifbool{\LWR@verbtags}{\LWR@forcenewpage}{%
7905         \LWR@atbeginverbatim{Verbatim}%
7906         \LWR@print@verbatim@input{#1}{#2}%
7907         \LWR@afterendverbatim%
7908     }%
7909     \LWR@formatted{verbatim@input}%
7910 }
```

Env verbatim

```
7911 \AfterEndPreamble{
```

```

7912 \LWR@traceinfo{Patching verbatim.}
7913 \AtBeginEnvironment{verbatim}{%
7914     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
7915         {}%
7916         {}%
7917             \LWR@forcenewpage%
7918             \LWR@atbeginverbatim{verbatim}%
7919         {}%
7920     }%
7921 \AfterEndEnvironment{verbatim}{%
7922     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
7923         {}%
7924         {}%
7925             \LWR@afterendverbatim%
7926         {}%
7927     }%
7928 }

```

`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.

```

7929 \newcommand*{\LWR@HTML@tabbing}{%
7930     \LWR@forcenewpage%
7931     \LWR@atbeginverbatim{tabbing}%
7932     \let\enskip\LWR@origskip%
7933     \let\quad\LWR@origquad%
7934     \let\qquad\LWR@origqquad%
7935     \let~\LWR@origtilde%
7936     \let,\LWR@origcomma%
7937     \let\thinspace\LWR@origthinspace%
7938     \let\negthinspace\LWR@orignegthinspace%
7939     \LWR@print@tabbing%
7940 }%
7941
7942 \newcommand*{\LWR@HTML@endtabbing}{%
7943     \LWR@print@endtabbing%
7944     \LWR@afterendverbatim%
7945 }%
7946
7947 \LWR@formatted{tabbing}%
7948 \LWR@formatted{endtabbing}%

```

```

7949 \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 of class theoremlabel.
- The contents are placed inside a <div> of class theoremcontents.

for HTML output: 7950 \begin{warpHTML}

```
\@begintheorem {\langle name\rangle} {\langle number\rangle}
```

```
7951 \renewcommand{\@begintheorem}[2]{%
7952 \LWR@forcenewpage
7953 \BlockClass{theoremcontents}
7954 \trivlist
7955 \item[\InlineClass{theoremlabel}{\#1\ #2\ }]\itshape
7956 }
```

```
\@opargbegintheorem {\langle name\rangle} {\langle number\rangle} {\langle oparg\rangle}
```

L^AT_EX defines this, but amsthm relaxes it, so it will not be defined if amsthm is loaded before lwarp.

```
7957 \ifundef{\@opargbegintheorem}{}{
7958   \renewcommand{\@opargbegintheorem}[3]{%
7959     \LWR@forcenewpage
7960     \BlockClass{theoremcontents}
7961     \trivlist
7962     \item[\InlineClass{theoremlabel}{\#1\ #2\ (#3)\ }]\itshape
7963   }
7964 }
```

```
\@endtheorem
```

```
7965 \renewcommand*{\@endtheorem}{%
7966 \endtrivlist
7967 \endBlockClass% theoremcontents
7968 }
```

```
7969 \end{warpHTML}
```

72 Lists

The environments itemize, enumerate, and description are patched when lwarp is started. These patches support the standard L^AT_EX environments, as well as those of enumerate, enumitem, and paralist, and at least the French version of babel. Additional patches are done on a package-specific basis.

The L^AT_EX 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: 7970 `\begin{warpHTML}`

`\LWR@printcloselist` May be locally redefined by `enumerate` or `description`.

7971 `\newcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}`

`\LWR@printopenlist` May be locally redefined by `enumerate` or `description`.

7972 `\newcommand*{\LWR@printopenlist}{ul style="\LWR@print@mbox{list-style-type:none}"}`

`\@mklab` Removes PDF spacing.

7973 `\AtBeginDocument{`
 7974 `\def\@mklab#1{%`
 7975 `% \hfil %`
 7976 `#1}`
 7977 `\let\makelabel\@mklab`
 7978 `}`

`\@donoparitem` Modified for HTML output by replacing TeX boxes with plain text. Also removes PDF spacing.

7979 `\def\@donoparitem{%`
 7980 `\@noperitemfalse`
 7981 `% \global\setbox\@labels\hbox{\hskip -\leftmargin`

```
7982 %                               \unhbox\@labels
7983 %                               \hskip \leftmargin}%
7984 % \if@minipage\else
7985 %   \@tempskipa\lastskip
7986 %   \vskip -\lastskip
7987 %   \advance\@tempskipa\@outerparskip
7988 %   \advance\@tempskipa -\parskip
7989 %   \vskip\@tempskipa
7990 % \fi
7991 }
```

\@item Modified for HTML output by replacing T_EX boxes with plain text. Also removes PDF spacing.

```
7992 \def\LWR@HTML@item[#1]{%
7993 \LWR@traceinfo{@item}
7994 \if@noperitem
7995 \odonoperitem
7996 \else
7997 % \if@inlabel
7998 %   \indent
7999 %   \par
8000 %   \fi
8001 \ifhmode
8002 %   \unskip\unskip
8003 %   \par
8004 \fi
8005 \if@newlist
8006 % \if@nobreak
8007 %   \nbitem
8008 \else
8009 %   \addpenalty\beginparpenalty
8010 %   \addvspace\topsep
8011 %   \addvspace{-\parskip}%
8012 \fi
8013 \else
8014 % \addpenalty\itempenalty
8015 % \addvspace\itemsep
8016 \fi
8017 \global\inlabeltrue
8018 \fi
8019 % \everypar{%
8020 % \minipagefalse
8021 \global\newlistfalse

8022 % \if@inlabel
8023 % \global\inlabelfalse

8024 % {\setbox\z@\lastbox
8025 % \ifvoid\z@
8026 %   \kern-\itemindent
8027 % \fi}%
8028 % \box\@labels
```

```

8029 %      \penalty\z@
8030 %      \fi

8031 %      \if@nobreak
8032 %          \nobreakfalse
8033 %          \clubpenalty \z@M
8034 %      \else
8035 %          \clubpenalty \z@clubpenalty
8036 %          \everypar{}%
8037 %      \fi}%

8038 \if@noitemarg
8039   \enoitemargfalse
8040 \if@nmbrlist

8041   \refstepcounter@listctr
8042   \fi
8043 \fi

8044 \makelabel{\#1} % extra space
8045 \sbox{\tempboxa{\makelabel{\#1}}}
8046 \global\setbox@\labels\hbox{%
8047   \unhbox@\labels
8048   \hskip \itemindent
8049   \hskip -\labelwidth
8050   \hskip -\labelsep
8051   \ifdim \wd\tempboxa >\labelwidth
8052     \box\tempboxa

8053 \else
8054   \hbox to\labelwidth {\unhbox\tempboxa}%
8055 \fi
8056   \hskip \labelsep}%
8057 \ignorespaces%
8058 }

\@nbitem

8059 \def\@nbitem{%
8060   \tempskipa\@outerparskip
8061   \advance\tempskipa -\parskip
8062   \addvspace\tempskipa
8063 }

\LWR@listitem [⟨label⟩]

Handles \item inside a list, itemize, or enumerate.

See \LWR@openparagraph where extra \hskip is used to leave room for the label while
inside a list during paragraph construction.

```

8064 \newcommand*\LWR@listitem{%

```

8065 \LWR@stopars%
8066 \LWR@startnewdepth{listitem}%
8067 \LWR@htmltag{li}%
8068 \LWR@startpars%
8069 \LWR@origitem%
8070 }

```

\LWR@nulllistfills Nullifies various TeX fill commands, in case they are used inside \makelabel. Problems are caused when these are nullified all the time.

```

8071 \newcommand*{\LWR@nulllistfills}{%
8072 \renewcommand*{\hss}{ }%
8073 \renewcommand*{\llap}[1]{\#1}%
8074 \renewcommand*{\rlap}[1]{\#1}%
8075 \renewcommand*{\hfil}{ }%
8076 \renewcommand*{\hfilneg}{ }%
8077 \renewcommand*{\hfill}{ }%
8078 }

```

Env list {*<label>*} {*commands*}

```

8079 \newcommand*{\LWR@liststart}{%
8080 \LWR@traceinfo{\LWR@liststart}%
8081 \LWR@stopars%
8082 \LWR@pushoneclose{list}%
8083 \LWR@htmltag{\LWR@printopenlist}\LWR@orignewline%
8084 \LWR@startpars%
8085 \setlength{\topsep}{0pt}%
8086 \setlength{\partopsep}{0pt}%
8087 \setlength{\itemsep}{0pt}%
8088 \setlength{\parsep}{0pt}%
8089 \setlength{\leftmargin}{0pt}%
8090 \setlength{\rightmargin}{0pt}%
8091 \setlength{\listparindent}{0pt}%
8092 \setlength{\itemindent}{0pt}%
8093 \setlength{\labelsep}{1em}%
8094 \LWR@nulllistfills%
8095 }

8096 \newcommand*{\LWR@listend}{%
8097 \LWR@traceinfo{\LWR@listend}%
8098 \LWR@stopars%
8099 \LWR@closeprevious{list}%
8100 \LWR@startpars%
8101 }

```

72.2 Itemize

\LWR@itemizeitem [*<label>*]

Handles \item inside an itemize or enumerate.

See \LWR@openparagraph where extra \hspace is used to leave room for the label while inside a list during paragraph construction.

```

8102 \newcommand*{\LWR@itemizeitem}{%
8103 \LWR@stoppars%
8104 \LWR@startnewdepth{listitem}%
8105 \LWR@htmltag{li}%
8106 \LWR@startpars%
8107 \LWR@origitem%
8108 }

Env itemize [<options>]

8109 \newcommand*{\LWR@itemizestart}{%
8110 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
8111 \renewcommand*{\LWR@printopenlist}{ul style="\LWR@print@mbox{list-style-type:none}"}
8112 \let\item\LWR@itemizeitem%
8113 \LWR@nulllistfills%
8114 }

```

72.3 Enumerate

An HTML unordered list is used with customized L^AT_EX-generated labels.

```

Env enumerate [<options>]

8115 \newcommand*{\LWR@enumeratestart}{%
8116 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
8117 \renewcommand*{\LWR@printopenlist}{ul style="\LWR@print@mbox{list-style-type:none}"}
8118 \let\item\LWR@itemizeitem%
8119 \LWR@nulllistfills%
8120 }

```

72.4 Description

\LWR@descitem [<label>] Handles an \item inside a description.

```

8121 \newcommand*{\LWR@descitem}[1][]%
8122 {%
8123 \LWR@stoppars%
8124 \LWR@setlatestname{#1}%
8125 \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.

```

8126 \begingroup%
8127 \let\LWR@orig@desc@makelabel\makelabel
8128 \renewcommand*{\makelabel}[1]{%

```

```

8129   \LWR@htmlltag{dt}%
8130   \LWR@orig@desc@makelabel{#1}%
8131   \LWR@htmlltag{/dt}%
8132 }
8133 \LWR@select@html@nohspace%
8134 \LWR@origitem[#1]%
8135 \endgroup%
8136 \LWR@orignewline%
8137 \LWR@htmlltag{dd}%
8138 \LWR@startpars%
8139 }

Env description [<options>]

8140 \newcommand*{\LWR@descriptionstart}{%
8141 \renewcommand*{\LWR@printclosedescription}{\LWR@printclosedescription}
8142 \renewcommand*{\LWR@printopenlist}{\LWR@printopenlist}
8143 \let\item\LWR@descitem%
8144 \LWR@nulllistfills%
8145 }

```

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^AT_EX environments, as well as those provided by enumitem, enumerate, and paralist.

```

8146 \newcommand*{\LWR@patchlists}{%
8147   \LetLtxMacro{\item}{\LWR@listitem}%
8148   \LetLtxMacro{\@item}{\LWR@HTML@item}%
8149   \renewcommand*{\@trivlist}{%
8150     \LWR@traceinfo{@trivlist start}%
8151     \LWR@liststart%
8152     \LWR@orig@trivlist%
8153     \LWR@traceinfo{@trivlist done}%
8154   }%
8155   \renewcommand*{\trivlist}{%
8156     \LWR@traceinfo{trivlist}%
8157     \LWR@origtrivlist%
8158   }%
8159   \renewcommand*{\endtrivlist}{%
8160     \LWR@traceinfo{endtrivlist start}%
8161     \LWR@origendtrivlist\LWR@listend%
8162     \LWR@traceinfo{endtrivlist done}%
8163   }%
8164   \renewcommand*{\itemize}{%
8165     \LWR@itemizestart\LWR@origitemize%
8166   }%
8167   \renewcommand*{\enumerate}{%

```

```

8168      \LWR@enumeratestart\LWR@origenumerate%
8169  }%
8170  \renewcommand*\{description}{%
8171      \LWR@descriptionstart\LWR@origdescription%
8172  }%
8173 }

```

\LWR@restoreoriglists Restores the original `trivlist` environment.

```

8174 \newcommand*\{LWR@restoreoriglists}{%
8175     \LWR@traceinfo{LWR@restoreoriglists}%
8176     \LetLtxMacro\item\LWR@origitem%
8177     \LetLtxMacro\@item\LWR@orig@item%
8178     \let\@trivlist\LWR@orig@trivlist%
8179     \let\trivlist\LWR@origtrivlist%
8180     \let\endtrivlist\LWR@origendtrivlist%
8181     \LetLtxMacro\itemize\LWR@origitemize%
8182     \LetLtxMacro\enditemize\LWR@endorigitemize%
8183     \LetLtxMacro\enumerate\LWR@origenumerate%
8184     \LetLtxMacro\endenumerate\LWR@endorigenumerate%
8185     \LetLtxMacro\description\LWR@origdescription%
8186     \LetLtxMacro\enddescription\LWR@endorigdescription%
8187     \let\@mklab\LWR@orig@mklab%
8188     \let\makelabel\LWR@origmakelabel%
8189     \let\@donoparitem\LWR@orig@donoparitem%
8190     \let\@nbitem\LWR@orig@nbitem%
8191 }

```

```
8192 \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^AT_EX 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.

 `\warpprintonly`
 Misplaced `\noalign`

- For `\toprule` and `\bottomrule`, when combined with a `warpprint` or `warpHTML` environment, if a “Misplaced `\noalign`” error occurs, change

This & That `\endhead`

to

```
\warpprintonly{This & That \endhead}
```

and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

Other:

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.

- 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^AT_EX, a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a ``. If this situation is detected, a warning is printed instructing the user to isolate the `` using `\warpprintonly` or the `warpprint` environment.

for HTML output: 8193 `\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^AT_EX non-dashed versions.

```
8194 \LetLtxMacro{\hdashline}{\hline}
8195 \LetLtxMacro{\cdashline}{\cline}
8196 \LetLtxMacro{\firstdashline}{\hline}
8197 \LetLtxMacro{\lastdashline}{\hline}
```

73.3 Token lookahead

Used by `\LWR@futureonospacelet` to look at the next token.

`\LWR@mynexttoken`

8198 `\newcommand{\LWR@mynexttoken}{\relax}`

`\futurelet` copies the next token then executes a function to analyze it.

`\LWR@futureonospacelet` does the same, but ignores intervening white space

Based on the `booktabs` style:

`\LWR@futureonospacelet`

8199 `\def{\LWR@futureonospacelet}{\def{\LWR@cs{\#1}}{}}`
 8200 `\afterassignment{\LWR@fnslone{\let{\nexttoken= }}`
 8201
 8202 `\def{\LWR@fnslone}{\expandafter{\futurelet{\LWR@cs{\LWR@fnsltwo}}{}}`
 8203
 8204 `\def{\LWR@fnsltwo}{%`
 8205 `\expandafter{\ifx{\LWR@cs{\@sptoken}\let{\next=\LWR@fnslthree}{}}`
 8206 `\else{\let{\next=\nexttoken}\fi\next}}`
 8207
 8208 `\def{\LWR@fnslthree}{\afterassignment{\LWR@fnslone{\let{\next= }}`

`\LWR@getmynexttoken` Looks ahead and copies the next token into `\LWR@mynexttoken`.

8209 `\newcommand*{\LWR@getmynexttoken}[1]{%`
 8210 `\LWR@traceinfo{\LWR@getmynexttoken}{#1}%`
 8211 % nothing must follow this next line
 8212 `\LWR@futureonospacelet{\LWR@mynexttoken{\LWR@tabledatacolumntag{#1}}}`
 8213 }

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.

8214 `\newbool{\LWR@startedrow}`
 8215 `\boolfalse{\LWR@startedrow}`

Bool `\LWR@tabularcelladded` True if have added a data cell for this position.

8216 `\newbool{\LWR@tabularcelladded}`
 8217 `\boolfalse{\LWR@tabularcelladded}`

Ctr LWR@hlines Number of \hlines or \midrules above the next row.

8218 \newcounter{LWR@hlines}

Ctr LWR@hdashedlines Number of arydshln dashed lines above the next row.

8219 \newcounter{LWR@hdashedlines}

Bool LWR@doingtbrule True if the next row will have a top/bottom rule above it.

8220 \newbool{LWR@doingtbrule}
8221 \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.

8222 \newbool{LWR@doingcmidrule}
8223 \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.

8224 \newbool{LWR@tableparcell}

Bool LWR@skippingmrowcell True if are doing an empty \multirow cell, and thus there is no data tag to close.

8225 \newbool{LWR@skippingmrowcell}

Bool LWR@skippingmcolrowcell True if are doing an empty \multicolumn cell, and thus there is no data tag to close, and do not print @ and ! columns.

8226 \newbool{LWR@skippingmcolrowcell}

Bool LWR@usedmultirow Used to error if used \multirow or \multicolumn without using \mrowcell or \mcolrowcell.

8227 \newbool{LWR@usedmultirow}

Bool LWR@foundmrowcell Used to error if used \multirow or \multicolumn without using \mrowcell or \mcolrowcell.

8228 \newbool{LWR@foundmrowcell}

Bool LWR@skipatbang True if just finished a \multicolumn so should not create the trailing @ or ! columns table data cells.

8229 \newbool{LWR@skipatbang}

Bool LWR@emptyatbang True if finishing a row and should print empty @ or ! column table data cells.

8230 \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.

```
8231 \newbool{LWR@intabularmetadata}
8232 \boolfalse{LWR@intabularmetadata}
```

Bool LWR@exittingtabular When `\end` is found, turns off the next opening data tag.

```
8233 \newbool{LWR@exittingtabular}
```

Bool LWR@tabularmutemods Mutes **HTML** output for @, !, < and >.

This is used while printing the final row to generate `\bottomrules`.

```
8234 \newbool{LWR@tabularmutemods}
```

Bool LWR@validtablecol True if found a valid table column type.

```
8235 \newbool{LWR@validtablecol}
```

Bool LWR@opttablecol True if found a table column optional argument.

```
8236 \newbool{LWR@opttablecol}
```

Used to add a style to a table data cell:

```
8237 \newbool{LWR@tdhavecellstyle}
```

Ctr LWR@tabularDepth Tracks whether & is being used inside a tabular.

```
8238 \newcounter{LWR@tabulardepth}
8239 \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.

```
8240 \newcounter{LWR@tabularpardepth}
8241 \setcounter{LWR@tabularpardepth}{0}
```

```
8242 \newcommand*{\LWR@colsresult}{}%temp storage for column format results
8243 \newcommand*{\LWR@position}{}%
8244 \newcommand*{\LWR@pleft}{}%
8245 \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 **LATEX** table column, without @, !, >, <, or the vertical bar.

\LWR@strresult Holds the result of Str functions.

```
8246 \providecommand*\LWR@strresult{}  
8247 \providecommand*\LWR@strresulttwo{}
```

\LWR@origcolspec Holds the original column specs given to tabular.

```
8248 \newcommand*\LWR@origcolspec{}
```

Ctr \LWR@tablecolspeccwidth Holds the number of tokens in the table columns specification.

This includes one for each @, !, <, > column, and also one for each of the parameters of p, @, !, <, > columns, and three for each D column.

(This is not the total # of LATEX columns in the table.)

```
8249 \newcounter{\LWR@tablecolspeccwidth}
```

Ctr \LWR@tablecolspeccindex While parsing the LATEX table column specification, starts at 1 and is incremented per token of the specification.

```
8250 \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.

```
8251 \newcounter{\LWR@tableLaTeXcolindex}
```

Ctr \LWR@tabletotalLaTeXcols While parsing a table column specification, begins at 0 and increments by 1 per LATEX table column. Eventually holds the final number of LATEX table columns in each row, not counting @ and ! columns. (In HTML, @ and ! cells become their own columns, but are not included in \LWR@tabletotalLaTeXcols.)

```
8252 \newcounter{\LWR@tabletotalLaTeXcols}
```

Ctr \LWR@tabletotalLaTeXcolsnext Holds the next LATEX table column index while parsing, equal to one more than \LWR@tabletotalLaTeXcols.

```
8253 \newcounter{\LWR@tabletotalLaTeXcolsnext}
```

\LWR@colatspec A data array of specifications for @ columns. The leftmost's index is lefthead, the others are counter values. See section 41.

\LWR@colbangspec A data array of specifications for ! columns. The leftmost's index is lefthead, 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.

```
8254 \newcounter{LWR@cellcolordepth}
```

73.4.1 Multicolumn variables

```
8255 \newcounter{LWR@tablemulticolwidth}
```

Indexes into the multicolumn specification:

```
8256 \newcounter{LWR@tablemulticolspos}
```

Remembers multicolumn vertical rules if found in the column spec.

```
8257 \newcounter{LWR@mcolvertbarsl}
8258 \newcounter{LWR@mcolvertbarsr}
8259 \newcounter{LWR@mcolvertbarsldash}
8260 \newcounter{LWR@mcolvertbarsrdash}
8261 \newbool{LWR@mcolvertbaronleft}
```

73.4.2 Longtable variables

Bool LWR@starredlongtable Per the caption package, step the counter if longtable*.

```
8262 \newbool{LWR@starredlongtable}
8263 \boolefalse{LWR@starredlongtable}
```

73.4.3 Midrule variables

Ctr LWR@midrulecounter Indexes across the LWR@midrules and LWR@trim<l/r>rules data arrays.

```
8264 \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](http://tex.stackexchange.com/questions/11860#11860)

```
\LWR@instertatbangcols
```

```
8265 \newcommand*\LWR@insertatbangcols}{%
8266     \ifbool{LWR@skipatbang}{%
8267         {}%
8268         {}%
8269         \LWR@printatbang{at}{\arabic{LWR@tableTeXcolindex}}%
8270         \LWR@printatbang{bang}{\arabic{LWR@tableTeXcolindex}}%
8271     }%
8272 }
```

\LWR@closetabledatcell If \LWR@skippingmrowcell or \LWR@skippingmcolrowcell then there is no data tag to close. Otherwise, close any paragraphs, then close the data tag.

```

8273 \newcommand*{\LWR@closetabledatcell}{%
8274     \booltrue{\LWR@intabularmetadata}%
8275     \ifbool{\LWR@exittingtabular}{%
8276         {%
8277             \LWR@stoppars%
8278         }%
8279         \% not exiting tabular
8280         \ifboolexpr{bool{\LWR@skippingmrowcell} or bool{\LWR@skippingmcolrowcell}}{%
8281             {%
8282                 \LWR@stoppars%

```

If not skipping a \multicolumnrow cell, insert the @ and ! columns after this non-existent column.

```

8283         \ifbool{\LWR@skippingmcolrowcell}{%
8284             {}%
8285             {\LWR@insertatbangcols}%
8286         }%
8287         \% not skippingmrowcell

```

Insert any < then any @ and ! column contents, unless muted for the \bottomrule or a \multicolumn:

```

8288         \unskip%
8289         \ifboolexpr{%
8290             bool{\LWR@tabularmutemods} or
8291             bool{\LWR@skipatbang} or
8292             bool{\LWR@emptyatbang}
8293         }%
8294         {}%
8295         {%
8296             \LWR@getexparray{\LWR@col afterspec}%
8297             {\arabic{\LWR@tableLaTeXcolindex}}%
8298         }%

```

Close paragraphs:

```

8299         \LWR@stoppars%
8300         \boolfalse{\LWR@tableparcell}%

```

Close the table data cell.

Close any color <div>s.

```

8301         \whileboolexpr{test {\ifnumcomp{\value{\LWR@cellcolordepth}}{>}{0}}}{{%
8302             \LWR@htmlltag{/div}\LWR@orignewline%
8303             \defaddtocounter{\LWR@cellcolordepth}{-1}%
8304         }%

```

Skip the @ and ! cells if are closing a multicolumn cell.

```
8305      \leavevmode\unskip\LWR@htmltag{/td}\LWR@orignewline%
8306      \global\booltrue{\LWR@tabularcelladded}%
8307      \LWR@insertatbangcols%
8308      }% not skipping mrowcell
8309      }% not exiting tabular
8310      \boolfalse{\LWR@skippingmrowcell}%
8311      \boolfalse{\LWR@skippingmcolrowcell}%
8312      \boolfalse{\LWR@skipatbang}%
```

Color control. Column is set by >{} for each cell, so it must be cleared here.

```
8313  \def\LWR@cellHTMLcolor{}%
8314  \def\LWR@columnHTMLcolor{}%
8315  \defcounter{\LWR@cellcolordepth}{0}%
8316 }
```

When not used inside a tabular, & performs its original function as recorded here (with catcode 4).

```
8317 \let\LWR@origampmacro&
8318 \end{warpHTML}
```

73.5.1 Handling &

for HTML output: 8319 \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.

```
8320 \newcommand*{\LWR@tabularampersand}{%
8321   \LWR@traceinfo{\LWR@tabularampersand}%
8322   \ifnumcomp{\value{\LWR@tabulardepth}}{>}{0}%
8323   {%
```

If not skipping a multirow cell, close the current data cell.

```
8324      \unskip%
8325      \LWR@closetabledatacell%
```

Move to the next column.

```
8326      \defaddtocounter{\LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
8327      \global\boolfalse{\LWR@tabularcelladded}%
```

Look at the next token to decide multi or single column data tag.

```
8328      \LWR@getmynexttoken%
8329  }%
```

If not inside a tabular, performs the original action:

```
8330  {%
8331      \LWR@origampmacro%
8332  }%
8333 }
```

& 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.

```
8334 \newcommand*\LWR@tabularfinishrow}{%
```

If not exiting the tabular, or doing a rule, or have already started a row, finish this row:

```
8335  \ifboolexpr{%
8336      not \LWR@exittingtabular} or%
8337      \bool{\LWR@doingtbrule} or%
8338      \bool{\LWR@doingcmidrule} or%
8339      test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
8340      test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}} or%
8341      \bool{\LWR@startedrow}%
8342  }{%
```

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:

```
8343  \ifbool{\LWR@exittingtabular}{%
8344      \booltrue{\LWR@tabularmutemods}%
8345  }{%
8346      \boolfalse{\LWR@tabularmutemods}%
8347  }%
```

Locally reenable the table data tags until finished with the final row:

```
8348 \boolfalse{LWR@exittingtabular}%
```

Generate table data tags and ampersands until the right edge:

```
8349 \whileboolexpr{%
8350   test {
8351     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{}
8352       {\value{LWR@tabletotalLaTeXcols}}
8353   } or %
8354   (%
8355     \bool{LWR@intabularmetadata} and%
8356     not \bool{LWR@tabularcelladded} and%
8357     test {
8358       \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{}
8359         {\value{LWR@tabletotalLaTeXcols}}
8360     }%
8361   )%
8362 }%
8363 {%
8364   \LWR@tabledatasinglecolumntag%
```

The following is essentially \LWR@tabularampersand with LWR@emptyatbang added to empty the following cells:

```
8365 \LWR@closetabledatacell%
8366 \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
8367 \global\boolfalse{LWR@tabularcelladded}%
8368 \booltrue{LWR@emptyatbang}%
```

Starts the next cell:

```
8369 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{}
8370   {\value{LWR@tabletotalLaTeXcols}}%
8371   {\LWR@getmynexttoken}%
8372   {}%
8373 }%
```

Reenable the original LWR@exittingtabular to close the entire table:

```
8374 \ifbool{LWR@tabularmutemods}{%
8375   \booltrue{LWR@exittingtabular}%
8376 }{%
8377   \boolfalse{LWR@exittingtabular}%
8378 }%
8379 \boolfalse{LWR@tabularmutemods}%

8380 \boolfalse{LWR@emptyatbang}%
8381 }{}% ifboolexpr
8382 }
```

73.6 Handling \\

Inside tabular, \\ is redefined to \LWR@tabularendofline

Throws away options \\[dim] or *

\LWR@tabularendofline

```
8383 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%
```

Finish the row:

```
8384     \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{<}%
8385         {\value{\LWR@tabletotalLaTeXcols}}%
8386         {\LWR@tabularfinishrow}%
8387         {\LWR@closetabledatacell}%
8388     \LWR@htmlltag{/tr}\LWR@orignewline%
```

xcolor row color support:

```
8389     \@rowc@lors%
```

No longer inside a data cell:

```
8390     \booltrue{\LWR@intabularmetadata}%
```

Not yet started a table row:

```
8391     \boolfalse{\LWR@startedrow}%
```

Additional setup:

```
8392     \defcounter{\LWR@hlines}{0}%
8393     \defcounter{\LWR@hdashedlines}{0}%
8394     \boolfalse{\LWR@doingtbrule}%
8395     \boolfalse{\LWR@doingcmidrule}%
8396     \LWR@clearmidrules%
```

```
8397     \def\LWR@rowHTMLcolor{}
```

Start at first column:

```
8398     \defcounter{\LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
8399     \global\boolfalse{\LWR@tabularcelladded}%
```

Allow TeX to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```
8400     \LWR@stopars%
8401     \LWR@origpar%
```

Look at the next token to decide between single column data tag or a special case:

```
8402     \LWR@getmynexttoken%
8403 }
```

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}.

```
8404 \newcommand*{\LWR@columnspeclookahead}[1]{%
8405     \setcounter{\LWR@tempcountone}{\value{\LWR@tablecolspectindex}}%
8406     \addtocounter{\LWR@tempcountone}{#1}%
8407     \fullexpandarg%
8408     \StrChar{\LWR@origcolspec}{\arabic{\LWR@tempcountone}}[\LWR@strresulttwo]%
```

Get the contents of the first group in \LWR@strresulttwo:

```
8409     \exploregroups%
8410     \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
8411     \noexploregroups%
8412 }
```

73.8 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```
8413 \newcommand*{\LWR@colparameter}{}%
```

\LWR@parseatcolumn Handles @{text} columns.

```
8414 \newcommand*{\LWR@parseatcolumn}{}%
```

Move to the next token after the '@':

```
8415     \LWR@traceinfo{@ column}%
8416     \defaddtocounter{\LWR@tablecolspectindex}{1}%
```

Read the next token into \LWR@colparameter, expanding once:

```
8417     \LWR@traceinfo{about to read the next token:}%
8418     \expandarg%
8419     \StrChar{\LWR@origcolspec}%
8420         {\arabic{\LWR@tablecolspectindex}}[\LWR@colparameter]%
8421     \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

8422      \LWR@traceinfo{have now read the next token}%
8423      \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8424      {% left edge of the table:
8425          \LWR@traceinfo{at the left edge}%
8426          \LWR@setexpparray{\LWR@colatspec}%
8427              {leftedge}%
8428              {\expandafter\@firstofone\LWR@colparameter}%
8429          \LWR@traceinfo{at the left edge: %}
8430          \LWR@getexpparray{\LWR@colatspec}{leftedge}}%
8431      }%
8432      {% not at the left edge:
8433          \LWR@traceinfo{not at the left edge}%
8434          \LWR@setexpparray{\LWR@colatspec}%
8435              {\arabic{\LWR@tabletotalLaTeXcols}}%
8436              {\expandafter\@firstofone\LWR@colparameter}%
8437          \LWR@traceinfo{at \arabic{\LWR@tabletotalLaTeXcols}: %}
8438          \LWR@getexpparray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcols}}}%
8439      }%
8440      \let\LWR@colparameter\relax%
8441      \booltrue{\LWR@validtablecol}%
8442 }

```

\LWR@parsebangcolumn Handles !{text} columns.

```
8443 \newcommand*{\LWR@parsebangcolumn}{%
```

Move to the next token after the '!':

```

8444      \LWR@traceinfo{bang column}%
8445      \defaddtocounter{\LWR@tablecolspecindex}{1}%

```

Read the next token into \LWR@colparameter, expanding once:

```

8446      \LWR@traceinfo{about to read the next token:}%
8447      \expandarg%
8448      \StrChar{\LWR@origcolspec}%
8449          {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
8450      \fullexpandarg%

```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

8451      \LWR@traceinfo{have now read the next token}%
8452      \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8453      {% left edge of the table:
8454          \LWR@traceinfo{at the left edge}%
8455          \LWR@setexpparray{\LWR@colbangspec}%
8456              {leftedge}%
8457              {\expandafter\@firstofone\LWR@colparameter}%
8458      }%
8459      {% not at the left edge:
8460          \LWR@traceinfo{not at the left edge}%
8461          \LWR@setexpparray{\LWR@colbangspec}%

```

```

8462      {\arabic{LWR@tabletotalLaTeXcols}}%
8463      {\expandafter\@firstofone\LWR@colparameter}%
8464      \LWR@traceinfo{bang \arabic{LWR@tabletotalLaTeXcols}: \LWR@colparameter!}%
8465  }%
8466  \let\LWR@colparameter\relax%
8467  \booltrue{\LWR@validtablecol}%
8468 }
```

\LWR@parsebeforecolumn Handles >{text} columns.

```
8469 \newcommand*{\LWR@parsebeforecolumn}{%
```

Move to the next token after the '>':

```
8470 \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```

8471  \expandarg%
8472  \StrChar{\LWR@origcolspec}%
8473  {\arabic{LWR@tablecolsindex}}[\LWR@colparameter]%
8474  \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

8475  \LWR@setexpparray{\LWR@colbeforespec}%
8476  {\arabic{LWR@tabletotalLaTeXcolsnext}}%
8477  {\expandafter\@firstofone\LWR@colparameter}%
8478  \let\LWR@colparameter\relax%
8479  \booltrue{\LWR@validtablecol}%
8480 }
```

\LWR@parseaftercolumn Handles <{text} columns.

```
8481 \newcommand*{\LWR@parseaftercolumn}{%
```

Move to the next token after the '<':

```
8482 \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```

8483  \expandarg%
8484  \StrChar{\LWR@origcolspec}%
8485  {\arabic{LWR@tablecolsindex}}[\LWR@colparameter]%
8486  \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

8487  \LWR@setexpparray{\LWR@colaferspec}%
8488  {\arabic{LWR@tabletotalLaTeXcols}}%
8489  {\expandafter\@firstofone\LWR@colparameter}%
```

```

8490     \let\LWR@colparameter\relax%
8491     \booltrue{\LWR@validtablecol}%
8492 }

```

\LWR@parsebarcolumn Handles vertical rules.

```

8493 \newcommand*{\LWR@parsebarcolumn}{%
8494     \LWR@traceinfo{\LWR@parsebarcolumn}%

```

Remember the bar at this position:

```

8495     \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8496     {% left edge of the table:
8497         \edef\LWR@tempone{\LWR@getexpparray{\LWR@colbarspec}{leftedge}}%
8498         \ifdefstring{\LWR@tempone}{tvertbarl}%
8499             {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarldouble}}%
8500             {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarl}}%
8501     }%
8502     {% not at the left edge:
8503         \edef\LWR@tempone{%
8504             \LWR@getexpparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcols}}%
8505         }%
8506         \ifdefstring{\LWR@tempone}{tvertbarr}%
8507             {%
8508                 \LWR@setexpparray{\LWR@colbarspec}{%
8509                     \arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdouble}}%
8510             {%
8511                 {%
8512                     \LWR@setexpparray{\LWR@colbarspec}{%
8513                         \arabic{\LWR@tabletotalLaTeXcols}}{tvertbarr}}%
8514             }%
8515     }%
8516     \booltrue{\LWR@validtablecol}%
8517 }

```

\LWR@parsecoloncolumn Handles vertical rules.

```

8518 \newcommand*{\LWR@parsecoloncolumn}{%
8519     \LWR@traceinfo{\LWR@parsecoloncolumn}%

```

Remember the bar at this position:

```

8520     \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8521     {% left edge of the table:
8522         \edef\LWR@tempone{\LWR@getexpparray{\LWR@colbarspec}{leftedge}}%
8523         \ifdefstring{\LWR@tempone}{tvertbarldash}%
8524             {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
8525             {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarldash}}%
8526     }%
8527     {% not at the left edge:
8528         \edef\LWR@tempone{%
8529             \LWR@getexpparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcols}}%
8530         }%

```

```

8531      \ifdefstring{\LWR@tempone}{tvertbarrdash}%
8532          {\LWR@setexpararray{\LWR@colbarspec}%
8533              {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%
8534          {\LWR@setexpararray{\LWR@colbarspec}%
8535              {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdash}}%
8536      }%
8537      \booltrue{\LWR@validtablecol}%
8538 }

```

\LWR@parsesemicoloncolumn Handles vertical rules.

```
8539 \newcommand*{\LWR@parsesemicoloncolumn}{%
```

Treat ; as a : column:

```
8540 \LWR@parsecoloncolumn%
```

Skip the following width token:

```

8541 \defaddtocounter{\LWR@tablecolsindex}{1}%
8542 }
```

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.

```

8543 \newcommand*{\LWR@parsenormalcolumn}[1]{%
8544     \defaddtocounter{\LWR@tabletotalLaTeXcols}{1}%
8545     \defaddtocounter{\LWR@tabletotalLaTeXcolsnext}{1}%
8546     \LWR@setexpararray{\LWR@tablecolspec}{\arabic{\LWR@tabletotalLaTeXcols}}{\#1}%
8547     \LWR@traceinfo{normal column \arabic{\LWR@tabletotalLaTeXcols}: #1}%
8548     \LWR@setexpararray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8549     \LWR@setexpararray{\LWR@colbangspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8550     \LWR@setexpararray{\LWR@colbeforespec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8551     \LWR@setexpararray{\LWR@colafterspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8552     \LWR@setexpararray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8553     \booltrue{\LWR@validtablecol}%
8554 }
```

73.10 Parsing ‘p’, ‘m’, or ‘b’ columns

\LWR@parsepcolumn {*thiscolumn*} The width will be ignored.

```
8555 \newcommand*{\LWR@parsepcolumn}[1]{%
```

Converts to the given column type:

```
8556 \LWR@parsenormalcolumn{#1}%
```

Skips the following width token:

```
8557 \defaddtocounter{\LWR@tablecolspectindex}{1}%
8558 }
```

73.11 Parsing ‘w’ columns

`\LWR@parsewcolumn` The width will be ignored.

```
8559 \newcommand*{\LWR@parsewcolumn}{%
8560 \LWR@columnspeclookahead{1}%
8561 \expandafter\expandafter\expandafter{\LWR@strresulttwo}%
}
```

Skips the following width and alignment tokens:

```
8562 \defaddtocounter{\LWR@tablecolspectindex}{2}%
8563 }
```

73.12 Parsing ‘*’ columns

`\LWR@parsestarcolumn` Star columns should already have been expanded, so this should never be used.

```
8564 \newcommand*{\LWR@parsestarcolumn}{%
8565 \defaddtocounter{\LWR@tablecolspectindex}{2}%
8566 }
```

73.13 Parsing ‘D’ columns

From the `dcolumn` package.

`\LWR@parseDcolumn` {*thiscolumn*} The three parameters will be ignored.

```
8567 \newcommand*{\LWR@parseDcolumn}[1]{%
```

Converts to the given column type.

```
8568 \LWR@parsenormalcolumn{#1}%
```

Skips the following three parameters.

```
8569 \defaddtocounter{\LWR@tablecolspectindex}{3}%
8570 }
```

73.14 Expanding the star column specifications

Ctr `LWR@starcount` Internal count for duplicating star columns.

```
8571 \newcount\LWR@starcount
```

`\LWR@expcolspe` Temporary storage used to build the expanded column specifier.

```
8572 \newcommand*\LWR@expcolspe{}{}
```

Ctr `LWR@splitstarindex` Indexes into the column specifiers.

```
8573 \newcounter{LWR@splitstarindex}
```

Ctr `LWR@splitstarcopies` Number of copies.

```
8574 \newcounter{LWR@splitstarcopies}
```

`\LWR@splitstarcontents` Contents to duplicate.

```
8575 \newcommand*\LWR@splitstarcontents{}{}
```

`\expandcolspe` Expands `\LWR@origcolspe` for star columns.

```
8576 \newcommand*\expandcolspe{}{%
```

Find the position of any star token.

```
8577 \StrPosition{\LWR@origcolspe}{*}[\LWR@tempone]%
```

Expand until no stars are found:

```
8578 \whileboolexpr{ test {\ifnumgreater{\LWR@tempone}{0}}}{}%
8579 {%
```

Begin with any characters to the left of the star.

```
8580 \setcounter{LWR@splitstarindex}{\LWR@tempone}%
8581 \addtocounter{LWR@splitstarindex}{-1}%
8582 \StrLeft{\LWR@origcolspe}{\value{LWR@splitstarindex}}[\LWR@expcolspe]%
```

Move past the star to remember its number of copies.

```
8583 \addtocounter{LWR@splitstarindex}{2}%
8584 \StrChar{\LWR@origcolspe}{\value{LWR@splitstarindex}}[\LWR@tempone]%
8585 \setcounter{LWR@splitstarcopies}{\expandafter\firsto\firstofone\LWR@tempone}%
```

Move past the number of copies and remember the contents.

```
8586 \addtocounter{LWR@splitstarindex}{1}%
8587 \StrChar{\LWR@origcolspe}{\value{LWR@splitstarindex}}[\LWR@splitstarcontents]%
```

Table 12: Tabular baseline

l	p	m	b	r
			bot	
		mid	bot	
1	par	mid	bot	r
	par	mid		
		par		

For each copy, append the contents.

```
8588     \ifnumgreater{\value{LWR@splitstarcopies}}{0}%
8589     {%
8590       \LWR@starcount=\value{LWR@splitstarcopies}%
8591       \loop
8592         \appto\LWR@expcolspec{%
```

(Remove the enclosing braces.)

```
8593           \expandafter\@firstofone\LWR@splitstarcontents%
8594     }%
8595     \advance \LWR@starcount -1
8596     \ifnum \LWR@starcount>0 \repeat
8597   }{}%
```

Remove any token to the left, and append the rightmost remaining tokens.

```
8598     \StrGobbleLeft{\LWR@origcolspec}{\value{LWR@splitstarindex}}[\colspecremainder]%
8599     \appto{\LWR@expcolspec}{\colspecremainder}%
```

Remember the final result.

```
8600     \edef\LWR@origcolspec{\LWR@expcolspec}%
```

See if more stars exist.

```
8601     \StrPosition{\LWR@origcolspec}{*}[\LWR@tempone]%
8602   }%
8603 }
```

73.15 Parsing the column specifications

⚠ tabular baselines

HTML CSS cannot exactly match the L^AT_EX concept of a baseline for a table row. Table 12 shows the L^AT_EX 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.

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^AT_EX 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^AT_EX 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.
-

```
\LWR@parsetablecols {⟨colspecs⟩}
```

Scans the column specification left to right.

Builds `\LWR@tablecolspec` with the final specification, one `LATEX` column per entry. The final number of `LATEX` columns in each row is stored in `\LWR@tabletotalLaTeXcols`, which is the number of `&` and `\backslash` in each line, but which does not include `@`, `!`, `<`, `>` specifications in the count.

```
8604 \newcommand*{\LWR@parsetablecols}[1]{%
8605   \LWR@traceinfo{\LWR@parsetablecols}{%
```

Remember the original supplied column spec:

```
8606 \renewcommand*{\LWR@origcolspec}{#1}{%
```

Remove spaces:

```
8607 \expandarg%
8608 \StrSubstitute{\LWR@origcolspec}{ }{}[\LWR@origcolspec]{%
```

Expand any star columns:

```
8609 \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:

```
8610 \defcounter{\LWR@tabletotalLaTeXcols}{0}%
8611 \defcounter{\LWR@tabletotalLaTeXcolsnext}{1}%
8612 \LWR@setexpparray{\LWR@colatsspec}{leftedge}{ }%
8613 \LWR@setexpparray{\LWR@colatsspec}{1}{ }%
8614 \LWR@setexpparray{\LWR@colatsspec}{2}{ }%
8615 \LWR@setexpparray{\LWR@colatsspec}{3}{ }%
8616 \LWR@setexpparray{\LWR@colbangspec}{leftedge}{ }%
8617 \LWR@setexpparray{\LWR@colbangspec}{1}{ }%
8618 \LWR@setexpparray{\LWR@colbangspec}{2}{ }%
8619 \LWR@setexpparray{\LWR@colbangspec}{3}{ }%
8620 \LWR@setexpparray{\LWR@colbeforespec}{1}{ }%
8621 \LWR@setexpparray{\LWR@colbeforespec}{2}{ }%
8622 \LWR@setexpparray{\LWR@colbeforespec}{3}{ }%
8623 \LWR@setexpparray{\LWR@colafterspec}{1}{ }%
8624 \LWR@setexpparray{\LWR@colafterspec}{2}{ }%
8625 \LWR@setexpparray{\LWR@colafterspec}{3}{ }%
8626 \LWR@setexpparray{\LWR@colbarspec}{leftedge}{ }%
8627 \LWR@setexpparray{\LWR@colbarspec}{1}{ }%
8628 \LWR@setexpparray{\LWR@colbarspec}{2}{ }%
8629 \LWR@setexpparray{\LWR@colbarspec}{3}{ }%
```

Starting at the first column specification:

```
8630 \defcounter{LWR@tablecolspecindex}{1}%
```

Place the colspecs string length into `\LWR@strresult`, and remember the number of characters in the column specification:

```
8631 \expandarg%
8632 \StrLen{\LWR@origcolspec}[\LWR@strresult]%
8633 \fullexpandarg%
8634 \LWR@traceinfo{original column spec length: \LWR@strresult}%
8635 \defcounter{LWR@tablecolspecwidth}{\LWR@strresult}%
```

Haven't seen any optional arguments so far

```
8636 \boolfalse{LWR@opttablecol}%
```

Scan through the column specifications:

```
8637 \whileboolexpr{%
8638     not test{%
8639         \ifnumcomp{\value{LWR@tablecolspecindex}}{>}{%
8640             {\value{LWR@tablecolspecwidth}}%
8641         }%
8642     }%
8643 }%
```

Place the next single-character column type into `\LWR@strresult`:

```
8644 \expandarg%
8645 \StrChar{\LWR@origcolspec}{\arabic{LWR@tablecolspecindex}}[\LWR@strresult]%
8646 \LWR@traceinfo{position \arabic{LWR@tablecolspecindex}: \LWR@strresult}%
8647 \fullexpandarg%
```

Not yet found a valid column type:

```
8648 \boolfalse{LWR@validtablecol}%
```

Skip over any optional arguments, such as `siunitx S` column:

```
8649 \IfStrEq{\LWR@strresult}{[]}{\booltrue{LWR@opttablecol}}{}%
```

Throw away anything found inside the optional argument:

```
8650 \ifbool{LWR@opttablecol}%
8651 {}% inside an optional argument
8652 {}% not an optional tabular argument
```

Not inside an optional argument, so consider the column type:

```
8653 \IfStrEq{\LWR@strresult}{l}{\LWR@parsenormalcolumn{l}}{}%
8654 \IfStrEq{\LWR@strresult}{c}{\LWR@parsenormalcolumn{c}}{}%
8655 \IfStrEq{\LWR@strresult}{r}{\LWR@parsenormalcolumn{r}}{}%
8656 \IfStrEq{\LWR@strresult}{L}{\LWR@parsenormalcolumn{l}}{}%
8657 \IfStrEq{\LWR@strresult}{C}{\LWR@parsenormalcolumn{c}}{}%
```

```

8658  \IfStrEq{\LWR@strresult}{R}{\LWR@parsenormalcolumn{r}}{}%
8659  \IfStrEq{\LWR@strresult}{J}{\LWR@parsenormalcolumn{l}}{}%
8660  \IfStrEq{\LWR@strresult}{S}{\LWR@parsenormalcolumn{c}}{}%
8661  \IfStrEq{\LWR@strresult}{s}{\LWR@parsenormalcolumn{c}}{}%
8662  \IfStrEq{\LWR@strresult}{\detokenize{@}}{\LWR@parseatcolumn}{}%
8663  \IfStrEq{\LWR@strresult}{!}{\LWR@parsebangcolumn}{}%
8664  \IfStrEq{\LWR@strresult}{>}{\LWR@parsebeforecolumn}{}%
8665  \IfStrEq{\LWR@strresult}{<}{\LWR@parseaftercolumn}{}%
8666  \IfStrEq{\LWR@strresult}{|}{\LWR@parsebarcolumn}{}%
8667  \IfStrEq{\LWR@strresult}{:}{\LWR@parsecoloncolumn}{}%
8668  \IfStrEq{\LWR@strresult}{;}{\LWR@parsesemicoloncolumn}{}%
8669  \IfStrEq{\LWR@strresult}{p}{\LWR@parsepcolumn{p}}{}%
8670  \IfStrEq{\LWR@strresult}{m}{\LWR@parsepcolumn{m}}{}%
8671  \IfStrEq{\LWR@strresult}{b}{\LWR@parsepcolumn{b}}{}%
8672  \IfStrEq{\LWR@strresult}{w}{\LWR@parsewcolumn}{}%
8673  \IfStrEq{\LWR@strresult}{W}{\LWR@parsewcolumn}{}%

```

A star column:

```
8674  \IfStrEq{\LWR@strresult}{*}{\LWR@parsestarcolumn}{}%
```

From the `dcolumn` package:

```
8675  \IfStrEq{\LWR@strresult}{D}{\LWR@parseDcolumn{c}}{}%
```

From the `tabularx` package. X column has no parameter, but will be given paragraph tags.

```
8676  \IfStrEq{\LWR@strresult}{X}{\LWR@parsenormalcolumn{X}}{}%
```

Many people define centered versions “P”, “M”, and “B”:

```
\newcolumntype{P}[1]{>{\centering\arraybackslash}p{#1}}
```

```

8677  \IfStrEq{\LWR@strresult}{P}{\LWR@parsepcolumn{P}}{}%
8678  \IfStrEq{\LWR@strresult}{M}{\LWR@parsepcolumn{M}}{}%
8679  \IfStrEq{\LWR@strresult}{B}{\LWR@parsepcolumn{B}}{}%

```

If this column was an invalid column type, convert it to an `l` column:

```

8680  \ifbool{LWR@validtablecol}{}{%
8681      \LWR@traceinfo{invalid column type: \LWR@strresult}%
8682      \LWR@parsenormalcolumn{l}%
8683  }%
8684  \% not an optional column argument

```

If read the closing bracket, no longer inside the optional argument:

```
8685 \IfStrEq{\LWR@strresult}{}{\boolfalse{\LWR@opttablecol}}{}%
```

Move to the next character:

```
8686 \defaddtocounter{\LWR@tablecolspecindex}{1}%
8687 }% whiledo
8688 }%
```

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.

```
8689 \@ifundefined{rownum}{\newcount\rownum}{}%
```

`\@rowcolors` Emulated in case `xcolor` is not used.

```
8690 \newcommand*{\@rowcolors}{}%
```

`\@rowc@lors` Emulated in case `xcolor` is not used.

```
8691 \newcommand*{\@rowc@lors}{}%
```

`\LWR@xcolorrowHTMLcolor` Emulated `xcolor` row color.

```
8692 \newcommand*{\LWR@xcolorrowHTMLcolor}{}%
```

`\LWR@columnHTMLcolor` `HTML` style code for the column color.

```
8693 \def\LWR@columnHTMLcolor{}%
```

`\LWR@rowHTMLcolor` `HTML` style code for the row color.

```
8694 \def\LWR@rowHTMLcolor{}%
```

`\LWR@cellHTMLcolor` `HTML` style code for the cell color.

```
8695 \def\LWR@cellHTMLcolor{}%
```

\LWR@ruleHTMLcolor HTML style code for the rule color.

```
8696 \newcommand*{\LWR@ruleHTMLcolor}{}{}
```

\rowcolor [*model*] {*color*} [*left overhang*] [*right overhang*] Print version. The HTML version is in `lwarp-colortbl`. Used before starting a tabular data cell, thus `\LWR@getmynexttoken`.

```
8697 \newcommand*{\rowcolor}{\LWR@getmynexttoken}{}
```

\arrayrulecolor [*model*] {*color*}

\arrayrulecolornexttoken [*model*] {*color*}

Print versions for use outside and inside a tabular:

```
8698 \newcommand{\arrayrulecolor}[2][named]{}{}
```

```
8699 \newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}{}
```

\doublerulesepcolor [*model*] {*color*}

\doublerulesepcolornexttoken [*model*] {*color*}

Print versions for use inside and outside a tabular:

```
8700 \newcommand{\doublerulesepcolor}[2][named]{}{}
```

```
8701 \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.

```
8702 \newcommand*{\LWR@maybenewtablerow}%
8703 {%
8704     \ifbool{\LWR@startedrow}%
8705         {}% started the row
8706         {% not started the row
```

Remember that now have started the row:

```
8707 \booltrue{\LWR@startedrow}{}
```

Create the row tag, with a class if necessary.

```
8708     \booltrue{\LWR@intabularmetadata}%
8709     \ifboolexpr{%
8710         test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
8711         test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}}%
8712     }%
```

```

8713      {%
8714          \LWR@htmltag{tr class="hline" }%
8715          \LWR@orignewline%
8716      }%
8717      {% not doing hline
8718          \ifbool{\LWR@doingtbrule}{%
8719              {%
8720                  \ifdefvoid{\LWR@ruleHTMLcolor}{%
8721                      \LWR@htmltag{tr class="tbrule"}%
8722                  }{%
8723                      \LWR@htmltag{%
8724                          tr class="tbrule" % space
8725                          style="border-top: 1px solid % space
8726                          \LWR@origpound\LWR@ruleHTMLcolor "%
8727                      }%
8728                  }%
8729                  \LWR@orignewline%
8730              }%
8731              {\LWR@htmltag{tr}\LWR@orignewline}%
8732          }% end of not doing hline
8733      }% end of not started the row
8734 }

```

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.

```

8735 \newcommand*{\LWR@printbartag}[1]{%
8736     \LWR@traceinfo{\LWR@printbartag !#1!}%
8737     \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}{%
8738         {}% muting or empty
8739         {%
8740             \edef\tempone{\LWR@getexpparray{\LWR@colbarspec}{#1}}%
8741             \ifdefempty{\tempone}{}{\LWR@tempone}%
8742         }% not muting
8743         \LWR@traceinfo{\LWR@printbartag done}%
8744     }

```

73.19 Printing @ or ! tags

\LWR@printatbang {*at—or—bang>*} {*<index>*}

```
8745 \newcommand*{\LWR@printatbang}[2]{%
```

Fetch the column at or bang spec:

```

8746     \xdef\atbangspec{\LWR@getexpparray{\LWR@col#1spec}{#2}}%
8747     \LWR@traceinfo{atbang: #2 !\LWR@atbangspec!}%

```

Only generate if is not empty;

```

8748     \ifdefempty{\LWR@atbangspec}%
8749     {}%
8750     {%
8751       \LWR@htmltag{%
8752         td class="td#1%
8753         \LWR@subaddcmidruletrim{}{}%
8754         \LWR@printbartag{\#2}%
8755         "%
8756         \LWR@tdstartstyles%
8757         \LWR@addcmidrulewidth%
8758         \LWR@addcdashline%
8759         \LWR@addtabularrulecolors%
8760         \LWR@tdendstyles%
8761     }%

```

Create an empty cell if muting for the \bottomrule:

```

8762     \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}%
8763     {}%
8764     {\LWR@atbangspec}%
8765 %
8766     \LWR@htmltag{/td}\LWR@orignewline%
8767     \global\booltrue{\LWR@tabularcelladded}%
8768   }% not empty
8769 }%

```

\LWR@addleftmostbartag

```

8770 \newcommand*{\LWR@addleftmostbartag}{%
8771   \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{1}{%
8772     \LWR@printbartag{leftedge}%
8773   }%
8774 }

```

\LWR@tabularleftedge

```

8775 \newcommand*{\LWR@tabularleftedge}{%
8776   \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{1}{%
8777     %
8778     \LWR@printatbang{at}{leftedge}%
8779     \LWR@printatbang{bang}{leftedge}%
8780   }% left edge
8781   {}% not left edge
8782 }

```

73.20 Data opening tag

\LWR@thiscolspec Temporary storage.

```
8783 \newcommand*{\LWR@thiscolspec}{}%
```

\LWR@tabledatasinglecolumntag Print a table data opening tag with style for alignment and color.

```

8784 \newcommand*\LWR@tabledatasinglecolumntag{%
8785 {%
8786   \LWR@traceinfo{\LWR@tabledatasinglecolumntag}%
8787   \LWR@maybenewtablerow%

```

Don't start a new paragraph tag if have already started one:

```

8788   \ifbool{\LWR@intabularmetadata}{%
8789   {%

```

If have found the end of tabular command, do not create the next data cell:

```

8790   \ifbool{\LWR@exittingtabular}{}{%
8791   {%

```

Print the @ and ! contents before first column:

```

8792   \LWR@tabularleftedge%

```

Fetch the current column's alignment character into \LWR@strresult:

```

8793   \xdef\LWR@strresult{%
8794     \LWR@getexparray{\LWR@tablecolspec}{\arabic{\LWR@tableLaTeXcolindex}}%
8795   }%

```

print the start of a new table data cell:

```

8796   \LWR@traceinfo{\LWR@tabledatasinglecolumntag: about to print td tag}%
8797   \LWR@htmlltag{%
8798     td class="td"%

```

append this column's spec:

```

8799   \LWR@strresult%

```

If this column has a cmidrule, add "rule" to the end of the HTML class tag. Also add vertical bar tags.

```

8800   \LWR@addcmidruletrim%
8801   \LWR@addleftmostbartag%
8802   \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
8803   "%%

```

Add styles for rules, alignment:

```

8804   \LWR@tdstartstyles%
8805   \LWR@addcmidrulewidth%
8806   \LWR@addcdashline%

```



```

8807   \xdef\LWR@thiscolspec{%

```

```

8808          \LWR@getexpparray{\LWR@tablecolspec}%
8809          {\arabic{\LWR@tableLaTeXcolindex}}%
8810      }%
8811      \LWR@addformatwpalignment{\LWR@thiscolspec}%

```

Add styles for cell and rule colors:

```

8812          \LWR@addtabulararrowcolor%
8813          \LWR@addtabularrulecolors%
8814          \LWR@tdendstyles%
8815      }% HTML td
8816      \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done printing td tag}%

```

If this is a p, m, b, or X column, allow paragraphs:

```

8817          \ifboolexpr{%
8818              test{ \ifdefstring{\LWR@strresult}{p} } or
8819              test{ \ifdefstring{\LWR@strresult}{m} } or
8820              test{ \ifdefstring{\LWR@strresult}{b} } or
8821              test{ \ifdefstring{\LWR@strresult}{P} } or
8822              test{ \ifdefstring{\LWR@strresult}{M} } or
8823              test{ \ifdefstring{\LWR@strresult}{B} } or
8824              test{ \ifdefstring{\LWR@strresult}{X} }%
8825          }%
8826          {% allow pars
8827          \LWR@traceinfo{\LWR@tabledatasinglecolumntag: about to \LWR@startpars}%
8828          \booltrue{\LWR@tableparcell}%
8829          \LWR@startpars%
8830          \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done with \LWR@startpars}%
8831          }% allow pars
8832          {}% no pars

```

Print the > contents unless muted for the \bottomrule:

```

8833          \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}%
8834          {}%
8835          {}%
8836          \LWR@getexpparray{\LWR@colbeforespec}{\arabic{\LWR@tableLaTeXcolindex}}%
8837          }%
8838          \boolfalse{\LWR@intabularmetadata}%
8839          }% not exiting tabular
8840          }{}% in tabular metadata
8841          \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done}%
8842 }%

```

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.

`\LWR@heavyrulewidth` The default width of the rule.

```
8843 \newlength{\LWR@heavyrulewidth}
8844 \setlength{\LWR@heavyrulewidth}{.08em}
```

`\LWR@lightrulewidth` The default width of the rule.

```
8845 \newlength{\LWR@lightrulewidth}
8846 \setlength{\LWR@lightrulewidth}{.05em}
```

`\LWR@cmidrulewidth` The default width of the rule.

```
8847 \newlength{\LWR@cmidrulewidth}
8848 \setlength{\LWR@cmidrulewidth}{.03em}
```

`\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.

```
8849 \newlength{\LWR@thiscmidrulewidth}
8850 \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.

```
8851 \newcommand*{\LWR@clearmidrules}
8852 {%
8853   \defcounter{LWR@midrulecounter}{1}%
8854   \whileboolexpr{%
8855     not \test{%
8856       \ifnumcomp{\value{LWR@midrulecounter}}{>}{%
8857         \value{LWR@tabletotalLaTeXcols}}%
8858     }%
8859   }%
8860   {%
8861     \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{0pt}%
8862     \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
8863     \LWR@setexparray{LWR@trimrlrules}{\arabic{LWR@midrulecounter}}{}%
8864     \LWR@setexparray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{}%
8865     \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}%
8866     \defaddtocounter{LWR@midrulecounter}{1}%
8867   }%
8868 }
```

```
\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.

```
8869 \newcommand*{\LWR@subcmidrule}[4]{%
8870   \defcounter{LWR@midrulecounter}{#3}%
8871   \whileboolexpr{%
8872     not test {%
8873       \ifnumcomp{\value{LWR@midrulecounter}}{>}{#4}%
8874     }%
8875   }%
8876   {%
8877     \LWR@setexpparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{#1}%
8878     \defaddtocounter{LWR@midrulecounter}{1}%
8879   }% whiledo
8880   \IfSubStr{#2}{l}{\LWR@setexpparray{LWR@trimlrules}{#3}{l}}{}%
8881   \IfSubStr{#2}{r}{\LWR@setexpparray{LWR@trimrrules}{#4}{r}}{}%
8882   \booltrue{LWR@doingcmidrule}%
8883 }
```

```
\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.

```
8884 \NewDocumentCommand{\LWR@docmidrule}{%
8885   O{\LWR@cmidrulewidth} D(){} >{\SplitArgument{1}{-}m}%
8886   {\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.

```
8887 \newcommand*{\LWR@subcdashline}[2]{%
8888   \defcounter{LWR@midrulecounter}{#1}%
8889   \whileboolexpr{%
8890     not test {%
8891       \ifnumcomp{\value{LWR@midrulecounter}}{>}{#2}%
8892     }%
8893   }%
8894   {%
8895     \LWR@setexpparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{Y}%
8896     \defaddtocounter{LWR@midrulecounter}{1}%
8897   }% whiledo
8898   \booltrue{LWR@doingcmidrule}%
8899 }
```

\LWR@docdashline {⟨leftcolumn-rightcolumn⟩}

Marks LWR@cdashlines data array elements to be Y from left to right columns.

```
8900 \NewDocumentCommand{\LWR@docdashline}{%
8901     >{\SplitArgument{1}{-}m}%
8902     {%
8903         \LWR@subcdashline#1%
8904     }}
```

\LWR@tdstartstyles Begins possibly adding a table data cell style.

```
8905 \newcommand*{\LWR@tdstartstyles}{\boolfalse{LWR@tdhavecellstyle}}
```

\LWR@tdaddstyle Starts adding a table data cell style.

```
8906 \newcommand*{\LWR@tdaddstyle}{%
8907     \ifbool{LWR@tdhavecellstyle}{%
8908         ; }%
8909         { style=" }%
8910     \booltrue{LWR@tdhavecellstyle}%
8911 }
```

\LWR@tdendstyles Finishes possibly adding a table data cell style. Prints the closing quote.

```
8912 \newcommand*{\LWR@tdendstyles}{%
8913     \ifbool{LWR@tdhavecellstyle}{%
8914         {%
8915             "%%
8916             \boolfalse{LWR@tdhavecellstyle}%
8917         }{}%
8918 }}
```

\LWR@subaddcmidruletrim {⟨lefttrim⟩} {⟨righttrim⟩} Adds a \cmidrule with optional trim.

```
8919 \newcommand*{\LWR@subaddcmidruletrim}[2]{%
8920     \setlength{\LWR@templengthone}{%
8921         \LWR@getexpparray{LWR@midrules}{\arabic{LWR@tableLaTeXcolindex}}%
8922     }%
8923     \ifdimcomp{\LWR@templengthone}{>}{0pt}%
8924     {%
```

Print the class with left and right trim letters appended:

```
8925 \LWR@origtilde tdrule#1#2%
```

Remember the width of the rule:

```
8926 \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}%
8927 }%
8928 {%
```

```

8929           \setlength{\LWR@thiscmidrulewidth}{0pt}%
8930       }%
8931 }
```

\LWR@addcmidruletrim Adds left or right trim to a \cmidrule.

```

8932 \newcommand*{\LWR@addcmidruletrim}{%
8933     \LWR@subaddcmidruletrim%
8934     {\LWR@getexpparray{\LWR@trimlrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
8935     {\LWR@getexpparray{\LWR@trimrrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
8936 }
```

\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.

```
8937 \newcommand{\LWR@addrulewidth}[2]{%
```

Only add a custom width if thiswidth is different than the defaultwidth, or if a color is being used:

```

8938 \ifboolexpr{%
8939     test{\ifdimcomp{#1}{=}{0pt}} or
8940     (
8941         ( test{\ifdimcomp{#1}{=}{#2}} and not bool{FormatWP} )
8942         and ( test {\ifdefvoid{\LWR@ruleHTMLcolor}} )
8943     )
8944 }%
8945 {}% default width and color
8946 {}% custom width and/or color
```

Ensure that the width is wide enough to display in the browser:

```
8947 \LWR@forceminwidth{#1}%
```

Begin adding another style:

```
8948 \LWR@tdaddstyle%
```

The style itself:

```
8949 border-top:\LWR@printlength{\LWR@atleastonept} solid % space
```

If default gray, the darkness of the color depends on the thickness of the rule:

```

8950 \ifdefvoid{\LWR@ruleHTMLcolor}{%
8951     \ifdimcomp{#1}{<}{\LWR@lightrulewidth}%
8952     {\LWR@origpound{}A0A0A0}%
8953     {% lightrule or heavier
8954     \ifdimcomp{#1}{<}{\LWR@heavyrulewidth}%

```

```

8955          {\LWR@origpound{}808080}%
8956          {black}%
8957          ]% lightrule or heavier
8958      }{%
8959          \LWR@origpound\LWR@ruleHTMLcolor%
8960      }%
8961      ]% custom width and/or color
8962 }

```

\LWR@addcmidrulewidth Adds a style for the rule width.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

8963 \newcommand{\LWR@addcmidrulewidth}{%
8964     \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
8965 }

```

\LWR@addcdashline Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

8966 \newcommand{\LWR@addcdashline}{%
8967     \edef\LWR@tempone{%
8968         \LWR@getexparray{LWR@cdashlines}{\arabic{LWR@tableLaTeXcolindex}}%
8969     }%
8970     \ifdefstring{\LWR@tempone}{Y}{%
8971         \LWR@tdaddstyle%
8972         border-top: 1pt dashed %
8973         \ifdefvoid{\LWR@ruleHTMLcolor}{%
8974             {black}%
8975             {\LWR@origpound\LWR@ruleHTMLcolor}%
8976         }{}%
8977 }

```

\LWR@WPcell {\text-align} {\vertical-align}

```

8978 \newcommand*{\LWR@WPcell}[2]{%
8979     \LWR@tdaddstyle%
8980     \LWR@print@mbox{text-align:#1}; \LWR@print@mbox{vertical-align:#2}%
8981 }

```

\LWR@addformatwpalignment If FormatWP, adds a style for the alignment.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

8982 \newcommand*{\LWR@addformatwpalignment}[1]{%
8983     \ifbool{FormatWP}{%
8984         \IfSubStr{#1}{l}{\LWR@WPcell{left}{middle}}{}%
8985         \IfSubStr{#1}{c}{\LWR@WPcell{center}{middle}}{}%
8986         \IfSubStr{#1}{r}{\LWR@WPcell{right}{middle}}{}%
8987         \IfSubStr{#1}{p}{\LWR@WPcell{left}{bottom}}{}%
8988         \IfSubStr{#1}{m}{\LWR@WPcell{left}{middle}}{}%
8989         \IfSubStr{#1}{b}{\LWR@WPcell{left}{top}}{}%
8990         \IfSubStr{#1}{P}{\LWR@WPcell{center}{bottom}}{}%

```

```

8991      \IfSubStr{#1}{M}{\LWR@WPcell{center}{middle}}{}%
8992      \IfSubStr{#1}{B}{\LWR@WPcell{center}{top}}{}%
8993  }{}%
8994 }

```

73.22 Cell colors

\LWR@addtabularrowcolor Adds a cell's row color style, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

8995 \newcommand*{\LWR@addtabularrowcolor}{%
8996   \ifbool{\LWR@tabularmutemods}{}{%
8997     \ifdefvoid{\LWR@rowHTMLcolor}{%
8998       \ifdefvoid{\LWR@xcolorrowHTMLcolor}{%
8999         \% xcolor row color
9000         \LWR@tdaddstyle%
9001         background:\LWR@origpound\LWR@xcolorrowHTMLcolor%
9002       }%
9003     }%
9004     \% explicit row color
9005     \LWR@tdaddstyle%
9006     background:\LWR@origpound\LWR@rowHTMLcolor%
9007   }%
9008 }%
9009 }

```

\LWR@addtabularhrulecolor Adds a cell's horizontal rule color style, if needed.

```
9010 \newcommand*{\LWR@addtabularhrulecolor}{%
```

If either form of horizontal rule is requested:

```

9011 \ifboolexpr{%
9012   test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
9013   test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}} or%
9014   bool{\LWR@doingtbrule}%
9015 }{%

```

If there is a no custom color:

```

9016   \ifdefvoid{\LWR@ruleHTMLcolor}{%
9017     {%
9018       \ifnumcomp{\value{\LWR@hlines}}{>}{1}{%
9019         {%
9020           \LWR@tdaddstyle%
9021           border-top: 4px double%
9022         }%
9023       \ifnumcomp{\value{\LWR@hdashedlines}}{>}{1}{%
9024         {%
9025           \LWR@tdaddstyle%
9026           border-top: 2px dashed%

```

```

9027      }{% else
9028          \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9029          {%
9030              \LWR@tdaddstyle%
9031              border-top: 1px dashed%
9032          }{}}

```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```
9033      }%
```

If there is a custom color:

```

9034      {%
9035          \ifnumcomp{\value{LWR@hlines}}{>}{1}%
9036          {%
9037              \LWR@tdaddstyle%
9038              border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
9039          }{% else
9040              \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9041              {%
9042                  \LWR@tdaddstyle%
9043                  border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9044              }{% else
9045                  \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9046                  {%
9047                      \LWR@tdaddstyle%
9048                      border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9049                  }{% else
9050                      \LWR@tdaddstyle%
9051                      border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
9052                  }{}}
9053          }%
9054      }{}%
9055 }

```

\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.

```
9056 \newcommand*{\LWR@addtabularrulecolors}{%
```

Custom horizontal rule color:

```
9057     \LWR@addtabularhrulecolor%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9058     \ifbool{LWR@tabularmutemods}{}{%
```

If at the leftmost cell, possibly add a leftmost vertical rule:

```
9059     \ifnumequal{\value{LWR@tableLaTeXcolindex}}{1}{%
```

Fetch the left edge's vertical bar specification:

```
9060 \edef\LWR@tempone{\LWR@getexarray{\LWR@colbarspec}{leftedge}}%
```

Add a custom style if a vertical bar was requested:

```
9061 \ifdefstring{\LWR@tempone}{tvertbarl}{%
9062   \LWR@tdaddstyle%
9063   border-left: 1px solid % space
9064   \LWR@vertruleHTMLcolor%
9065 }{%
9066 \ifdefstring{\LWR@tempone}{tvertbarldouble}{%
9067   \LWR@tdaddstyle%
9068   border-left: 4px double % space
9069   \LWR@vertruleHTMLcolor%
9070 }{%
9071 \ifdefstring{\LWR@tempone}{tvertbarldash}{%
9072   \LWR@tdaddstyle%
9073   border-left: 1px dashed % space
9074   \LWR@vertruleHTMLcolor%
9075 }{%
9076 \ifdefstring{\LWR@tempone}{tvertbarldoubledash}{%
9077   \LWR@tdaddstyle%
9078   border-left: 2px dashed % space
9079   \LWR@vertruleHTMLcolor%
9080 }{%
9081 }}
```

Possibly add a right vertical rule for this cell:

```
9082 \edef\LWR@tempone{%
9083   \LWR@getexarray{\LWR@colbarspec}{\arabic{\LWR@tableLaTeXcolindex}}%
9084 }%
9085 \ifdefstring{\LWR@tempone}{tvertbarr}{%
```

Add a custom style if a vertical bar was requested:

```
9086   \LWR@tdaddstyle%
9087   border-right: 1px solid \LWR@vertruleHTMLcolor%
9088 }{%
9089 \ifdefstring{\LWR@tempone}{tvertbarrdouble}{%
9090   \LWR@tdaddstyle%
9091   border-right: 4px double \LWR@vertruleHTMLcolor%
9092 }{%
9093 \ifdefstring{\LWR@tempone}{tvertbarrdash}{%
9094   \LWR@tdaddstyle%
9095   border-right: 1px dashed \LWR@vertruleHTMLcolor%
9096 }{%
9097 \ifdefstring{\LWR@tempone}{tvertbarrdoubledash}{%
9098   \LWR@tdaddstyle%
9099   border-right: 2px dashed \LWR@vertruleHTMLcolor%
9100 }{%
9101 }}
```

```
\LWR@subaddtabularcellcolor {\langle HTML color \rangle}
```

```
9103 \newcommand*{\LWR@subaddtabularcellcolor}[1]{%
9104     \LWR@htmltag{div class="cellcolor" style="%"
9105         background:\LWR@origpound{}{}#1 %
9106     " }%
9107     \defaddtocounter{\LWR@cellcolordepth}{1}%
9108 }
```

`\LWR@addtabularcellcolor` Adds a cell color style, if needed.

```
9109 \newcommand*{\LWR@addtabularcellcolor}{%
9110     \ifdefvoid{\LWR@cellHTMLcolor}{%
9111     {%
9112         \ifdefvoid{\LWR@rowHTMLcolor}{%
9113             {%
9114                 \ifdefvoid{\LWR@xcolorrowHTMLcolor}{%
9115                     {%
9116                         \ifdefvoid{\LWR@columnHTMLcolor}{%
9117                             {%
9118                                 {\LWR@subaddtabularcellcolor{\LWR@columnHTMLcolor}}%
9119                             }%
9120                         {\LWR@subaddtabularcellcolor{\LWR@xcolorrowHTMLcolor}}%
9121                     }%
9122                     {\LWR@subaddtabularcellcolor{\LWR@rowHTMLcolor}}%
9123                 }%
9124             {\LWR@subaddtabularcellcolor{\LWR@cellHTMLcolor}}%
9125 }}
```

73.23 Multicolumns

73.23.1 Parsing multicolumns

`\LWR@printmccoltype` {\langle colspec \rangle} 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.

```
9126 \newcommand*{\LWR@printmccoltype}[1]{%
9127     \LWR@traceinfo{\lwr@printmccoltype -#1-}%
```

Get one token of the column spec:

```
9128     \StrChar{#1}{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%
```

Add to the HTML tag depending on which column type is found:

```
9129     \IfStrEq{\LWR@strresult}{l}{l}{}%
9130     \IfStrEq{\LWR@strresult}{c}{c}{}%
9131     \IfStrEq{\LWR@strresult}{r}{r}{}%
9132     \IfStrEq{\LWR@strresult}{p}{p}{}%
```

```

9133  \IfStrEq{\LWR@strresult}{m}{ }%
9134  \IfStrEq{\LWR@strresult}{b}{ }%
9135  \IfStrEq{\LWR@strresult}{P}{ }%
9136  \IfStrEq{\LWR@strresult}{M}{ }%
9137  \IfStrEq{\LWR@strresult}{B}{ }%

9138  \IfStrEq{\LWR@strresult}{w}{ }%
9139  \IfStrEq{\LWR@strresult}{W}{ }%

9140  \IfStrEq{\LWR@strresult}{S}{ }%
9141  \IfStrEq{\LWR@strresult}{s}{ }%

9142  \IfStrEq{\LWR@strresult}{X}{ }%

9143  \IfStrEq{\LWR@strresult}{|}{ }%
9144  {%
9145      \ifbool{LWR@mcolvertbaronleft}{%
9146          {\defaddtocounter{LWR@mcolvertbarsl}{1}}% left edge
9147          {\defaddtocounter{LWR@mcolvertbarsr}{1}}% not left edge
9148      }%
9149      {%
9150          \IfStrEq{\LWR@strresult}{:}{ }%
9151          {%
9152              \ifbool{LWR@mcolvertbaronleft}{%
9153                  {\defaddtocounter{LWR@mcolvertbarsldash}{1}}% left edge
9154                  {\defaddtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
9155              }%
9156              {%
9157                  \IfStrEq{\LWR@strresult}{;}{ }%
9158                  {%
9159                      \ifbool{LWR@mcolvertbaronleft}{%
9160                          {\defaddtocounter{LWR@mcolvertbarsldash}{1}}% left edge
9161                          {\defaddtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
9162                      }%
9163                      {\boolexpr{LWR@mcolvertbaronleft}}%
9164                  }%
9165              }%
9166          \LWR@traceinfo{lwr@printmccoltype done}%
9167      }%

```

\LWR@multicolpartext {*num parameters*} Print the data with paragraph tags, advance to bypass the given number of parameters.

```

9168 \newcommand*{\LWR@multicolpartext}[1]{%
9169     \LWR@startpars%
9170     \LWR@multicoltext%
9171     \defaddtocounter{LWR@tablemulticolspos}{#1}%
9172     \LWR@stopars%
9173 }

```

\LWR@multicolother {*colspec*} For @, !, >, <, print the next token without paragraph tags:

```

9174 \newcommand*{\LWR@multicolother}[1]{%
9175     \defaddtocounter{\LWR@tablemulticolspos}{1}%
9176     \StrChar{#1}{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%
9177     \LWR@strresult%

```

A valid column data type was found:

```

9178     \booltrue{\LWR@validtablecol}%
9179 }

```

\LWR@multicolskip Nothing to print for this column type.

```
9180 \newcommand*{\LWR@multicolskip}{%
```

A valid column data type was found:

```

9181     \booltrue{\LWR@validtablecol}%
9182 }

```

\LWR@printmccoldata {<colspec>} Print the data for any valid column type found.

```

9183 \newcommand*{\LWR@printmccoldata}[1]{%
9184     \LWR@traceinfo{lwr@printmccoldata -#1}%

```

Not yet found a valid column type:

```
9185     \boolfalse{\LWR@validtablecol}%

```

Get one token of the column spec, into a local copy in case nested.

```

9186     \StrChar{#1}{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%
9187     \edef\LWR@printmccoldatatoken{\LWR@strresult}%

```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```

9188     \IfStrEq{\LWR@printmccoldatatoken}{l}{\LWR@multicoltext}{%
9189     \IfStrEq{\LWR@printmccoldatatoken}{c}{\LWR@multicoltext}{%
9190     \IfStrEq{\LWR@printmccoldatatoken}{r}{\LWR@multicoltext}{%
9191     \IfStrEq{\LWR@printmccoldatatoken}{D}{%
9192         \defaddtocounter{\LWR@tablemulticolspos}{3}%
9193         \LWR@multicoltext%
9194     }{%
9195     \IfStrEq{\LWR@printmccoldatatoken}{p}{\LWR@multicolpartext{2}}{%
9196     \IfStrEq{\LWR@printmccoldatatoken}{m}{\LWR@multicolpartext{2}}{%
9197     \IfStrEq{\LWR@printmccoldatatoken}{b}{\LWR@multicolpartext{2}}{%
9198     \IfStrEq{\LWR@printmccoldatatoken}{P}{\LWR@multicolpartext{2}}{%
9199     \IfStrEq{\LWR@printmccoldatatoken}{M}{\LWR@multicolpartext{2}}{%
9200     \IfStrEq{\LWR@printmccoldatatoken}{B}{\LWR@multicolpartext{2}}{%

```

```

9201  \IfStrEq{\LWR@printmccoldatatoken}{w}{\LWR@multicolpartext{3}}{}%
9202  \IfStrEq{\LWR@printmccoldatatoken}{W}{\LWR@multicolpartext{3}}{}%
9203  \IfStrEq{\LWR@printmccoldatatoken}{S}{\LWR@multicoltext}{}%
9204  \IfStrEq{\LWR@printmccoldatatoken}{s}{\LWR@multicoltext}{}%
9205  \IfStrEq{\LWR@printmccoldatatoken}{X}{\LWR@multicolpartext{1}}{}%
9206  \IfStrEq{\LWR@printmccoldatatoken}{|}{\LWR@multicolskip}{}%
9207  \IfStrEq{\LWR@printmccoldatatoken}{:}{\LWR@multicolskip}{}%
9208  \IfStrEq{\LWR@printmccoldatatoken}{;}{%
9209    \LWR@multicolskip%
9210    \defaddtocounter{\LWR@tablemulticolspos}{1}% skip parameter
9211  }{}%
9212  \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{@}}{\LWR@multicolother{#1}}{}%
9213  \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{!}}{\LWR@multicolother{#1}}{}%
9214  \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{>}}{\LWR@multicolother{#1}}{}%
9215  \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{<}}{\LWR@multicolother{#1}}{}%

```

If an invalid column type:

```
9216  \ifbool{\LWR@validtablecol}{}{\LWR@multicoltext}{}%
```

Tracing:

```

9217  \LWR@traceinfo{lwr@printmccoldata done}%
9218 }
```

\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.

```

9219 \newcommand*{\LWR@parsemulticolumnalignment}[2]{%
9220   \defcounter{\LWR@tablemulticolspos}{1}%
9221   \StrLen{#1}[\LWR@strresult]%
9222   \defcounter{\LWR@tablemulticolswidth}{\LWR@strresult}%

```

Scan across the tokens in the column spec:

```

9223  \whileboolexpr{%
9224    not test {%
9225      \ifnumcomp{\value{\LWR@tablemulticolspos}}{>}{%
9226        \value{\LWR@tablemulticolswidth}%
9227      }%
9228    }%
9229  }%

```

Execute the assigned print function for each token in the column spec:

```
9230  #2{#1}%
```

Move to the next token in the column spec:

```
9231      \defaddtocounter{LWR@tablemulticolspos}{1}%
9232      }%
9233 }
```

73.23.2 Multicolumn factored code

\LWR@addmulticolvertrulecolor

```
9234 \newcommand*\LWR@addmulticolvertrulecolor{%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9235 \ifbool{LWR@tabularmutemods}{ }{%
```

Left side:

```
9236 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{%
9237   \LWR@tdaddstyle%
9238   border-left: 1px solid \LWR@vertruleHTMLcolor%
9239 }{ }%
9240 \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{%
9241   \LWR@tdaddstyle%
9242   border-left: 4px double \LWR@vertruleHTMLcolor%
9243 }{ }%
9244 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{%
9245   \LWR@tdaddstyle%
9246   border-left: 1px dashed \LWR@vertruleHTMLcolor%
9247 }{ }%
9248 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{%
9249   \LWR@tdaddstyle%
9250   border-left: 2px dashed \LWR@vertruleHTMLcolor%
9251 }{ }%
```

Right side:

```
9252 \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{%
9253   \LWR@tdaddstyle%
9254   border-right: 1px solid \LWR@vertruleHTMLcolor%
9255 }{ }%
9256 \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{%
9257   \LWR@tdaddstyle%
9258   border-right: 4px double \LWR@vertruleHTMLcolor%
9259 }{ }%
9260 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{%
9261   \LWR@tdaddstyle%
9262   border-right: 1px dashed \LWR@vertruleHTMLcolor%
9263 }{ }%
9264 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{%
9265   \LWR@tdaddstyle%
9266   border-right: 2px dashed \LWR@vertruleHTMLcolor%
9267 }{ }%
```

```

9268      }%
9269 }

9270 \newcommand{\LWR@multicoltext}{}

```

To find multicolumn right trim:

```

9271 \newcounter{LWR@lastmulticolumn}

\LWR@domulticolumn  [{<1: vpos>}][{<2: #rows>}]{<3: numLaTeXcols>} {<4: numHTMLcols>} {<5: colspec>}
{<6: text>}

9272 \NewDocumentCommand{\LWR@domulticolumn}{o o m m +m}{%
9273     \LWR@traceinfo{\LWR@domulticolumn -#1- -#2- -#4- -#5-}%

```

Remember the text to be inserted, and remember that a valid column type was found:

```

9274     \renewcommand{\LWR@multicoltext}{%
9275         #6%
9276         \booltrue{LWR@validtablecol}%
9277     }%

```

Compute the rightmost column to be included. This is used to create the right trim.

```

9278     \defcounter{LWR@lastmulticolumn}{\value{LWR@tableLaTeXcolindex}}%
9279     \defaddtocounter{LWR@lastmulticolumn}{#3}%
9280     \defaddtocounter{LWR@lastmulticolumn}{-1}%

```

Row processing:

```

9281     \LWR@maybenewtablerow%

```

Begin the opening table data tag:

```

9282     \LWR@htmlltag{%
9283         td colspan="#4" %

9284         \IfValueT{#2}{ % rows?
9285             rowspan="#2" %
9286         }%

9287         class="td%

```

Print the column type and vertical bars:

```

9288     \defcounter{LWR@mcolvertbarsl}{0}%
9289     \defcounter{LWR@mcolvertbarsr}{0}%
9290     \defcounter{LWR@mcolvertbarsldash}{0}%
9291     \defcounter{LWR@mcolvertbarsrdash}{0}%
9292     \booltrue{LWR@mcolvertbaronleft}%
9293     \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:

```

9294      \LWR@subaddcmidruletrim%
9295      {%
9296          \LWR@getexpparray{\LWR@trimlrules}%
9297          {\arabic{\LWR@tableTeXcolindex}}%
9298      }%
9299      {%
9300          \LWR@getexpparray{\LWR@trimrrules}%
9301          {\arabic{\LWR@lastmulticolumn}}%
9302      }%

```

Also add vertical bar class.

```

9303      \ifnumcomp{\value{\LWR@mcolvertbarsl}}{=}{1}{\tvertbarl}{}%
9304      \ifnumcomp{\value{\LWR@mcolvertbarsl}}{>}{1}{\tvertbarldouble}{}%
9305      \ifnumcomp{\value{\LWR@mcolvertbarsr}}{=}{1}{\tvertbarr}{}%
9306      \ifnumcomp{\value{\LWR@mcolvertbarsr}}{>}{1}{\tvertbarrdouble}{}%
9307      \ifnumcomp{\value{\LWR@mcolvertbarsldash}}{=}{1}{\tvertbarldash}{}%
9308      \ifnumcomp{\value{\LWR@mcolvertbarsldash}}{>}{1}{%
9309          \tvertbarldoubledash}{}%
9310      \ifnumcomp{\value{\LWR@mcolvertbarsrdash}}{=}{1}{\tvertbarrdash}{}%
9311      \ifnumcomp{\value{\LWR@mcolvertbarsrdash}}{>}{1}{%
9312          \tvertbarrdoubledash}{}%

```

Close the class tag's opening quote:

```

9313      "%
9314      \LWR@tdstartstyles%

```

Style for vertical position:

```

9315      \IfValueT{#1}{% vpos?
9316          \ifstrequal{#1}{b}{%
9317              {%
9318                  \LWR@tdaddstyle%
9319                  \LWR@print@mbox{vertical-align:bottom}%
9320              }{}%
9321          \ifstrequal{#1}{t}{%
9322              {%
9323                  \LWR@tdaddstyle%
9324                  \LWR@print@mbox{vertical-align:top}%
9325              }{}%
9326          }% vpos?

```

Style for row colors:

```
9327      \LWR@addtabularrowcolor%
```

Other styles:

```

9328      \LWR@addcmidrulewidth%
9329      \LWR@addcdashline%
9330      \LWR@addtabularhrulecolor%
9331      \LWR@addmulticolvertrulecolor%
9332      \LWR@addformatwpalignment{-#5}%
9333      \LWR@tdendstyles%
9334  }% end of the opening table data tag
9335  \boolfalse{LWR@intabularmetadata}%
9336  \LWR@parsemulticolumnalignment{-#5}{\LWR@printmccoldata}%
9337 }

```

73.23.3 Multicolumn

```
\LWR@htmlmulticolumn {⟨numcols⟩} {⟨alignment⟩} {⟨text⟩}

9338 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}%
9339 {%
```

Figure out how many extra HTML columns to add for @ and ! columns:

```
9340      \LWR@tabularhtmlcolumns{\arabic{\LWR@tableLaTeXcolindex}}{#1}%
```

Create the multicolumn tag:

```
9341      \LWR@domulticolumn{#1}{\arabic{\LWR@tabhtmlcoltotal}}{#2}{#3}%
```

Move to the next L^AT_EX column:

```
9342      \defaddtocounter{\LWR@tableLaTeXcolindex}{#1}%
9343      \defaddtocounter{\LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
9344      \booltrue{\LWR@skipatbang}%
9345 }
```

73.23.4 Longtable captions

longtable captions use \multicolumn.

Per the caption package. User-redefinable float type.

```
9346 \providecommand*\LTcaptype{table}
```

```
\LWR@longtabledatacaptiontag * [⟨toc entry⟩] {⟨caption⟩}

9347 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}%
9348 {%
```

Remember the latest name for \nameref:

```
9349  \IfValueTF{#2}{% optional given?
9350      \ifblank{#2}{% optional empty?
9351          {\LWR@setlatestname{#3}}% empty
9352          {\LWR@setlatestname{#2}}% given and non-empty
9353      }% optional given
9354      {\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:

```
9355  \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}%
```

Create the multicolumn tag:

```
9356  \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
9357      {\arabic{LWR@tabhtmlcoltotal}}%
9358      {P}%
9359  {%
9360  \LWR@domulticolumn
9361  \IfBooleanTF{#1}{star?}
```

Star version, show a caption but do not make a LOT entry:

```
9361  {%
9362      yes star
9363      \LWR@figcaption%
9364      \LWR@isolate{#3}%
9365      \endLWR@figcaption%
9366  {%
9367      No star:
```

Not the star version:

Don't step the counter if \caption[]{}{A caption.}

```
9367  \ifbool{LWR@starredlongtable}{%
9368  {%
9369      \ifblank{#2}{% TOC entry
9370          {}%
9371          {%
9372              \refstepcounter{\LTcaptype}%
9373              \protected@edef\@currentlabel{%
9374                  \@nameuse{p@\LTcaptype}\@nameuse{the\LTcaptype}%
9375              }%
9376          }%
9377      }{}}
```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```
9378  \LWR@figcaption%
9379  \LWR@isolate{\@nameuse{fnum@\LTcaptype}}%
9380  \CaptionSeparator%
```

```
9381      \LWR@isolate{#3}%
9382      \endLWR@figcaption%
```

See if an optional caption was given:

```
9383      \ifblank{#2}{% TOC entry empty}
```

if the optional caption was given, but empty, do not form a TOC entry

```
9384      {}%
```

If the optional caption was given, but might only be []:

```
9385      {%
9386      % TOC entry not empty
         \IfNoValueTF{#2}{% No TOC entry?}
```

The optional caption is []:

```
9387      {%
9388      % No TOC entry
         \addcontentsline{%
9389      \nameuse{ext@\LTcaptype}}{%
9390      \LTcaptype}{%
9391      {%
9392      \protect\newline{%
9393      \LWR@isolate{\nameuse{p@\LTcaptype}}\nameuse{the\LTcaptype}}{%
9394      {\ignorespaces \LWR@isolate{#3}\protect\relax}}{%
9395      }{%
9396      }% end of No TOC entry}}
```

The optional caption has text enclosed:

```
9397      {%
9398      % yes TOC entry
         \addcontentsline{%
9399      \nameuse{ext@\LTcaptype}}{%
9400      \LTcaptype}{%
9401      {%
9402      \protect\newline{%
9403      \LWR@isolate{\nameuse{p@\LTcaptype}}\nameuse{the\LTcaptype}}{%
9404      {\ignorespaces \LWR@isolate{#2}\protect\relax}}{%
9405      }{%
9406      }% end of yes TOC entry
9407      }% end of TOC entry not empty
9408      }% end of no star}}
```

Skip any trailing @ or ! columns for this cell:

```
9409      \booltrue{\LWR@skipatbang}%
9410      }% end of \LWR@domulticolumn
9411      \defaddtocounter{\LWR@tableLaTeXcolindex}{\value{\LWR@tabletotalLaTeXcols}}%
9412      \defaddtocounter{\LWR@tableLaTeXcolindex}{-1}
9413
9414 }
```

73.23.5 Counting HTML tabular columns

The L^AT_EX 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^AT_EX \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.

```
9415 \newcounter{LWR@tabhtmlcolindex}
9416 \newcounter{LWR@tabhtmlcolend}
9417 \newcounter{LWR@tabhtmlcoltotal}
```

```
\LWR@subtabularhtmlcolumns {\langle index\rangle}
```

Factored from \LWR@tabularhtmlcolumns, which follows.

```
9418 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%
```

Temporarily define a macro equal to the @ specification for this column:

```
9419 \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colatspec}{#1}}%
```

If the @ specification is not empty, add to the count:

```
9420 \ifdefempty{\LWR@atbangspec}{%
9421 {}%
9422 {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%
```

Likewise for the ! columns:

```
9423 \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colbangspec}{#1}}%
9424 \ifdefempty{\LWR@atbangspec}{%
9425 {}%
9426 {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%
9427 }
```

```
\LWR@tabularhtmlcolumns {\langle starting LATEX column\rangle} {\langle number LATEX columns\rangle}
```

Compute the total number of HTML columns being spanned, considering the starting L^AT_EX table column and the number of L^AT_EX 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.

```
9428 \newcommand*{\LWR@tabularhtmlcolumns}[2]{%
```

Count the starting index, compute ending index, and begin with the count being the L^AT_EX span, to which additional @ and ! columns may be added:

```

9429 \defcounter{LWR@tabhtmlcolindex}{#1}%
9430 \defcounter{LWR@tabhtmlcoltotal}{#2}%
9431 \defcounter{LWR@tabhtmlcolend}{#1}%
9432 \defaddtocounter{LWR@tabhtmlcolend}{#2}%

```

If at the left edge, add the at/bang columns for the left edge:

```

9433 \ifnumcomp{\value{LWR@tabhtmlcolindex}}{=}{1}{%
9434   \LWR@subtabularhtmlcolumns{leftedge}%
9435 }{%

```

Walk across the L^AT_EX columns looking for @ and ! columns:

```

9436 \whileboolexpr{%
9437   test {%
9438     \ifnumcomp{\value{LWR@tabhtmlcolindex}}{<}{\value{LWR@tabhtmlcolend}}{%
9439   }%
9440 }%
9441 {%
9442   \LWR@subtabularhtmlcolumns{\arabic{LWR@tabhtmlcolindex}}%
9443   \defaddtocounter{LWR@tabhtmlcolindex}{1}%
9444 }% whiledo
9445 }%
9446 \end{warpHTML}

```

73.24 Multirow if not loaded

A default defintion in case multirow is not loaded. This is used during table parsing.

```

9447 \begin{warpHTML}
9448 \newcommand{\multirow}[2][c]{}
9449 \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 399 for the HTML versions.

for HTML & PRINT: 9450 `\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.

```
9451 \AtBeginDocument{
```

\@ifundefined{@xmultirow} determines if `multirow` was never loaded.

Null action if not loaded:

```
9452 \@ifundefined{@xmultirow}
9453 {
9454 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9455   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9456   {}%
9457 }% no version of multirow was loaded
9458 {% \@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:

```
9459 \@ifpackageloaded{multirow}{% v2.0 or newer
9460 \@ifpackagelater{multirow}{2016/09/01}{% 2016/09/27 for v2.0
9461 {% v2.0+:
9462 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9463   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9464   {\multicolumn{#1}{#2}{\@xmultirow[#3]{#4}{#5}{#6}{#7}{#8}}}%
9465 }
9466 {% loaded but older, probably not executed:
9467 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9468   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9469   {\multicolumn{#1}{#2}{\@xmultirow[#4]{#5}{#6}{#7}{#8}}}%
9470 }
9471 }% packageloaded{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.

```
9472 {% v1.6 or older did not \ProvidePackage
9473 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9474   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9475   {\multicolumn{#1}{#2}{\@xmultirow[#4]{#5}{#6}{#7}{#8}}}%
9476 }
9477
9478 }% \@ifundefined{@xmultirow}
9479
9480 \providecommand*\multicolumnrow{\LWR@print@multicolumnrow}
9481
9482 }% AtBeginDocument
9483 \end{warpall}
```

73.26 Utility macros inside a table

for HTML output: 9484 \begin{warpHTML}

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

9485 \newcommand*{\LWR@donothing}{}
9486 \let\firsthline\relax
9487 \let\lasthline\relax
9488 \newcommand*{\firsthline}{}
9489 \newcommand*{\lasthline}{}
In case `array` is not loaded:
9490 \newcommand*{\ldelim}{}
9491 \newcommand*{\rdelim}{}
9492 \end{warpHTML}

In case `bigdelim` is not loaded:
9493 \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.

9494 \newcommand*{\TabularMacro}{}
9495 \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: 9496 \begin{warpHTML}

```
9497 \newcommand*\{\ResumeTabular}{%
9498   \boolexist{LWR@exittingtabular}%
9499   \boolexist{LWR@tabularmutemods}%
9500   \LWR@getmynexttoken%
9501 }
```

```
9502 \end{warpHTML}
```

for PRINT output: 9503 \begin{warpprint}

```
9504 \newcommand*\{\ResumeTabular}{}%
9505 \end{warpprint}
```

73.28 Checking for a new table cell

for HTML output: 9506 \begin{warpHTML}

\LWR@tabledatacolumnntag Open a new HTML table cell unless the next token is for a macro which does not create data, such as \hline, \toprule, etc:

```
9507 \newcommand*\{\LWR@tabledatacolumnntag}{%
9508 {%
9509   \LWR@traceinfo{\LWR@tabledatacolumnntag}{%
```

\show\LWR@mynexttoken to see what tokens to look for

If not any of the below, start a new table cell:

```
9510 \global\let\LWR@mynextaction\LWR@tabledatasinglecolumntag%
```

If exiting the tabular:

```
9511 \ifdefequal{\LWR@mynexttoken}{\end}{%
9512   {\boolexist{\LWR@exittingtabular}}{}}
```

`longtable` can have a caption in a cell

```
9513     \ifdefequal{\LWR@mynexttoken}{\caption}{%
9514         {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

Look for other things which would not start a table cell:

```
9515     \ifdefequal{\LWR@mynexttoken}{\multicolumn}{%
9516         {\global\let\LWR@mynextaction\LWR@donothing}{}}%
9517     \ifdefequal{\LWR@mynexttoken}{\multirow}{%
9518         {\global\let\LWR@mynextaction\LWR@donothing}{}}%
9519     \ifdefequal{\LWR@mynexttoken}{\multicolumnrow}{%
9520         {\global\let\LWR@mynextaction\LWR@donothing}{}}%
9521     \ifdefequal{\LWR@mynexttoken}{\noalign}{%
9522         {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

If an `\mrowcell`, this is a cell to be skipped over:

```
9523     \ifdefequal{\LWR@mynexttoken}{\mrowcell}{%
9524         {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

If an `\mcolrowcell`, this is a cell to be skipped over:

```
9525     \ifdefequal{\LWR@mynexttoken}{\mcolrowcell}{%
9526         {\global\let\LWR@mynextaction\LWR@donothing}{}}%
9527     \ifdefequal{\LWR@mynexttoken}{\TabularMacro}{%
9528         {\global\let\LWR@mynextaction\LWR@donothing}{}}%
9529     \ifdefequal{\LWR@mynexttoken}{\hline}{%
9530         {\global\let\LWR@mynextaction\LWR@donothing}{}}%
9531     \ifdefequal{\LWR@mynexttoken}{\firsthline}{%
9532         {\global\let\LWR@mynextaction\LWR@donothing}{}}%
9533     \ifdefequal{\LWR@mynexttoken}{\lasthline}{%
9534         {\global\let\LWR@mynextaction\LWR@donothing}{}}%
9535     \ifdefequal{\LWR@mynexttoken}{\toprule}{%
9536         {\global\let\LWR@mynextaction\LWR@donothing}{}}%
9537     \ifdefequal{\LWR@mynexttoken}{\midrule}{%
9538         {\global\let\LWR@mynextaction\LWR@donothing}{}}%
9539     \ifdefequal{\LWR@mynexttoken}{\cmidrule}{%
9540         {\global\let\LWR@mynextaction\LWR@donothing}{}}%
9541     \ifdefequal{\LWR@mynexttoken}{\morecmidrules}{%
9542         {\global\let\LWR@mynextaction\LWR@donothing}{}}%
9543     \ifdefequal{\LWR@mynexttoken}{\specialrule}{%
9544         {\global\let\LWR@mynextaction\LWR@donothing}{}}%
```

```

9545 \ifdefequal{\LWR@mynexttoken}{\cline}%
9546   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9547 \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
9548   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9549 \ifdefequal{\LWR@mynexttoken}{\hhline}%
9550   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9551 \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
9552   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9553 \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
9554   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9555 \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
9556   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9557 \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
9558   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9559 \ifdefequal{\LWR@mynexttoken}{\warpHTMLonly}%
9560   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9561 \ifdefequal{\LWR@mynexttoken}{\ldelim}%
9562   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9563 \ifdefequal{\LWR@mynexttoken}{\rdelim}%
9564   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

```

For `arydshln`:

```

9565 \ifdefequal{\LWR@mynexttoken}{\hdashline}%
9566   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9567 \ifdefequal{\LWR@mynexttoken}{\cdashline}%
9568   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9569 \ifdefequal{\LWR@mynexttoken}{\firstdashline}%
9570   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9571 \ifdefequal{\LWR@mynexttoken}{\lastdashline}%
9572   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

```

Ignore an empty line between rows:

```

9573 \ifdefequal{\LWR@mynexttoken}{\par}%
9574   {\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:

```
9575     \LWR@traceinfo{\LWR@tabledatacolumntag: about to do mynext}%
9576     \LWR@mynextaction%
9577     \LWR@traceinfo{\LWR@tabledatacolumntag: done}%
9578 }

9579 \end{warpHTML}
```

73.29 \mrowcell

for HTML & PRINT: 9580 \begin{warpall}

⚠ multirow cells The user must insert \mrowcell into any \multirow cells which must be skipped. This command has no action during print output.

```
9581 \newcommand*\mrowcell{}{}

9582 \end{warpall}
```

73.30 \mcolrowcell

for HTML & PRINT: 9583 \begin{warpall}

⚠ multirow cells The user must insert \mcolrowcell into any \multicolumnrow cells which must be skipped. This command has no action during print output.

```
9584 \newcommand*\mcolrowcell{}{}

9585 \end{warpall}
```

73.31 HTML tabular environment

for HTML output: 9586 \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.

```
9587 \providecommand*\toprule[1][]{\hline}
9588 \providecommand*\midrule[1][]{\hline}
9589 \providecommand*\cmidrule{\cline}
9590 \providecommand*\bottomrule[1][]{\hline}
9591 \providecommand*\addlinespace[1][]{}
9592 \providecommand*\morecmidrules(){}
9593 \providecommand*\specialrule[3]{\hline}
```

\noalign {*text*} Redefined for use inside tabular.

```

9594 \LetLtxMacro{\LWR@orignoalign}{\noalign}
9595
9596 \newcommand{\LWR@tabularnoalign}[1]{%
9597     \advance\rownum\m@ne%
9598     \LetLtxMacro{\LWR@save@xcolorrowHTMLcolor}{\LWR@xcolorrowHTMLcolor}%
9599     \renewcommand*{\LWR@xcolorrowHTMLcolor}{}%
9600     \multicolumn{\value{\LWR@tabletotalLaTeXcols}}{l}{#1} \\
9601     \LetLtxMacro{\LWR@xcolorrowHTMLcolor}{\LWR@save@xcolorrowHTMLcolor}%
9602     % \@rowc@lors%
9603     \LWR@getmynexttoken%
9604 }
```

\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.

```

9605 \AtBeginDocument{
9606
9607 \@ifpackageloaded{lwarp-tables}{%
9608 {
9609     \newcommand*{\LWR@HTMLhline}[1][]{%
9610         \ifbool{FormatWP}{%
9611             {\LWR@docmidrule{1-\arabic{\LWR@tabletotalLaTeXcols}}}%
9612             {\defaddtocounter{\LWR@hlines}{1}}%
9613             \LWR@getmynexttoken}%
9614 }%
9615 {
9616     \newcommand*{\LWR@HTMLhline}{%
9617         \ifbool{FormatWP}{%
9618             {\LWR@docmidrule{1-\arabic{\LWR@tabletotalLaTeXcols}}}%
9619             {\defaddtocounter{\LWR@hlines}{1}}%
9620             \LWR@getmynexttoken}%
9621 }%
9622
9623 }% AtBeginDocument
```

\LWR@HTMLcline {*columns*}

```

9624 \NewDocumentCommand{\LWR@HTMLcline}{m}{%
9625     {\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.

```

9626 \newcommand{\LWR@tabular@warpprintonly}[1]{%
9627     \ifbool{warpingprint}{#1}{}%
9628     \LWR@getmynexttoken%
9629 }
```

\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**.

```

9630 \AtBeginDocument{
9631 \@ifundefined{NoAutoSpacing}%
9632 {%
9633   \newcommand*\LWR@nullifyNoAutoSpacing{}%
9634 }%
9635 {%
9636   \newcommand*\LWR@nullifyNoAutoSpacing{%
9637     \NoAutoSpacing%
9638     \renewcommand*\NoAutoSpacing{}%
9639     \renewcommand*\LWR@FBcancel{}%
9640   }%
9641 }%
9642 }%
9643 AtBeginDocument

```

Env tabular <direction> [<vertposition>] {<colspecs>}

The <direction> is from **plexit** for Japanese documents, and is ignored.

```

9643 \StartDefiningTabulars
9644
9645 \NewDocumentCommand{\LWR@HTML@@tabular}{d<> o m}%
9646 {%
9647   \LWR@traceinfo{\LWR@HTML@@tabular started}%

```

⚠ <table> inside

In **LATEX**, a **tabular** may be placed inside a **minipage**, but in **HTML** a <table> may not be inside a . Since there may be several nested s, with an unknown number of other objects between, it is hard to undo all these 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 . 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 . Since this is such a sloppy situation, a warning is issued here instructing the user to please isolate the to print-only.

```

9648   \LWR@spanwarnformat{tabular}%
9649   \addtocounter{LWR@tabulardepth}{1}%

```

Not yet started a table row:

```

9650   \boolfalse{LWR@startedrow}%

```

Not yet doing any rules:

```

9651   \defcounter{LWR@hlines}{0}%
9652   \defcounter{LWR@hdashedlines}{0}%
9653   \boolfalse{LWR@doingtbrule}%
9654   \boolfalse{LWR@doingcmidrule}%

```

For babel-french, turn off auto spacing one time, then nullify the autospacing commands since were not compatible with the tabular parsing code.

```
9655 \LWR@nullifyNoAutoSpacing%
```

Have not yet found the end of tabular command. Unmute the @ and ! columns.

```
9656 \boolfalse{LWR@existingtabular}%
9657 \boolfalse{LWR@tabularmutemods}%
```

Error if failed to use \mrowcell or \mcolrowcell when needed.

```
9658 \boolfalse{LWR@usedmultirow}%
9659 \boolfalse{LWR@foundmrowcell}%

9660 \renewcommand*\LWR@multicoltext{}%
```

Create the table tag:

```
9661 \booltrue{LWR@intabularmetadata}%
9662 \LWR@traceinfo{LWR@tabular: About to LWR@forecenewpage.}%
9663 \LWR@forcenewpage
9664 \LWR@htmlblocktag{table}%
```

Parse the table columns:

```
9665 \LWR@parsetablecols{#3}%
```

Table col spec is: \LWR@tablecols which is a string of llccrr, etc.

Do not place the table inside a paragraph:

```
9666 \LWR@stoppars%
```

Track column #:

```
9667 \defcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
9668 \global\boolfalse{LWR@tabularcelladded}%
```

Start looking for midrules:

```
9669 \LWR@clearmidrules%
```

\\" becomes a macro to end the table row:

```
9670 \LetLtxMacro{\\"}{\LWR@tabularendofline}%
```

\warpprintonly inside a tabular must grab the next token.

```
9671 \LetLtxMacro{\warpprintonly}{\LWR@tabular@warpprintonly}%
```

The following adjust for `colortbl`.

```

9672     \LetLtxMacro{\arrayrulecolor}{\arrayrulecolor\nexttoken}%
9673     \LetLtxMacro{\doublerulesepcolor}{\doublerulesepcolor\nexttoken}%
9674     \def\LWR@columnHTMLcolor{}%
9675     \def\LWR@rowHTMLcolor{}%
9676     \def\LWR@cellHTMLcolor{}%
9677     \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.

```

9678     \ifdefvoid{\LWR@ruleHTMLcolor}{%
9679         {\edef\LWR@vertruleHTMLcolor{black}}%
9680         {\edef\LWR@vertruleHTMLcolor{\LWR@origpound\LWR@ruleHTMLcolor}}}
```

Tracking the depth of cell color <div>s:

```
9681     \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 `tabls` package.

```

9682     \LWR@traceinfo{LWR@@HTML@tabular: redefining macros}%
9683     \LetLtxMacro{\noalign}{\LWR@tabularnoalign}%
9684     \LetLtxMacro{\hline}{\LWR@HTMLhline}%
9685     \LetLtxMacro{\cline}{\LWR@HTMLcline}%

9686     \DeclareDocumentCommand{\hdashline}{o}{%
9687         \ifbool{FormatWP}{%
9688             {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
9689             {\defaddtocounter{LWR@hdashedlines}{1}}%
9690             \LWR@getmynexttoken%
9691         }%
9692         \DeclareDocumentCommand{\cdashline}{m}{%
9693             \LWR@docdashline{##1}\LWR@getmynexttoken%
9694         }%
9695         \DeclareDocumentCommand{\firstdashline}{o}{%
9696             \ifbool{FormatWP}{%
9697                 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
9698                 {\defaddtocounter{LWR@hdashedlines}{1}}%
9699                 \LWR@getmynexttoken%
9700             }%
9701         \DeclareDocumentCommand{\lastdashline}{o}{%
9702             \ifbool{FormatWP}{%
9703                 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
9704                 {\defaddtocounter{LWR@hdashedlines}{1}}%
```

```

9705      \LWR@getmynexttoken%
9706  }%
```

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.

```

9707  \renewcommand{\multicolumn}{\LWR@htmlmulticolumn}%
9708  \renewcommand*{\mrowcell}{%
9709      \LWR@maybenewtablerow%
9710      \LWR@tabularleftedge%
9711      \booltrue{\LWR@skippingmrowcell}%
9712      \booltrue{\LWR@foundmrowcell}%
9713  }%
9714  \renewcommand*{\mcolrowcell}{%
9715      \LWR@maybenewtablerow%
9716      \booltrue{\LWR@skippingmcolrowcell}%
9717      \booltrue{\LWR@foundmrowcell}%
9718  }%
9719  \LetLtxMacro\caption{\LWR@longtabledatacaptiontag}%
```

Reset for new processing:

```

9720  \boolfalse{\LWR@tableparcell}%
9721  \boolfalse{\LWR@skippingmrowcell}%
9722  \boolfalse{\LWR@skippingmcolrowcell}%
9723  \boolfalse{\LWR@skipatbang}%
9724  \boolfalse{\LWR@emptyatbang}%
```

Set & for its special meaning inside the tabular:

```

9725  \StartDefiningTabulars%
9726  \protected\gdef&{\LWR@tabularampersand}%
```

Locally force any minipages to be fullwidth, until the end of the tabular:

```

9727  \booltrue{\LWR@forceminipagefullwidth}%
```

Nest one level deeper of tabular paragraph handling:

```

9728  \addtocounter{\LWR@tabularpardepth}{1}%

```

Look ahead for a possible table data cell:

```

9729  \LWR@traceinfo{\LWR@@HTML@tabular: about to \LWR@getmynexttoken}%
9730  \LWR@getmynexttoken%
9731 }%
```

Ending the environment:

```

9732 \newcommand*{\LWR@HTML@endtabular}%
9733 {%
9734  \LWR@traceinfo{\LWR@HTML@endtabular}%
}
```

Unnest one level of tabular paragraph handling:

```

9735     \addtocounter{LWR@tabularpardepth}{-1}%
9736     \ifboolexpr{%
9737         test {%
9738             \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{%
9739                 {\value{LWR@tabletotalLaTeXcols}}}
9740             } or %
9741             (%
9742                 bool{LWR@intabularmetadata} and%
9743                 not bool{LWR@tabularcelladded} and%
9744                 test {%
9745                     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{%
9746                         {\value{LWR@tabletotalLaTeXcols}}}
9747                     }%
9748                 )%
9749             }%
9750             {%
9751                 \LWR@tabularfinishrow%
9752             }%
9753             {%
9754                 \LWR@closetabledatacell%
9755             }%
9756             \LWR@htmlblocktag{/tr}%

```

xcolor row color support:

```

9757     \@rowc@lors%
9758     \LWR@htmlblocktag{/table}%
9759     \boolfalse{LWR@intabularmetadata}%

```

Unnest one level of tabular:

```
9760     \addtocounter{LWR@tabulardepth}{-1}%
```

Restore & to its usual meaning:

```

9761     \ifnumequal{\value{LWR@tabulardepth}}{0}{%
9762         \protected\gdef&{\LWR@origampmacro}%
9763         \StopDefiningTabulars%
9764     }{}%

```

Error if used \multirow or \multicolumn without using \mrowcell or \mcolrowcell.

```

9765     \ifbool{LWR@usedmultirow}{%
9766         \ifbool{LWR@foundmrowcell}{%
9767             {}%
9768             {}%
9769             \PackageError{lwarp}%
9770             {}%
9771             When using \protect\multirow, \protect\multicolumn, \MessageBreak
9772             or the bigdelim package, \MessageBreak

```

```

9773         place \protect\mrowcell\space or \protect\mcolrowcell\MessageBreak
9774             in empty cells which are to be skipped.\MessageBreak
9775             See the Lwarp package documentation:\MessageBreak
9776             "Special cases and limitations" -> "Tabular"
9777         }%
9778     {%
9779         See the Lwarp package documentation:\MessageBreak
9780         "Special cases and limitations" -> "Tabular".
9781     }%
9782     }%
9783 }{}}%
```

9784 \LWR@traceinfo{\LWR@HTML@endtabular finished}%
9785 }
9786
9787 \csletcs{\LWR@HTML@endtabular*}{\LWR@HTML@endtabular}
9788
9789 \StopDefiningTabulars

siunitx may redefine tabular, so set the following later:

```

9790 \AtBeginDocument{
9791     \LetLtxMacro{\LWR@origendtabular}{\endtabular}
9792     \csletcs{\LWR@origendtabular*}{\endtabular*}
9793     \LWR@formatted{@tabular}
9794     \LWR@formatted{endtabular}
9795     \LWR@formatted{endtabular*}
9796 }
```

9797 \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>}{<imagenumber>}}
```

Table 14 shows the data structures related to cross-referencing.

for HTML output 9798 \begin{warpHTML}

Table 14: Cross-referencing data structures

Original LATEX:	(print and HTML)
\refstepcounter: Steps the counter and sets \currentlabel.	
\currentlabel: \p@<ctr>\the<ctr> Updated by \refstepcounter.	
\label: Writes to the .aux file: \newlabel{<label>}{{\currentlabel}{\thepage}}	
\newlabel: When the .aux file is read, sets \r@<label>.	
\r@<label>: Set to: {{\currentlabel}{\thepage}}	
\ref: Returns the first part of \r@<label>.	
\pageref: Returns the second part of \r@<label>.	
Added by l warp:	(HTML only)
\label: 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.	
\newlabel: Unchanged. When the .aux file is read, sets \r@<label>@l warp.	
\r@<label>@l warp: 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.	
\nameref: Emulated from hyperref for l warp. See section 74.4.	
\ref and \nameref: Adds HTML tags. See section 74.4.	
Added by amsmath:	(print and HTML)
\label: Execution is delayed until the math environment is completed.	
\ltx@label: LATEX \label, (HTML: patched by l warp,) later patched by cleveref.	
Added by cleveref:	(print and HTML)
\refstepcounter: Added: sets \cref@currentlabel.	
\cref@currentlabel: (<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.	
\label: Writes to the .aux file: \newlabel{<label>@cref}{{\cref@currentlabel}{\thepage}}	
\newlabel: Unchanged. When the .aux file is read, sets \r@<label>@cref.	
\r@<label>@cref: Set to: {{\cref@currentlabel}{\thepage}}	
Utility functions: See \cref@getlabel, \cref@gettype, \cref@getcounter, \cref@getprefix.	
Cross-referencing names: \crefname and \Crefname assign human-readable names for references to this counter type.	
Additionally patched by l warp:	(HTML only)
\cref, etc.: Modified for l warp. See section 194.	
\Label inside math: See section 81.7.1.	
Footnotes: See \noteentry in section 59.4.	

74.1 Setup

\@currentlabelname To remember the most recently defined section name, description, or caption, for \nameref.

```
9799 \def\@currentlabelname{\linkhomename}%
```

\LWR@stripperiod {\text} [.]

Removes a trailing period.

```
9800 \def\LWR@stripperiod#1.\ltx@empty#2\@nil{#1}%
```

\LWR@setlatestname {\object name}

Removes \label, strips any final period, and remembers the result.

```
9801 \newcommand*{\LWR@setlatestname}[1]{%
```

Remove \label and other commands from the name, the strip any final period. See `gettitledstring`.

```
9802     \GetTitleStringExpand{#1}%
9803     \edef\@currentlabelname{\detokenize\expandafter{\GetTitleStringResult}}%
9804     \edef\@currentlabelname{%
9805         \expandafter\LWR@stripperiod\@currentlabelname%
9806         \ltx@empty.\ltx@empty\@nil%
9807     }%
9808 }
```

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>\}\{<imagenum>\}}
```

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.

```
9809 \def\LWR@setref#1#2#3{%
9810     \ifx#1\relax%
```

```

9811      ??%
9812      \else%
9813      \expandafter#2#1%
9814      \fi}

```

\LWR@nameref {*label*} Returns the section name for this label:

```

9815 \newcommand*{\LWR@nameref}[1]{%
9816     \expandafter\setref\csname r@#1@l warp\endcsname\LWR@firstoffour{#1}%
9817 }

```

\LWR@htmlfileref {*label*} Returns the file number or name for this label:

```

9818 \newcommand*{\LWR@htmlfileref}[1]{%
9819     \expandafter\setref\csname r@#1@l warp\endcsname\LWR@secondoffour{#1}%
9820 }

```

\LWR@lateximagedepthref {*label*} Returns the `lateximagedepth` for this label:

```

9821 \newcommand*{\LWR@lateximagedepthref}[1]{%
9822     \expandafter\setref\csname r@#1@l warp\endcsname\LWR@thirdoffour{#1}%
9823 }

```

\LWR@lateximagenumberref {*label*} Returns the `lateximagenumber` for this label:

```

9824 \newcommand*{\LWR@lateximagenumberref}[1]{%
9825     \expandafter\setref\csname r@#1@l warp\endcsname\LWR@fourthoffour{#1}%
9826 }

```

\LWR@write@lwarplabel {*label*} Sanitize the name and then creates the label:

```

9827 \newcommand*{\LWR@write@lwarplabel}[1]{%
9828     \LWR@traceinfo{\LWR@write@lwarplabel !#1!}%
9829     \LWR@setlatestname{\@currentlabelname}%
9830     \@bsphack%
9831     \protected@write\@auxout{}%
9832     {%
9833         \string\newlabel{#1@l warp}{%
9834             \@currentlabelname}%
9835         {%
9836             \ifbool{FileSectionNames}%
9837                 {\LWR@thisfilename}%
9838                 {\arabic{\LWR@htmlfilenumber}}%
9839         }%
9840         {\arabic{\LWR@lateximagedepth}}%
9841         {\arabic{\LWR@lateximagenumber}}%
9842     }%
9843     }%
9844     \@esphack%
9845 }

```

74.3 Labels

\LWR@label@subcreatetag Creates the tag from \LWR@sanitized.

```
9846 \newcommand*{\LWR@Label@subcreatetag}{%
9847     \LWR@htmltag{a \LWR@print@mbox{id="\LWR@sanitized"}}}%
9848     \LWR@htmltag{/a}%
9849 }
```

\LWR@label@inmathcomment

```
9850 \newcommand*{\LWR@Label@inmathcomment}{%
9851     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
9852         {}}
```

The combined L^AT_EX & HTML label is printed in a \mbox field:

```
9853     \mbox{%
```

Shift the label over to the right side of the environment to avoid over-printing the math:

```
9854     \ifdef{\totwidth}{\ifbool{LWR@amsmultiline}{}{\hspace*{\totwidth}}}{}
```

Temporarily end the HTML comment, insert the L^AT_EX & HTML label, then resume the HTML comment. \@firstofone is required to remove extra braces introduced by the amsmath package.)

```
9855         \LWR@htmclosecomment%
9856         \LWR@label@subcreatetag%
9857         \LWR@htmlopencomment%
9858     }% mbox
9859 }% mathjax
9860 {%
9861     \LWR@label@subcreatetag%
9862 }%
9863 }
```

\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.

```
9864 \newcommand*{\LWR@Label@createtag}[1]{%
9865     \LWR@traceinfo{LWR@label@createtag !#1!}%
```

Create an HTML id tag unless are inside a lateximage, since it would appear in the image:

```
9866     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
9867     {}%
9868     {% not lateximage
```

If not doing a `lateximage`, create an HTML ID tag.

```

9869      \LWR@sanitize{#1}%
9870      \ifbool{\LWR@insidemathcomment}{%
9871          {%
9872              \LWR@label@inmathcomment%
9873          }%
9874          {%
9875              \ifbool{\LWR@doingstartpars}{%
9876                  {%
9877                      \ifbool{\LWR@doingapar}{%
9878                          {%
9879                              \LWR@label@subcreatetag%
9880                          }%
9881                      {%
9882                          \LWR@stoppars%
9883                          \LWR@label@subcreatetag%
9884                          \LWR@startpars%
9885                      }%
9886                  }%
9887                  {%
9888                      \LWR@label@subcreatetag%
9889                  }%
9890              }%
9891          }%
9892      }%

```

`\LWR@new@label {<label>}`

`\label` during HTML output when not in SVG math mode, removing extra spaces around the label, as done by a regular L^AT_EX `\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`.

```

9893 \NewDocumentCommand{\LWR@new@label}{m}{%
9894     \LWR@traceinfo{\LWR@new@label: starting}%
9895     \LWR@traceinfo{\LWR@new@label: !#1!}%
9896 % \@bsphack%

```

Create a traditional L^AT_EX label, as modified by `cleveref`:

```
9897 \LWR@orig@label{#1}%
```

Create a special label which holds the section number, `LWR@htmlfilename`, `LWR@lateximagedepth`, and `LWR@lateximagenumber`:

```

9898 \LWR@traceinfo{%
9899     LWR@new@label: filesectionnames is %

```

```

9900      \ifboole{FileSectionNames}{true}{false}%
9901      }%
9902      \LWR@traceinfo{%
9903          LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!%
9904      }%
9905      \LWR@traceinfo{%
9906          LWR@new@label: LWR@htmlfilenumber is \arabic{LWR@htmlfilenumber}%
9907      }%
9908      \LWR@write@lwarplabel{#1}%
9909      \LWR@label@createtag{#1}%
9910      % \esphack%
9911      \LWR@traceinfo{LWR@new@label: done}%
9912 }

```

74.4 References

\LWR@addlinktitle

```

9913 \newcommand*{\LWR@addlinktitle}{%
9914     \ifdefvoid{\LWR@ThisAltText}{}{ % space
9915         title="\LWR@ThisAltText" % space
9916         \gdef\LWR@ThisAltText{}%
9917     }%
9918 }

```

\LWR@startref {*label*} (Common code for \ref and \nameref.)

Open an HTML tag reference to a filename, # character, and a label.

```

9919 \newcommand*{\LWR@startref}[1]
9920 {%
9921     \LWR@sanitize{#1}%
9922     \LWR@traceinfo{\LWR@startref A: !#1!}%

```

Create the filename part of the link:

```

9923     \LWR@htmlltag{a href="%"
9924     \LWR@traceinfo{\LWR@startref B}%
9925     \LWR@print@mbox{\LWR@htmllrefsectionfilename{#1}}%
9926     \LWR@traceinfo{\LWR@startref C}%
9927     \LWR@origpound%

```

Create the destination id:

See if LWR@lateximagedepth is unknown:

```

9928     \LWR@traceinfo{\LWR@startref D: !#1!}%
9929     \ifcsundef{r@#1@lwarf}%

```

“??” if LWR@lateximagedepth is unknown, so create a link with an unknown destination:

```

9930      {%
9931          \LWR@traceinfo{\LWR@startref D0: ??}%
9932          ??%
9933      }%

```

If `\LWR@lateximagedepth` is known. Use a `\lateximage` if the depth is greater than zero, or a regular link otherwise:

```

9934      {%
9935          \ifthenelse{\cnttest{\LWR@lateximagedepthref{#1}}{>}{0}}{%
9936              {%
9937                  \lateximage-\BaseJobname-\LWR@lateximagenumberref{#1}%
9938              }%
9939              {%
9940                  \LWR@traceinfo{\LWR@startref D3}%

```

`\detokenize` is used to allow underscores in the labels:

```

9941          \LWR@print@mbox{\LWR@sanitized}%
9942      }%
9943  }%
9944  \LWR@traceinfo{\LWR@startref E}%

```

Closing quote:

```
9945  "%
```

Maybe add a title:

```

9946  \LWR@addlinktitle%
9947  }%
9948  \LWR@traceinfo{\LWR@startref F}%
9949 }%

```

`\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)”.

```

9950 \NewDocumentCommand{\LWR@subnewref}{m m}{%
9951     \LWR@traceinfo{\LWR@subnewref #1 #2}%
9952     \LWR@startref{#1}%
9953     \LWR@print@ref{#2}%
9954     \LWR@htmlltag{/a}%
9955 }%

```

`\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:

```
9956 \LWR@absorbstar{ref}%
```

The HTML version:

```
9957 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%
9958     \LWR@traceinfo{\LWR@HTML@ref !#2!}%
9959     \IfBooleanTF{#1}%
9960         {\LWR@print@ref{#2}}%
9961         {\LWR@subnewref{#2}{#2}}%
9962 }
9963
9964 \LWR@formatted{ref}
```

For MATHJAX:

```
9965 \CustomizeMathJax{\let\LWRref\ref}
9966 \CustomizeMathJax{\renewcommand{\ref}{\ifstar\LWRref\LWRref}}
```

`\pageref{label}` Text for page references.

```
9967 \newcommand*{\pageref}{\see }
```

`\pageref * {label}` Create an internal document reference, or just the unlinked number if starred, per `\hyperref`.

```
9968 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
9969     \IfBooleanTF{#1}%
9970         {(\pageref{#1})}%
9971         {(\cpageref{#1})}%
9972 }
```

`\nameref {label}`

```
9973 \newrobustcmd*{\nameref}[1]{%
9974     \LWR@traceinfo{\nameref}%
9975     \LWR@startref{#1}%
9976     \LWR@traceinfo{\nameref B}%
9977     \LWR@nameref{#1}%
9978     \LWR@traceinfo{\nameref C}%
9979     \LWR@htmlltag{/a}%
9980     \LWR@traceinfo{\nameref: done}%
9981 }
```

`\Nameref {label}` In print, adds the page number. In HTML, does not.

```
9982 \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.

```
9983 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:
9984 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.
```

Emulates `hyperref`:

`\@currentHref` Added to support backref.

```
9985 \AtBeginDocument{
9986     \def\@currentHref{\BaseJobname-autopage-\theLWR@currentautosec}
9987 }
```

`\LWR@linkcatcodes` Sets catcodes before processing macros which have hyperlinks as arguments.

```
9988 \newcommand*{\LWR@linkcatcodes}{%
9989     \catcode`\#=12%
9990     \catcode`\%=12%
9991     \catcode`\&=12%
9992     \catcode`\~=12%
9993     \catcode`\_=12%
```

For `babel-french`:

```
9994     \LWR@FBcancel%
9995 }
```

`\LWR@linkmediacatcodes` Sets catcodes before processing macros which have hyperlinks as arguments. Modified for multimedia links.

```
9996 \newcommand*{\LWR@linkmediacatcodes}{%
9997     \catcode`\#=12%
9998     \catcode`\%=12%
9999 %     \catcode`\&=12% left alone for splitting flash variables
10000     \catcode`\~=12%
10001     \catcode`\_=12%
```

For `babel-french`:

```
10002     \LWR@FBcancel%
10003 }
```

```
\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.

```
10004 \NewDocumentCommand{\LWR@subhyperref}{m}{%
10005     \LWR@traceinfo{\LWR@subhyperref !#1!}%
10006     \LWR@sanitize{#1}%
10007     \LWR@htmltag{%
10008         a href="\LWR@sanitized" % space
10009         \LWR@addlinktitle % space
10010         target="\_\_blank" % space
10011     }%
10012 }
```

```
\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.

```
10013 \newcommand{\LWR@subhyperreftext}[1]{%
10014     #1%
10015     \LWR@htmltag{/a}%
10016     \LWR@ensuredoingapar%
10017 }
```

```
\LWR@subhyperrefclass {⟨URL⟩} {⟨text⟩} {⟨htmlclass⟩}
```

```
10018 \NewDocumentCommand{\LWR@subhyperrefclass}{m +m m}{%
10019     \LWR@htmltag{%
10020         a % space
10021         href="\begingroup\@sanitize#1\endgroup" % space
10022         class="#3" % space
10023         \LWR@addlinktitle % space
10024     }\LWR@newline%
10025     #2%
10026     \LWR@htmltag{/a}%
10027     \LWR@ensuredoingapar%
10028 }
```

```
\LWR@href [⟨options⟩] {⟨URL⟩}
```

Create a link with accompanying text:

```
10029 \DeclareDocumentCommand{\LWR@hrefb}{O{} m}{%
10030     \LWR@ensuredoingapar%
10031     \LWR@subhyperref{#2}%
10032     \endgroup% restore catcodes
10033     \LWR@subhyperreftext%
10034 }
10035
10036 \newrobustcmd*\LWR@href{%
```

```

10037  \begingroup%
10038  \LWR@linkcatcodes%
10039  \LWR@hrefb%
10040 }

```

\LWR@nolinkurl {⟨URL⟩}

Print the name of the link without creating the link:

```

10041 \newcommand*{\LWR@nolinkurlb}[1]{%
10042  \LWR@ensuredoingapar%
10043  \def\LWR@templink{\#1}%
10044  @onelvel@sanitize\LWR@templink%
10045  \LWR@templink%
10046  \endgroup%
10047 }
10048
10049 \newrobustcmd*{\LWR@nolinkurl}{%
10050  \begingroup%
10051  \LWR@linkcatcodes%
10052  \LWR@nolinkurlb%
10053 }

```

\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.

```

10054 \DeclareDocumentCommand{\LWR@urlb}{m}{%
10055  \LWR@ensuredoingapar%
10056  \def\LWR@templink{\#1}%
10057  @onelvel@sanitize\LWR@templink%
10058  \LWR@href{\LWR@templink}{\LWR@templink}%
10059  \endgroup%
10060 }
10061
10062 \newrobustcmd*{\LWR@url}{%
10063  \begingroup%
10064  \LWR@linkcatcodes%
10065  \LWR@urlb%
10066 }

```

\LWR@subinlineimage {⟨alt> tag⟩} {⟨class⟩} {⟨filename⟩} {⟨extension⟩} {⟨CSS style⟩}

Factored from lateximage.

```

10067 \newcommand*{\LWR@subinlineimage}[5]{%
10068  \ifblank{\#1}%
10069  {%
10070   \LWR@htmltag{img \LWR@indentHTML
10071     src="#3.#4" \LWR@indentHTML

```

```
10072      alt="#3" \LWR@indentHTML
10073      style="#5" \LWR@indentHTML
10074      class="#2" \LWR@newline
10075  }%
10076 }%
10077 {%
10078 \LWR@htmltag{img \LWR@indentHTML
10079   src="#3.#4" \LWR@indentHTML
10080   alt="#1" \LWR@indentHTML
10081   style="#5" \LWR@indentHTML
10082   class="#2" \LWR@newline
10083 }%
10084 }%
10085 }

10086 \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^AT_EX 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: 10087 \begin{warpHTML}

\LWR@floatbegin {<type>} [<placement>] Begins a \newfloat environment.

10088 \NewDocumentCommand{\LWR@floatbegin}{m o}{%

Warn if starting a float inside a :

10089 \LWR@spanwarninvalid{float}%

```
10090 \ifbool{FormatWP}{\newline}{}
10091 \LWR@stoppars%
```

There is a new float, so increment the unique float counter:

```
10092 \addtocounter{LWR@thisautoid}{1}%
10093 \booltrue{LWR@freezethisautoid}%
10094 \begingroup%
```

Settings while inside the environment:

```
10095 \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.

```
10096 \LWR@htmlltag{%
10097   figure id="\LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}" % space
10098   class="#1 \nameuse{LWR@floatstyle@#1}"%
10099 }%
10100 \ifbool{FormatWP}{%
10101   \LWR@newline%
10102   \LWR@BlockClassWP{}{}{wp#1}%
10103 }{}}
```

Update the caption type:

```
10104 \renewcommand*{\@capttype}{#1}%
```

Mark the float for a word processor conversion:

```
10105 \LWR@startpars%
10106 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10107 === begin #1 ===
10108 }{}}
```

After each **\LWR@floatbegin**, look for **\centering**, etc next, using **\LWR@floatalignment**.

```
10111 }
```

For **koma-script**. The following does not work for tables.

```
10112 \AtBeginDocument{
10113
10114 @ifpackageloaded{tocbasic}{
10115
10116 \appto\figure@atbegin{%
10117   \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%}
```

```

10118 }
10119
10120 }{}% tocbasic
10121
10122 }% AtBeginDocument

```

\@xfloat Support packages which create floats directly.
\@xdblfloat Look for \centering, etc using \LWR@floatalignment.

```

10123 \AtBeginDocument{
10124     \def\@xfloat #1[#2]{%
10125         \LWR@floatbegin{#1}[#2]
10126         \LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment%
10127     }
10128     \def\@xdblfloat #1[#2]{%
10129         \LWR@floatbegin{#1}[#2]
10130         \LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment%
10131     }
10132 }

```

\LWR@floatend Ends a \newfloat environment.

```
10133 \newcommand*\LWR@floatend}{%
```

If saw a \centering, finish the center environment:

```
10134 \LWR@endfloatalignment%
```

Mark the float end for a word processor conversion:

```

10135 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10136
10137 === end ===
10138
10139 }{}%
10140 \LWR@stoppars%

```

Close an HTML figure tag:

```

10141 \ifbool{FormatWP}{\endLWR@BlockClassWP}{}
10142 \LWR@htmlelementend{figure}%
10143 \endgroup%
10144 \boolfalse{\LWR@freezethisautoid}%
10145 \LWR@startpars%
10146 \ifbool{FormatWP}{\newline}{}
10147 }

```

\end@float Support packages which create floats directly.
\end@dblfloat

```

10148 \AtBeginDocument{
10149     \let\end@float\LWR@floatend
10150     \let\end@dblfloat\LWR@floatend
10151 }

```

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.

```
10152 \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.

```
10153 \newcounter{LWR@thisautoidWP}
```

Bool LWR@freezethisautoid Prevents multiple increments of \LWR@thisautoid inside a float.

```
10154 \newbool{LWR@freezethisautoid}
10155 \boolfalse{LWR@freezethisautoid}
```

\LWR@forcenewautoidanchor Adds a new <autoid> anchor.

```
10156 \newcommand*{\LWR@forcenewautoidanchor}{%
10157     \addtocounter{LWR@thisautoid}{1}%
10158     \ifbool{LWR@doingapar}{%
10159         {%
10160             \LWR@htmlltag{a id="\LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}"} }%
10161             \LWR@htmlltag{/a }%
10162         }%
10163     {%
10164         \LWR@stoppars%
10165         \LWR@htmlltag{a id="\LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}"} }%
10166             \LWR@htmlltag{/a }%
10167         \LWR@startpars%
10168     }%
10169 }
```

\LWR@newautoidanchor Sometimes adds a new <autoid> anchor.

```
10170 \newcommand*{\LWR@newautoidanchor}{%
10171     \ifnumcomp{\value{LWR@lateximagedepth}}{0}{}{%
10172         {}%
10173         \ifbool{LWR@freezethisautoid}{\LWR@forcenewautoidanchor}{%
10174     }}
```

\@capttype Remembers which float type is in use.

```
10175 \newcommand*{\@capttype}{}%
```

\LWR@floatalignmentname Set to center, flushleft, or flushright if saw \centering, \raggedright, or \raggedleft.

```
10176 \newcommand*{\LWR@floatalignmentname}{}%
```

\LWR@floatalignment If sees a \centering, \raggedleft, or \raggedright, creates a center, flushright, or flushleft environment.

```
10177 \newcommand*{\LWR@floatalignment}{%
10178     \ifdefstreq{\LWR@mynexttoken}{\centering}{%
10179         \center%
10180         \renewcommand*{\LWR@floatalignmentname}{center}%
10181     }{%
10182     \ifdefstreq{\LWR@mynexttoken}{\raggedright}{%
10183         \flushleft%
10184         \renewcommand*{\LWR@floatalignmentname}{flushleft}%
10185     }{%
10186     \ifdefstreq{\LWR@mynexttoken}{\raggedleft}{%
10187         \flushright%
10188         \renewcommand*{\LWR@floatalignmentname}{flushright}%
10189     }{%
10190 }}
```

\LWR@endfloatalignment Closes an environment from \LWR@floatalignment.

```
10191 \newcommand*{\LWR@endfloatalignment}{%
10192     \ifdefvoid{\LWR@floatalignmentname}{%
10193         {}%
10194         {\@nameuse{end\LWR@floatalignmentname}}%
10195     \renewcommand*{\LWR@floatalignmentname}{}%
10196 }
```

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.

```
10197 \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.

```
10198 \AtBeginDocument{%
10199     \@ifpackageloaded{caption}{}{%
10200         \let\LWR@orig@caption\@caption%
10201         \long\def\@caption{\#1[\#2]{%
```

Warn if using a caption inside a :

```
10202 \LWR@spanwarnformat[caption]%
```

```

10203          \LWR@setlatestname{#2}%
10204          \LWR@orig@caption{#1}[{#2}]% also takes third argument
10205      }%
10206
10207      \renewcommand{\@makecaption}[2]{%
10208          \LWR@traceinfo{@makecaption}%
10209          \caption@begin{\@capttype}%
10210          \LWR@isolate{#1}%
10211          \edef\LWR@tempone{#1}%
10212          \ifdefvoid{\LWR@tempone}{}{\CaptionSeparator}%
10213          \LWR@isolate{#2}%
10214          \caption@end%
10215          \LWR@traceinfo{@makecaption: done}%
10216      }%
10217  }
10218 }
```

75.4 Caption and lof linking and tracking

When a new HTML file is marked in the L^AT_EX PDF file, or at the start of a new section, the L^AT_EX page number at that point is stored in LWR@latestautopage, (and the associated filename is remembered by the special L^AT_EX 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.

```

10219 \newcounter{LWR@nextautoid}
10220 \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.

```

10221 \newcommand*{\LWRsetnextfloat}[2]{%
10222     \setcounter{LWR@nextautopage}{#1}%
10223     \setcounter{LWR@nextautoid}{#2}%
10224 }
```

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.

```
10225 \newcounter{LWR@latestautopage}
10226 \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.

```
10227 \newenvironment*{LWR@figcaption}
10228   {%
10229     \ifbool{FormatWP}{%
10230       \BlockClass[font-style:italic]{figurecaption}%
10231     }{%
10232       \BlockClass{figurecaption}%
10233     }%
10234   }%
10235   {\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.

```
10237 \newcommand*{\LWR@HTML@caption@begin}[1]
10238 {%
10239   \LWR@traceinfo{\LWR@HTML@caption@begin}%
```

Keep par and minipage changes local:

```
10240   \begingroup%
```

No need for a `minipage` or `\parbox` inside the caption:

```
10241   \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}{}{%
10242     \RenewDocumentCommand{\parbox}{O{t} O{} O{t} m +m}##5}%
```

Enclose the original caption code inside an HTML tag:

```
10243   \LWR@figcaption%
10244   \LWR@traceinfo{\LWR@HTML@caption@begin: about to LWR@origcaption@begin}%
10245   \LWR@print@caption@begin{#1}%
10246   \LWR@traceinfo{\LWR@HTML@caption@begin: done}%
10247 }
```

```
\LWR@HTML@caption@end Low-level patches to create HTML tags for captions.
```

```
10248 \newcommand*{\LWR@HTML@caption@end}%
10249 {%
10250   \LWR@traceinfo{\LWR@HTML@caption@end}%
10251   \LWR@print@caption@end%
```

Closing tag:

```
10252     \endLWR@figcaption%
10253     \endgroup%
10254     % \leavevmode% avoid bad space factor (0) error
10255     \LWR@traceinfo{LWR@HTML@caption@end: done}%
10256 }
```

\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.

```
10257 \AtBeginDocument{
10258     \providecommand{\caption@begin}[1]{}
10259     \LWR@formatted{caption@begin}
10260
10261     \providecommand{\caption@end}{}
10262     \LWR@formatted{caption@end}
10263 }
```

\captionlistentry Tracks the float number for this caption used outside a float. Patched to create an
 HTML anchor.

```
10264 \AtBeginDocument{%
10265 @ifpackage{caption}%
10266     \let\LWR@origcaptionlistentry\captionlistentry
10267
10268     \renewcommand*{\captionlistentry}{%
10269         \LWR@ensuredoingapar%
10270         \LWR@origcaptionlistentry%
10271     }

10272     \def\LWR@LTcaptionlistentry{%
10273         \LWR@ensuredoingapar%
10274         \LWR@forcenewautoanchor%
10275         \bgroup%
10276         \@ifstar{\egroup\LWR@LT@captionlistentry}% gobble *
10277             {\egroup\LWR@LT@captionlistentry}%
10278     }%
10279
10280     \def\LWR@LT@captionlistentry#1{%
10281         \caption@listentry@firstoftwo[\LTcaptype]{#1}%
10282     }%
10283 }% caption loaded
10284 {% caption not loaded
10285     \newcommand{\captionlistentry}[2][]{%
10286         \newcommand{\LWR@LT@captionlistentry}[2][]{%
10287     }
10288 }% 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

```

10289 \let\LWR@origaddcontentsline\addcontentsline
10290
10291 \renewcommand*{\addcontentsline}[3]{%
10292     \ifstrequal{#1}{toc}{}% not TOC
10293     \ifnumcomp{\value{\LWR@lateximagedepth}}{0}{%
10294         {}%
10295         {\LWR@newautoidanchor}%
10296     \ifcsvvoid{\ext@#2}{\csdef{\ext@#2}{#1}}{}%
10297         \addtocontents{\@nameuse{\ext@#2}}{%
10298             \protect\LWRsetnextfloat%
10299             {\arabic{\LWR@latestautopage}}%
10300             {\arabic{\LWR@thisautoid}}%
10301         }%
10302     }% not TOC
10303     \LWR@origaddcontentsline{#1}{#2}{#3}%
10304 }
```

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.

```

10305 \RequirePackage{capt-of}
10306
10307 \AtBeginDocument{
10308     \let\LWR@origcaptionof\captionof
10309
10310     \renewcommand*{\captionof}{%
10311         \LWR@stopars%
10312         \LWR@origcaptionof%
10313     }%
10314 }% AtBeginDocument
10315 \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^AT_EX infrastructure is used for TOC, along with some patches to generate HTML output.

for HTML output: 10316 \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^AT_EX, the file is not reset after being read, since the sidetoc may be referred to again in each HTML page.

```
10317 \newcommand*{\LWR@myshorttoc}[1]{%
10318   \LWR@traceinfo{\LWR@myshorttoc: #1}%
10319   \LWR@ensuredoingapar%
```

Only if the file exists:

```
10320   \IfFileExists{\jobname.\#1}{%
10321     \LWR@traceinfo{\LWR@myshorttoc: loading}%

```

 Many of the commands in the file will have @ characters in them, so @ must be made a regular letter.

```
10322   \begingroup%
10323     \makeatletter%
```

Disable CJK xpinyin while generating the sidetoc.

```
10324   \LWR@disablepinyin%
```

Read in the TOC file:

```
10325   \@input{\jobname.\#1}%
10326   \endgroup%
10327 }%
10328 {}%
10329 \LWR@traceinfo{\LWR@myshorttoc: done}%
10330 }
```

\LWR@subtableofcontents {\langle toc/lof/lot\rangle} {\langle sectionstarname\rangle}

Places a TOC/LOF/LOT at the current position.

10331 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%

Closes previous levels:

```
10332     \@ifundefined{chapter}%
10333         {\LWR@closeprevious{section}}%
10334         {\LWR@closeprevious{chapter}}%
```

Prints any pending footnotes so that they appear above the potentially large TOC:

```
10335     \LWR@printpendingfootnotes%
```

Place the list into its own chapter (if defined) or section:

```
10336     \@ifundefined{chapter}{\section*{\#2}}{\chapter*{\#2}}%
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
10337     \LWR@htmlelementclass{nav}{#1}%
```

Create the actual list:

```
10338     \LWR@myshorttoc{#1}%
```

Close the nav:

```
10339     \LWR@htmlelementclassend{nav}{#1}%
10340 }
```

\@starttoc {*ext*}

Patch \@starttoc to encapsulate the TOC inside HTML tags:

```
10341 \let\LWR@orig@starttoc@\starttoc
10342
10343 \renewcommand{\@starttoc}[1]{%
10344     \LWR@htmlelementclass{nav}{#1}%
10345     \LWR@orig@starttoc{#1}%
10346     \LWR@htmlelementclassend{nav}{#1}%
10347 }
```

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.)

```
10348 \newbool{LWR@copiedsidetoc}
10349 \boolfalse{LWR@copiedsidetoc}
```

\tableofcontents Patch \tableofcontents, etc. to print footnotes first. newfloat uses \listoffigures for all future float types.

```
10350 \AtBeginDocument{  
10351  
10352 \let\LWR@origtableofcontents\tableofcontents  
10353  
10354 \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:

```
10355     \ifboolexpr{bool{FormatWP} and bool{WPMarkTOC}}{  
10356  
10357     === table of contents ===  
10358  
10359     }  
10360     {
```

Copy the .toc file to .sideroc for printing the sideroc. The original .toc file is renewed when \tableofcontents is finished.

```
10361     \ifbool{\LWR@copiedsideroc}{}{  
10362         \LWR@copyfile{\jobname.toc}{\jobname.sideroc}  
10363         \booltrue{\LWR@copiedsideroc}  
10364     }%  
10365     \LWR@printpendingfootnotes  
10366     \LWR@origtableofcontents  
10367     }  
10368 }% \tableofcontents  
10369  
10370 }% AtBeginDocument
```

\listoffigures

```
10371 \let\LWR@origlistoffigures\listoffigures  
10372  
10373 \renewcommand*\listoffigures{  
10374     \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{  
10375  
10376     === list of figures ===  
10377  
10378     }  
10379     {  
10380         \LWR@printpendingfootnotes  
10381         \LWR@origlistoffigures  
10382     }  
10383 }
```

\listoftables

```
10384 \let\LWR@origlistoftables\listoftables  
10385  
10386 \renewcommand*\listoftables{  
10387     \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{  
10388 }
```

```

10389     === list of tables ===
10390
10391     }
10392     {
10393         \LWR@printpendingfootnotes
10394         \LWR@origlistoftables
10395     }
10396 }
```

76.2 High-level TOC commands

`\listof {<type>} {<title>}`

Emulate the `\listof` command from the `float` package (section 262). Used to create lists of custom float types. Also used to redefine the standard L^AT_EX `\listoffigures` and `\listoftables` commands.

```

10397 \NewDocumentCommand{\listof}{m +m}{%
10398     @ifundefined{l@#1}{%
10399         \csdef{l@#1}##1##2{\hypertocfloat{1}{#1}{\nameuse{ext@#1}}{##1}{##2}}%
10400     }{}%
10401     \LWR@subtableofcontents{\nameuse{ext@#1}}{#2}%
10402     \expandafter\newwrite\csname tf@\csname ext@#1\endcsname\endcsname%
10403     \immediate\openout \csname tf@\csname ext@#1\endcsname\endcsname%
10404         \jobname.\nameuse{ext@#1}\relax%
10405 }
```

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.

Per table 16, css may be used to format the sidetoc.

Table 16: CSS related to the sidetoc

div.sidetoccontainer: The entire sidetoc.
div.sidetotitle: The title.
div.sidetoccontents: The table of contents.

```
10406 \end{warpHTML}
```

for HTML & PRINT: 10407 `\begin{warpall}`

Ctr SideTOCDepth Controls how deep the side-TOC gets. Use a standard L^AT_EX section level similar to `tocdepth`. Warn if parts of the website may be inaccessible.

```
10408 \newcounter{SideTOCDepth}
```

```

10409 \setcounter{SideTOCDepth}{1}
10410
10411 \AtEndDocument{%
10412     \ifnumcomp{\value{SideTOCDepth}}{<}{\value{FileDepth}}{%
10413         \PackageWarningNoLine{lwarp}
10414         {%
10415             SideTOCDepth is less than FileDepth, \MessageBreak
10416             so some website pages may be inaccessible%
10417         }
10418     }%
10419 }
```

\sidetocname Holds the default name for the sidetoc.

```

10420 \newcommand{\sidetocname}{Contents}
10421 \end{warpall}
```

for HTML output: 10422 \begin{warpHTML}

\LWR@sidetoc Creates the actual side-TOC.

```

10423 \newcommand*{\LWR@sidetoc}{%
10424     \LWR@forcenewline
10425     \LWR@stoppars
10426 }
```

The entire sidetoc is placed into a nav of class sidetoc.

```

10427     \LWR@htmlelementclass{div}{sidetoccontainer}
10428     \LWR@htmlelementclass{nav}{sidetoc}
10429
10430     \setcounter{tocdepth}{\value{SideTOCDepth}}
10431 }
```

The title is placed into a <div> of class sidetoctitle, and may contain paragraphs.

```

10432     \begin{BlockClass}{sidetoctitle}
10433     \ifcsvoid{\thetitle}{}{\InlineClass{sidetocthetitle}{\thetitle}\par}
10434     \sidetocname
10435     \end{BlockClass}
```

The table of contents is placed into a <div> of class sidetoccontents.

```

10436     \begin{BlockClass}{sidetoccontents}
10437     \LinkHome
10438
10439     \LWR@myshorttoc{sidetoc}
10440     \end{BlockClass}
10441     \LWR@htmlelementclassend{nav}{sidetoc}
10442     \LWR@htmlelementclassend{div}{sidetoccontainer}
10443 }
```

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:

```
10444 \newcommand*{\LWR@numberline}[1]{%
10445     \LWR@sectionnumber{#1}\quad%
10446 }
10447
10448 \LetLtxMacro\numberline\LWR@numberline
```

\LWR@maybetocdata Replaced by **tocdata**. Adds author name.

```
10449 \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

```
10450 \NewDocumentCommand{\hypertoc}{m m +m m}{%
10451     \LWR@traceinfo{hypertoc !#1!#2!#3!#4!}%
10452 }
```

Respond to **tocdepth**:

```
10452     \ifnumcomp{#1}{>}{\value{tocdepth}}{%
10453         {}%
10454         {}%
10455         \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.

```
10456     \LWR@subhyperrefclass{%
10457         \LWR@htmlrefsectionfilename{\BaseJobname-autopage-#4}%
10458             \LWR@origpound\LWR@print@mbox{autosec-#4}%
10459             }{#3}{toc#2}%
10460 }
```

```

10460           \LWR@maybetocdata%
10461           \LWR@stoppars%
10462       }%
10463   \LWR@traceinfo{hypertoc done}%
10464 }
```

`ctr lofdepth` TOC depth for figures.

```

10465 \@ifclassloaded{memoir}{}{
10466     \newcounter{lofdepth}
10467     \setcounter{lofdepth}{1}
10468 }
```

`ctr lotdepth` TOC depth for tables.

```

10469 \@ifclassloaded{memoir}{}{
10470     \newcounter{lotdepth}
10471     \setcounter{lotdepth}{1}
10472 }
```

`\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

```
10473 \newcommand{\hypertocfloat}[5]{%
```

If some float-creation package has not yet defined the float type's `lofdepth` counter, etc, define it here:

```

10474     \@ifundefined{c@#3depth}{%
10475         \newcounter{#3depth}%
10476         \setcounter{#3depth}{1}%
10477     }{}
```

Respond to `lofdepth`, etc.:

```

10478     \LWR@traceinfo{hypertocfloat depth is #1 #3depth is \arabic{#3depth}}%
10479     \ifthenelse{\cnttest{#1}{<=}{\arabic{#3depth}}}{%
10480         \%
10481         \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.

```

10482          \LWR@subhyperrefclass{%
10483              \LWR@htmlrefsectionfilename{%
10484                  \BaseJobname-autopage-\arabic{\LWR@nextautopage}%
10485              }%
10486              \LWR@origpound\LWR@print@mbox{autoid-\arabic{\LWR@nextautoid}}}}%
10487              {#4}{toc#2}%
10488          \LWR@maybetocdata%
10489          \LWR@stoppars%
10490      }%
10491  { }%
10492 }
```

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.

```
10493 \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.

```
10494 \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.

```

10495 \@ifundefined{chapter}
10496 {}
10497 {
10498 \DeclareDocumentCommand{\l@chapter}{m m}
10499     {\hypertoc{0}{chapter}{#1}{#2}}
10500 }
```

\l@section {\langle name\rangle} {\langle page\rangle}

```
10501 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}
```

\l@subsection {\langle name\rangle} {\langle page\rangle}

```
10502 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}
```

```
\l@subsubsection {\langle name\rangle} {\langle page\rangle}

10503 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}
```

```
\l@paragraph {\langle name\rangle} {\langle page\rangle}

10504 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}
```

```
\l@subparagraph {\langle name\rangle} {\langle page\rangle}

10505 \renewcommand{\l@subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}
```

```
\l@figure {\langle name\rangle} {\langle page\rangle}

10506 \renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}
```

```
\l@table {\langle name\rangle} {\langle page\rangle}

10507 \renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{lot}{#1}{#2}}
```

```
10508 \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: 10509 \begin{warpHTML}

```
10510 \newcounter{LWR@autoindex}
10511 \setcounter{LWR@autoindex}{0}
10512
10513 \newcounter{LWR@autoglossary}
10514 \setcounter{LWR@autoglossary}{0}
```

\IndexPageSeparator User-adjustable delimiters for page and range separators in the *.ind files.
\IndexRangeSeparator

```
10515 \newcommand*{\IndexPageSeparator}{, }
10516 \newcommand*{\IndexRangeSeparator}{--}
```

Env theindex

```

10517 \@ifundefined{chapter}
10518     {\newcommand*{\LWR@indexsection}[1]{\section*{#1}}}
10519     {\newcommand*{\LWR@indexsection}[1]{\chapter*{#1}}}
10520
10521
10522 \AtBeginDocument{
10523
10524 \renewenvironment*{theindex}{%
10525     \LWR@indexsection{\indexname}%
10526     \let\item\LWR@indexitem%
10527     \let\subitem\LWR@indexsubitem%
10528     \let\subsubitem\LWR@indexsubsubitem%
10529 }{%
10530
10531 }% AtBeginDocument

```

\LWR@indexitem [*index key*] The optional argument is added to support `repeatindex`.

```

10532 \newcommand{\LWR@indexitem}[1][\emptyset]{%
10533
10534     \InlineClass{indexitem}{\LWR@htmlcomment{}#1}%
10535 }

```

\LWR@indexsubitem

```

10536 \newcommand{\LWR@indexsubitem}{%
10537
10538     \InlineClass{indexsubitem}{\LWR@htmlcomment{}#1}%
10539 }

```

\LWR@indexsubsubitem

```

10540 \newcommand{\LWR@indexsubsubitem}{%
10541
10542     \InlineClass{indexsubsubitem}{\LWR@htmlcomment{}#1}%
10543 }

```

\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.

```

10544 \NewDocumentCommand{\LWR@xindex@modifyentry}{>{\SplitArgument{1}{|}}m}
10545     {\LWR@xindex@modifyentrysub#1}

```

Handle left and right parenthesis range argument, or add a `hyperindexformat` clause.

```

10546 \newcommand*{\LWR@xindex@modifyentrysub}[2]{%
10547     \edef\LWR@tempone{\#1}%
10548     \edef\LWR@temptwo{\#2}%

```

```

10549 \IfValueTF{#2}{%
10550   \ifx#2%
10551     \appto\LWR@tempone{|()%
10552   \else%
10553     \ifx#2%
10554       \appto\LWR@tempone{|})%
10555   \else%
10556     \appto\LWR@tempone{%
10557       |hyperindexformat\LWRleftbrace%
10558       \LWRbackslash#2%
10559       \LWRrightbrace%
10560     }%
10561   \fi%
10562   \fi%
10563 }%
10564 {()}%
10565 }

```

\@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.

```

10566 \newbool{\LWR@xindex@tricked}
10567 \boolfalse{\LWR@xindex@tricked}
10568
10569 \def\LWR@wrindex#1{%
10570   \ifbool{\LWR@xindex}{%
10571     \ifbool{\LWR@xindex@tricked}{%
10572       \protected@write\@indexfile{%
10573         {%
10574           \LWRpercent\space hyperpage\LWRrightbrace%
10575           \LWRpercent\space trick xindex to assume hyperref%
10576         }%
10577         \global\booltrue{\LWR@xindex@tricked}%
10578       }%
10579       \LWR@xindex@modifyentry{#1}%
10580     }{%
10581       \def\LWR@tempone{#1}%
10582     }%
10583     \addtocounter{\LWR@autoindex}{1}%
10584     \label{\LWRindex-\arabic{\LWR@autoindex}}%
10585     \protected@write\@indexfile{%
10586       {\string\indexentry{\LWR@tempone}{\arabic{\LWR@autoindex}}}}%
10587     \endgroup%
10588     \@esphack%
10589   }%
10590
10591 \AtBeginDocument{%
10592 \let\@wrindex\LWR@wrindex
10593 }

```

\@wrglossary {*<term>*} Redefined to write the `\LWR@latestautopage` counter instead of page.

```

10594 \def\@wrglossary#1{%
10595   \addtocounter{LWR@autoglossary}{1}%
10596   \LWR@new@label{LWRglossary-\theLWR@autoglossary}%
10597   \protected@write\@glossaryfile{}{%
10598     {\string\glossaryentry{#1}{\theLWR@autoglossary}}%
10599   \endgroup%
10600   \@esphack%
10601 }

```

\LWR@indexnameref@anonref {*LWR@autoindex*}

Displays a reference link where there no \ref available.

```

10602 \newcommand*{\LWR@indexnameref@anonref}[1]{%
10603   \LWR@startref{LWRindex-#1}%
10604   (*)%
10605   \LWR@htmltag{/a}%
10606 }

```

\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.

```

10607 \newcommand*{\LWR@indexnameref@ref}[1]{%
10608   \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
10609   \ifdefvoid{\LWR@thisref}{}{%
10610     \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10611     \ifdefvoid{\LWR@thisref}{%
10612       {\LWR@indexnameref@anonref{#1}}%
10613       {\ref{LWRindex-#1}}%
10614     }%
10615 }

```

\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.

```

10616 \newcommand*{\LWR@indexnameref@refnameref}[1]{%
10617   \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
10618   \ifdefvoid{\LWR@thisref}{}{%
10619     \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10620     \ifdefvoid{\LWR@thisref}{%
10621       \ifdefstring{\LWR@thisref}{(*)}{%
10622         {}%
10623         {\ref{LWRindex-#1}}% space
10624       }%
10625     }%
10626     \nameref{LWRindex-#1}%
10627 }

```

```
\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 (*).

```
10628 \newcommand*{\LWR@indexnameref@cref}[1]{%
10629     \edef\LWR@thisref{\csuse{r@LWRindex-\#1}}%
10630     \ifdefvoid{\LWR@thisref}{%
10631         \nameref{LWRindex-\#1}%
10632     }{%
10633         \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10634         \ifdefvoid{\LWR@thisref}{%
10635             \nameref{LWRindex-\#1}%
10636         }{%
10637             \ifdefstring{\LWR@thisref}{(*)}{%
10638                 \LWR@indexnameref@anonref{\#1}%
10639             }{%
10640                 \cref{LWRindex-\#1}%
10641             }%
10642         }%
10643     }%
10644 }
```

```
\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.

```
10645 \newcommand*{\LWR@indexnameref@crefnameref}[1]{%
10646     \edef\LWR@thisref{\csuse{r@LWRindex-\#1}}%
10647     \ifdefvoid{\LWR@thisref}{%
10648         {}%
10649     }{%
10650         \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10651         \ifdefvoid{\LWR@thisref}{%
10652             {}%
10653             {}%
10654             \ifdefstring{\LWR@thisref}{(*)}{%
10655                 {}%
10656                 {\cref{LWRindex-\#1}} % space
10657             }%
10658         }%
10659     \nameref{LWRindex-\#1}%
10660 }
```

```
\LWR@indexnameref {<LWR@autoindex>}
```

Creates a hyperlink based on the given entry's autoindex.

```
10661 \newcommand*{\LWR@indexnameref}[1]{%
10662     {% group
```

Temporarily redefine `\caption`'s `\caption@xref` because it was printing ?? in the indexes, and also causing error on expansion:

```

10663      \ifdef{\caption@xref}{%
10664          \renewcommand*{\caption@xref}[2]{(*)}%
10665      }{}%
10666      \ifdefstring{\LWR@IndexRef}{ref}{%
10667          \LWR@indexnameref@ref{#1}%
10668      }{%
10669      \ifdefstring{\LWR@IndexRef}{nameref}{%
10670          \nameref{LWRindex-#1}%
10671      }{%
10672      \ifdefstring{\LWR@IndexRef}{refnameref}{%
10673          \LWR@indexnameref@refnameref{#1}%
10674      }{%
10675      \ifdefstring{\LWR@IndexRef}{cref}{%
10676          \LWR@indexnameref@cref{#1}%
10677      }{%
10678      \ifdefstring{\LWR@IndexRef}{crefnameref}{%
10679          \LWR@indexnameref@crefnameref{#1}%
10680      }{%
10681      \ifdefstring{\LWR@IndexRef}{autoref}{%
10682          \LWR@indexnameref@cref{#1}%
10683      }{%
10684          text string
10685          \LWR@startref{LWRindex-#1}%
10686          \LWR@IndexRef%
10687          \LWR@htmltag{/a}%
10688      }}}}}}}%
10689 }% group
10690 }
```

`\LWR@doindexentrysubsub` {*range start: LWR@autoindex, or macros.*} {*range end or blank*}

Creates a hyperlink, or handles `\see`, `\textbf`, etc.

```

10690 \newrobustcmd{\LWR@doindexentrysubsub}[2]{%
10691     \IfInteger{#1}{%
10692         {\LWR@indexnameref{#1}}%
10693         {#1}%
10694     \IfValueT{#2}{%
10695         \IndexRangeSeparator%
10696         \IfInteger{#2}{%
10697             {\LWR@indexnameref{#2}}%
10698             {#2}%
10699         }%
10700     }}
```

`\LWR@doindexentrysub` {*range delimiter*} {*LWR@autoindex or macros, possible a range*}

```

10701 \NewDocumentCommand{\LWR@doindexentrysub}{m >{\SplitArgument{1}{#1}}m}
10702     {\LWR@doindexentrysubsub#2}
```

\LWR@doindexentry {⟨LWR@autoindex or macros, possible a range⟩}

```

10703 \newcommand*{\LWR@doindexentry}[1]{%
10704     \relax% required
10705     \expandafter\lWR@doindexentrysub\expandafter{\IndexRangeSeparator}{#1}%
10706 }
```

\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{... }

```

10707 \newcommand{\lWR@hyperindexrefnullified}{%
10708     \renewrobustcmd{\emph}[1]{\LWR@HTML@emph{\LWR@doindexentry{##1}}}%
10709     \renewrobustcmd{\textbf}[1]{\LWR@HTML@textbf{\LWR@doindexentry{##1}}}%
10710     \renewrobustcmd{\texteb}[1]{\LWR@HTML@texteb{\LWR@doindexentry{##1}}}%
10711     \renewrobustcmd{\textlg}[1]{\LWR@HTML@textlg{\LWR@doindexentry{##1}}}%
10712     \renewrobustcmd{\textrm}[1]{\LWR@HTML@textrm{\LWR@doindexentry{##1}}}%
10713     \renewrobustcmd{\textsf}[1]{\LWR@HTML@textsf{\LWR@doindexentry{##1}}}%
10714     \renewrobustcmd{\texttt}[1]{\LWR@HTML@texttt{\LWR@doindexentry{##1}}}%
10715     \renewrobustcmd{\textup}[1]{\LWR@HTML@textup{\LWR@doindexentry{##1}}}%
10716     \renewrobustcmd{\textsc}[1]{\LWR@HTML@textsc{\LWR@doindexentry{##1}}}%
10717     \renewrobustcmd{\textulc}[1]{\LWR@HTML@textulc{\LWR@doindexentry{##1}}}%
10718     \renewrobustcmd{\textsi}[1]{\LWR@HTML@textsi{\LWR@doindexentry{##1}}}%
10719     \renewrobustcmd{\textit}[1]{\LWR@HTML@textit{\LWR@doindexentry{##1}}}%
10720     \renewrobustcmd{\textsl}[1]{\LWR@HTML@textsl{\LWR@doindexentry{##1}}}%
10721 }
```

\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.

```

10722 \newcommand*{\hyperindexref}[1]{%
10723     \relax% required
10724     \expandafter\lWR@hyperindexref@comma\expandafter{\IndexPageSeparator}{#1}%
10725 }
```

\LWR@hyperindexref@comma {⟨separator⟩} {⟨list of args⟩}

The list is split at commas, and passed to \LWR@hyperindexref@@comma.

```

10726 \NewDocumentCommand{\lWR@hyperindexref@comma}{%
10727     m >{\SplitList{#1}} m}
10728 {%
```

Used to place the separator between each entry, but not before the first.

```
10729      \def\LWR@hyperindexref@thiscomma{}%
10730      \def\LWR@hyperindexref@nextcomma{\#1}%
```

Each comma-delimited entry is now passed individually to `\LWR@hyperindexref@@comma`.

```
10731      \ProcessList{\#2}\LWR@hyperindexref@@comma%
10732  }
```

`\LWR@hyperindexref@@comma` {*arg, perhaps with a range*}

A comma separator is placed if not the first item, then the range is parsed.

```
10733 \newcommand*{\LWR@hyperindexref@@comma}[1]{%
10734     \LWR@hyperindexref@thiscomma%
10735     \renewcommand{\LWR@hyperindexref@thiscomma}{\LWR@hyperindexref@nextcomma}%
10736     \expandafter\LWR@hyperindexref@range\expandafter{\IndexRangeSeparator}\#1}%
10737 }
```

`\LWR@hyperindexref@range` {*range delimiter*} {*arg*}

```
10738 \NewDocumentCommand{\LWR@hyperindexref@range}{%
10739     m >{\SplitArgument{1}{#1}} m}%
10740     {\LWR@hyperindexrefsub#2}
```

`\LWR@hyperindexrefsub` {*range start: LWR@autoindex*} {*range end, or -NoValue-*}

Handles the start and end of a range, if applicable.

```
10741 \newcommand*{\LWR@hyperindexrefsub}[2]{%
10742     \LWR@hyperindexrefsubtwo\#1}%
10743     \IfValueT{\#2}{%
10744         \IndexRangeSeparator%
10745         \LWR@hyperindexrefsubtwo\#2}%
10746     }%
10747 }
```

`\LWR@hyperindexrefsubtwo` {*LWR@autoindex*}

```
10748 \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.

```
10749 \edef\tempone{\#1}%
10750 \IfBeginWith{\tempone}{ }{%
10751     \StrGobbleLeft{\tempone}{1}[\tempone]%
10752 }
```

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.

```

10753  \IfInteger{\LWR@tempone}%
10754    {\LWR@indexnameref{\LWR@tempone}}%
10755    {%
10756      \begingroup%
10757      \LWR@hyperindexrefnullified%
10758      #1%
10759      \endgroup%
10760    }%
10761 }
```

\hyperpage Emulate hyperref.

```
10762 \LetLtxMacro\hyperpage\hyperindexref
```

\nohyperpage Emulate hyperref.

```
10763 \def\nohyperpage#1{}
```

\hyperindexformat Emulate hyperref.

```

10764 \def\hyperindexformat#1#2{%
10765   #1{\hyperpage{#2}}%
10766 }
```

```
10767 \end{warpHTML}
```

for PRINT output: A null command for print mode, in case `hyperref` was not used:

```

10768 \begin{warpprint}
10769 \newcommand{\hyperindexref}[1]{#1}
10770 \end{warpprint}
```

for HTML & PRINT: For the `glossaries` package, try to prevent an error where `\glo@name` was not found:

```

10771 \begin{warpall}
10772 \providecommand{\glo@name}{}
10773 \end{warpall}
```

78 Bibliography presentation

for HTML output: 10774 \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⟩}

10775 \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>

```
10776 \AtBeginDocument{%
10777 %
10778 \AtBeginEnvironment{thebibliography}{%
10779 %
10780 \providecommand*\LWR@newem}[1]{\textit{#1}}%
10781 %
10782 \renewrobustcmd{\em}{%
10783 \begingroup%
10784 \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
10785 \afterassignment\LWR@em@after%
10786 \toks@\bgroup%
10787 }%
10788 %
10789 \def\LWR@em@finish#1{%
10790 \xdef\LWR@em@after{\noexpand#1{\the\toks@}}%
10791 \endgroup%
10792 \LWR@em@after\egroup%
10793 }%
10794 %
10795 }% \AtBeginEnvironment{thebibliography}%
10796 %
10797 }% \AtBeginDocument

10798 \end{warpHTML}
```

79 Restoring original formatting

for HTML output: 10799 `\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.

```
10800 \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`.

```
10801 \newcommand*{\LWR@restoreorigformatting}{%
10802   \LWR@traceinfo{\LWR@restoreorigformatting}%

```

Numerous macros change their print/HTML meaning depending on `\LWR@formatting`:

```
10803   \renewcommand*{\LWR@formatting}{print}%
10804   \linespread{1}%
10805   \let\par\LWR@origpar%
10806   \LWR@select@print@hskip%
10807   \LetLtxMacro\hfil\LWR@orighfil%
10808   \let\hss\LWR@orighss%
10809   \let\llap\LWR@origllap%
10810   \let\rlap\LWR@origrlap%
10811   \let\hfilneg\LWR@orighfilneg%
10812   \let\,\LWR@origcomma% disable HTML short unbreakable space
10813   \let\thinspace\LWR@origthinspace% disable HTML short unbreakable space
10814   \let\negthinspace\LWR@orignegthinspace% disable HTML negative short unbreakable space
10815   \let\textellipsis\LWR@origtextellipsis%
10816   \let\vdots\LWR@origvdots%
10817   \let\textless\LWR@origtextless%
10818   \let\textgreater\LWR@origtextgreater%
10819   \let\&\LWR@origampersand%
10820   \LetLtxMacro\em\LWR@origem%
10821   \LetLtxMacro\normalfont\LWR@orignormalfont%
10822   \let\sp\LWR@origsp%
10823   \let\sb\LWR@origsb%
10824   \LetLtxMacro\underline\LWR@origunderline%
10825   \let~\LWR@origtilde%
10826   \let\enskip\LWR@origenskip%
10827   \let\quad\LWR@origquad%
10828   \let\qquad\LWR@origqquad%
```

`\endtabular` must be restored to its original, instead of relying on `lwarp`'s `\LWR@formatted` mechanism:

```
10829   \LetLtxMacro\endtabular\LWR@origendtabular%
10830   \csletcs{\endtabular*}{\LWR@origendtabular*}%
```

```

10831  \LetLtxMacro\noalign{\LWR@orignoalign}
10832  \LetLtxMacro\hline{\LWR@orighline}

10833  \let\newline{\LWR@orignewline}
10834  \LetLtxMacro\includegraphics{\LWR@origincludegraphics}

10835  \LetLtxMacro{@ensuredmath}{\LWR@origensuredmath}

10836  \let\math{\LWR@orig@math}
10837  \let\endmath{\LWR@orig@endmath}
10838  \let\displaymath{\LWR@orig@displaymath}
10839  \let\enddisplaymath{\LWR@orig@enddisplaymath}
10840 %
10841  \LWR@restoreorigaccents%
10842  \LWR@restoreoriglists%
10843 %
10844  \LWR@FBcancel%

```

To enable MATHJAX-specific nullification, used for `tcolorbox`:

```

10845  \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
10846      {\LWR@restoreMathJaxformatting}%
10847      {}%
10848 }

10849 \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: 10850 `\begin{warpHTML}`

Also commonly used are `\@empty`, `\@gobble`, and `\@firstofone`.

```
10851 \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.

```

10852 \catcode`\$=\active% redefining $ below
10853 \catcode`\_=12% redefining \_ below
10854 \newcommand*{\LWR@nullfonts}{%

```

Various built-in symbols.

```
10855      \renewcommand*{\$}{-}%
10856      \renewcommand*{\%}{-}%
10857      \renewcommand*{\_}{-}%
10858      \renewcommand*{\{}{-}%
10859      \renewcommand*{\}}{-}%
10860      \renewcommand*{\&}{-}%
10861      \renewcommand*{\#}{-}%
10862      \renewcommand*{\,}{-}%
10863      \renewcommand*{\~}{-}%
10864 %
10865 % accents:
10866      \renewcommand*{'[1]{##1}%
10867      \renewcommand*{'[1]{##1}%
10868      \renewcommand*{^}[1]{##1}%
10869      \renewcommand*{~}[1]{##1}%
10870      \renewcommand*{=}[1]{##1}%
10871      \renewcommand*{\u}[1]{##1}%
10872      \renewcommand*{.}[1]{##1}%
10873      \renewcommand*{"}[1]{##1}%
10874      \renewcommand*{H}[1]{##1}%
10875      \renewcommand*{v}[1]{##1}%
10876      \renewcommand*{d}[1]{##1}%
10877      \renewcommand*{c}[1]{##1}%
10878      \renewcommand*{b}[1]{##1}%
10879      \renewcommand*{t}[1]{##1}%
10880 %
10881      \let\newline\LWR@dash%
10882      \let\textasciicircum\LWR@dash%
10883      \let\textasciitilde\LWR@dash%
10884      \let\textasteriskcentered\LWR@dash%
10885      \let\textbackslash\LWR@dash%
10886      \let\textbar\LWR@dash%
10887      \let\textbardbl\LWR@dash%
10888      \let\textbigcircle\LWR@dash%
10889      \let\textbraceleft\LWR@dash%
10890      \let\textbraceright\LWR@dash%
10891      \let\textbullet\LWR@dash%
10892      \let\textcopyright\LWR@dash%
10893      \let\textdagger\LWR@dash%
10894      \let\textdaggerdbl\LWR@dash%
10895      \let\textdollar\LWR@dash%
10896      \let\textellipsis\LWR@dash%
10897      \let\textemdash\LWR@dash%
10898      \let\textendash\LWR@dash%
10899      \let\textexclamdown\LWR@dash%
10900      \let\textgreater\LWR@dash%
10901      \let\textless\LWR@dash%
10902      \let\textordfeminine\LWR@dash%
10903      \let\textordmasculine\LWR@dash%
10904      \let\textparagraph\LWR@dash%
10905      \let\textperiodcentered\LWR@dash%
10906      \let\textpertenthousand\LWR@dash%
10907      \let\textperthousand\LWR@dash%
```

```
10908 \let\textquestiondown\LWR@dash%
10909 \let\textquotedblleft\LWR@dash%
10910 \let\textquotedblright\LWR@dash%
10911 \let\textquotel\WR@dash%
10912 \let\textquoter\WR@dash%
10913 \let\textregistered\WR@dash%
10914 \let\textsection\WR@dash%
10915 \let\textsterling\WR@dash%
10916 \let\texttrademark\WR@dash%
10917 \let\textunderscore\WR@dash%
10918 \let\textvisiblespace\WR@dash%
10919 \let\copyright\WR@dash%
10920 \let\dag\WR@dash%
10921 \let\ddag\WR@dash%
10922 \let\dot\WR@dash%
10923 \let\textP\WR@dash%
10924 \let\textpounds\WR@dash%
10925 \let\textS\WR@dash%
10926 %
10927 \renewcommand*\aa{a}%
10928 \renewcommand*\AA{A}%
10929 \renewcommand*\AE{E}%
10930 \renewcommand*\ae{e}%
10931 \renewcommand*\dh{d}%
10932 \renewcommand*\DH{D}%
10933 \renewcommand*\DJ{D}%
10934 \renewcommand*\dj{d}%
10935 \renewcommand*\IJ{I}%
10936 \renewcommand*\ij{j}%
10937 \renewcommand*\L{L}%
10938 \renewcommand*\l{l}%
10939 \renewcommand*\NG{G}%
10940 \renewcommand*\ng{g}%
10941 \renewcommand*\O{O}%
10942 \renewcommand*\o{o}%
10943 \renewcommand*\oe{oe}%
10944 \renewcommand*\OE{OE}%
10945 \renewcommand*\ss{ss}%
10946 \renewcommand*\SS{SS}%
10947 \renewcommand*\th{th}%
10948 \renewcommand*\TH{TH}%
10949 %
10950 \let\guillemotleft@\empty%
10951 \let\guilsinglleft@\empty%
10952 \let\quotedblbase@\empty%
10953 \let\textquotedbl@\empty%
10954 \let\guillemotright@\empty%
10955 \let\guilsinglright@\empty%
10956 \let\quotesinglbase@\empty%
10957 \renewcommand*\HTMLunicode[1]{}%
10958 \renewcommand*\HTMLentity[1]{}%
10959 \renewcommand{\textsuperscript}[1]{##1}%
10960 \renewcommand{\textsubscript}[1]{##1}%
```

```

10961 \renewcommand{\underline}[1]{##1}%
10962 \RenewDocumentCommand{\hspace}{s m}{}
10963 \RenewDocumentCommand{\LWR@htmlspanclass}{o m +m}{##3}%
10964 \DeclareExpandableDocumentCommand{\InlineClass}{D{()}{}}{o m +m}{##4}%

```

Nullify math macros.

```

10965 \def\##1{}%
10966 \def\##1{}%
10967 \RenewDocumentCommand{\LWR@subsingledollar}{s m m}{}

```

Nullify logos:

```

10968 \renewcommand*\TeX{TeX}%
10969 \renewcommand*\LaTeX{LaTeX}%
10970 \renewcommand*\LaTeXe{LaTeXe}%
10971 \renewcommand*\LuaTeX{LuaTeX}%
10972 \renewcommand*\LuaLaTeX{LuaLaTeX}%
10973 \renewcommand*\XeTeX{XeTeX}%
10974 \renewcommand*\XeLaTeX{XeLaTeX}%
10975 \renewcommand*\ConTeXt{ConTeXt}%
10976 \renewcommand*\BibTeX{BibTeX}%
10977 \renewcommand*\MakeIndex{MakeIndex}%
10978 \renewcommand*\AmS{AmS}%
10979 \renewcommand*\MiKTeX{MiKTeX}%
10980 \renewcommand*\LyX{LyX}%

```

Use the simpler form with `\texorpdfstring`:

```

10981 \def\texorpdfstring{\expandafter\@secondoftwo}%
10982 }
10983 \catcode`\$=3%
10984 \catcode`\_=8%

```

`\FilenameNullify {<redefinitions>}`

Adds more nullifying definitions for filename generation.

```

10985 \newcommand*\FilenameNullify[1]{%
10986   \appto{\LWR@nullfonts}{#1}%
10987 }%
10988 \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**: 10989 \begin{warpall}

\AltTextOpen The opening part of HTML alt tag for an image. The default is a left parenthesis.

Default: (

10990 \newcommand*\{\AltTextOpen\}{()

\AltTextClose The closing part of HTML alt tag for an image. The default is a right parenthesis.

Default: (

10991 \newcommand*\{\AltTextClose\}{}}

\ImageAltText The HTML alt tag for an image.

Default: image

10992 \newcommand*\{\ImageAltText\}{image}

\MathImageAltText The HTML alt tag for an svg math image.

Default: "math image"

10993 \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.

10994 \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.

10995 \newcommand*\{\ThisAltText\}[1]{%
10996 \renewcommand*\{\LWR@ThisAltText\}{#1}%
10997 }

\PackageDiagramAltText Appended to the \teximage HTML alt tag for the images generated by many packages.

Default: "diagram"

10998 \newcommand*\{\PackageDiagramAltText\}{diagram}

10999 \end{warpall}

81.3 Inline and display math

for HTML output: 11000 \begin{warpHTML}

Ctr LWR@externalfilecnt Counter for the external files which are generated and then referenced from the HTML:

11001 \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.

11002 \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.

11003 \newbool{LWR@insidemathcomment}
11004 \boolfalse{LWR@insidemathcomment}

Bool LWR@xfakebold True if *xfakebold* \setBold is in use.

11005 \newbool{LWR@xfakebold}
11006 \boolfalse{LWR@xfakebold}

\LWR@orig@setBold Redefined by *lwarp-xfakebold*.

11007 \newcommand*{\LWR@orig@setBold}{}{}

\LWR@orig@unsetBold Redefined by *lwarp-xfakebold*.

11008 \newcommand*{\LWR@orig@unsetBold}{}{}

\LWR@applyxfakebold Redefined by *lwarp-xfakebold*.

11009 \newcommand*{\LWR@applyxfakebold}{}{}

\LWR@setcurrentfont Sets the actual LATEX 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*.

11010 \newcommand*{\LWR@setcurrentfont}{%
11011 \LWR@traceinfo{Using font family \LWR@f@family} %
11012 \nameuse{\LWR@print@\LWR@f@family family} %
11013 \LWR@traceinfo{Using font series \LWR@f@series} %
11014 \nameuse{\LWR@print@\LWR@f@series series} %
11015 \LWR@traceinfo{Using font shape \LWR@f@shape} %
11016 \nameuse{\LWR@print@\LWR@f@shape shape} %
11017 \LWR@traceinfo{Using font caps shape \LWR@f@shapecaps} %
11018 \nameuse{\LWR@print@\LWR@f@shapecaps shape} %
11019 }

\\$ 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.

```
11020 \let\LWR@origtextdollar\$
11021
11022 \renewcommand*\$\{%
11023   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
11024     {\LWR@origtextdollar}%
11025     {\HTMLunicode{00024}}%
11026 }
```

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.

```
11027 \AtBeginDocument{
11028
11029 \ifpdf
11030   \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}
11031 \else
11032   \ifXeTeX
11033     \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}
11034   \else
11035     \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.eps}
11036   \fi
11037 \fi
11038
11039 \IfFileExists{\LWR@baselinename}%
11040 {
11041   \@ifpackageloaded{graphicx}{%
11042     \newcommand*{\LWR@addbaselinemarker}{%
11043       \LWR@originincludegraphics{\LWR@baselinename}%
11044     }%
11045   }%
11046   \@ifpackageloaded{graphics}{%
11047     \newcommand*{\LWR@addbaselinemarker}{%
11048       \LWR@originincludegraphics{\LWR@baselinename}%
11049     }%
11050 }
```

```

11049      }
11050  }
11051      \newcommand*{\LWR@addbaselinemarker}{%
11052          \global\booltrue{\LWR@warnbaselinemarker}%
11053      }
11054  \AtEndDocument{
11055      \ifbool{\LWR@warnbaselinemarker}{%
11056          \PackageWarningNoLine{l warp}{%
11057              Load graphicx or graphics for improved\MessageBreak
11058              SVG math sizing and baselines%
11059          }%
11060      }{%
11061      }%
11062  }%
11063 }%
11064 }% l warp_baseline_marker.png or .eps is not present
11065 \newcommand*{\LWR@addbaselinemarker}{%
11066     \global\booltrue{\LWR@warnbaselinemarker}%
11067 }%
11068 \AtEndDocument{
11069     \ifbool{\LWR@warnbaselinemarker}{%
11070         \PackageWarningNoLine{l warp}{%
11071             File \LWR@baselinename\space is not installed\MessageBreak
11072             alongside the l warp-*.sty files, so\MessageBreak
11073             SVG math sizing and baselines may not be accurate}%
11074     }{%
11075 }%
11076 }%
11077 }% AtBeginDocument

```

Bool `LWR@warnbaselinemarker` True if the math baseline marker was ever called for, but `graphics` or `graphicx` were not loaded.

```

11079 \newbool{\LWR@warnbaselinemarker}
11080 \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.

```
11081 \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`.

```
11082 \newcommand*{\LWR@singledollarmeasure}[1]{%
11083     \begingroup%
```

Temporarily disable formatting while measuring the image parameters:

```
11084     \LWR@restoreorigformatting%
11085     \RenewDocumentEnvironment{lateximage}{s o s o o}{}{}% inside group
11086     \LWR@print@normalsize%
```

Temporarily set font for the HTML PDF output:

```
11087     \LWR@setcurrentfont%
```

`lateximagedepth` 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.

```
11088     \global\advance\c@LWR@lateximagedepth 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.

```
11089     \boolfalse{\LWR@unknownmathsize}%
11090     \ifmmode%
11091         \global\sbox{\LWR@singledollarbox}{#1}%
11092     \else%
11093         \ifbool{\LWR@dynamicmath}{}{%
11094             \ifbool{\mathjax}{}{%
11095                 \global\sbox{\LWR@singledollarbox}{%
11096                     {\LWR@origensuredmath{#1}}%
11097                 }%
11098                 \global\sbox{\LWR@singledollarbox}{#1}%
11099             }%
11100             \global\sbox{\LWR@singledollarbox}{#1}%
11101         }%
11102     }%
11103 \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.

```
11104 \global\sbox{\LWR@singledollarbox}{%
11105   \usebox{\LWR@singledollarbox}%
11106   \raisebox{-\dp\LWR@singledollarbox}{%
11107     \LWR@addbaselinemarker%
11108   }%
11109 }
```

More low-level code to undo the counter change.

```
11110 \global\advance\c@LWR@lateximagedepth -1\relax% Due to AmS \text macro.
```

Measure the depth:

```
11111 \setlength{\LWR@singledollardepth}{%
11112   \LateximageFontSize\dp\LWR@singledollarbox%
11113 }
```

Make the length a global change:

```
11114 \global\LWR@singledollardepth=\LWR@singledollardepth%
```

Likewise for width:

```
11115 \setlength{\LWR@singledollarwidth}{%
11116   \LateximageFontSize\wd\LWR@singledollarbox%
11117 }
11118 \global\LWR@singledollarwidth=\LWR@singledollarwidth%
```

Likewise for total height:

```
11119 \setlength{\LWR@singledollarheight}{%
11120   \LateximageFontSize\ht\LWR@singledollarbox%
11121 }
11122 \addtolength{\LWR@singledollarheight}{%
11123   \LateximageFontSize\dp\LWR@singledollarbox%
11124 }
11125 \global\LWR@singledollarheight=\LWR@singledollarheight%

11126 \endgroup%
11127 }
```

```
\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*.

```
11128 \newcommand*{\LWR@singledollarsvg}[4]{%
```

Measure the depth, width, and height of the math image:

```
11129     \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:

```
11130     \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
11131         \def\LWR@singledollarstyle{%
11132             width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11133         }%
11134     }{%
11135         \def\LWR@singledollarstyle{%
11136             height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11137         }%
11138     }%
```

If a very narrow width, use the height.

```
11139     \ifdimless{\LWR@singledollarwidth}{.2em}{%
11140     }{%
11141         \def\LWR@singledollarstyle{%
11142             height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11143         }%
11144     }%
11145     {}%
```

If very wide and short, use the width:

```
11146     \ifdimless{\LWR@singledollarheight}{.2em}{%
11147     }{%
11148         \def\LWR@singledollarstyle{%
11149             width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11150         }%
11151     }%
11152     {}%
```

If there is significant text depth, add the depth to the style.

```
11153     \ifdimgreater{\LWR@singledollardepth}{0.05ex}{%
11154         \def\LWR@singledollardepthstyle{%
11155             \ ; % extra space
11156             \LWR@print@mbox{%
11157                 vertical-align:-\LWR@convertto{em}{\the\LWR@singledollardepth} em%
11158             } % extra space
11159         }%
11160     }{%
11161         \def\LWR@singledollardepthstyle{}%
11162     }%
```

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.

```
11163 \ifbool{LWR@unknownmathsize}{%
11164     \def\LWR@singledollarstyle{}%
11165     \def\LWR@singledollardepthstyle{}%
11166 }{}
```

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.

```
11167 \ifbool{LWR@dynamicmath}{%
11168     \LWR@traceinfo{subsingledollar: dynamic}%
11169     \begin{lateximage}%
11170         [\MathImageAltText]%
11171         []% no add'l hashing
11172         [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
11173     }%
11174     \LWR@traceinfo{subsingledollar: static}%
11175     \IfValueTF{\#1}{%
11176         \LWR@findcurrenttextcolor%
11177         sets \LWR@tempcolor
11178     }
```

Support for `xfakebold`:

```
11177 \ifbool{LWR@xfakebold}{%
11178     {\def\LWR@tempone{Y}}%
11179     {\def\LWR@tempone{N}}%
11180     \begin{lateximage}%
11181         [#2]%
11182         *% do not add open/closing braces
11183         [% addl' hashing
11184             #3%
11185             FM\LWR@f@family%
11186             SR\LWR@f@series%
11187             SH\LWR@f@shape%
11188             SHC\LWR@f@shapecaps%
11189             CL\LWR@tempcolor%
11190             FB\LWR@tempone% xfakebold
11191         ]%
11192         [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
11193     }%
11194     {\begin{lateximage}%
11195         [#2]%
11196         []% no add'l hashing
11197         [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
11198     }%
11199 }%
```

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.)

```
11200 \LWR@addbaselinemarker%
```

Support for `xfakebold`:

```
11201 \LWR@applyxfakebold%
```

Typeset the contents:

```
11202 \usebox{\LWR@singledollarbox}%
```

The closing baseline marker:

```
11203 \LWR@addbaselinemarker%
```

```
11204 \end{lateximage}%
11205 %
11206 }
```

```
\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.

```

11207 \newlength{\LWR@singledollarwidth}
11208 \newlength{\LWR@singledollarheight}
11209 \newlength{\LWR@singledollardepth}
11210
11211 \newsavebox{\LWR@singledollarbox}
11212
11213 \NewDocumentCommand{\LWR@subsingledollar}{s m m m}{%
11214     \LWR@traceinfo{\LWR@subsingledollar}%
11215     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
11216         {%
11217             \LWR@traceinfo{\LWR@subsingledollar: already in a lateximage}%
11218             #4% contents
11219         }%
11220         {%
11221             \begingroup%

```

Support for `xfakebold`:

```
11222 \LWR@applyxfakebold%
```

MathJax cannot parse the often complicated T_EX 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:

```

11223     \ifboolexpr{%
11224         (
11225             bool{mathjax} or
11226             ( bool{FormatWP} and bool{WPMarkMath} )
11227         ) and
11228         ( not test {
11229             \ifstrequal {\#2}{} from \ensuredmath
11230             {\AltTextOpen\MathImageAltText\AltTextClose}
11231         }%
11232         ) and
11233         ( not bool{LWR@dynamicmath} )
11234     }%

```

For MATHJAX, print the math between `\(` and `\)`:

```

11235     {%
11236         \LWR@traceinfo{\LWR@subsingledollar: Mathjax}%
11237         {%
11238             \textbackslash(%
11239             {%

```

\ifmmode to avoid error about \ttfamily inside math mode in the case of nested math, ex. equation with tcolorbox with math.

```

11240           \ifmmode\else\LWR@print@ttfamily\fi%
11241           \LWR@HTMLsanitize{#4}%
11242           }%
11243           \textbackslash)%
11244           }%
11245       }% mathjax

```

For SVG, print the math inside a `lateximage`, with an `<alt>` tag of the L^AT_EX code, and a css style to control the baseline adjustment.

```

11246     {%
11247         not mathjax
11248         \LWR@traceinfo{%
11249             LWR@subsingle$ NOT mathjax, or is ensuremath, or is dynamic%
11250             }%
11251             \LWR@subsingle$svg{#1}{#2}{#3}{#4}%
11252         }%
11253     \endgroup%
11253 }% not in a lateximage

```

Clear the single-use alt text:

```

11254     \gdef\LWR@ThisAltText{}%
11255     \LWR@traceinfo{LWR@subsingle$ done}%
11256 }

11257 \LetLtxMacro{\LWR@origsingle$}
11258 \LetLtxMacro{\LWR@secondsingle$}{% balance for editor syntax highlighting

11259 \LetLtxMacro{\LWR@origopenparen}{%
11260 \LetLtxMacro{\LWR@origcloseparen}{%
11261 \LetLtxMacro{\LWR@origopenbracket}{%
11262 \LetLtxMacro{\LWR@origclosebracket}{%

```

\$ Redefine the dollar sign to place math inside a `lateximage`, or use MATHJAX:
\$\$

```

11263 \begingroup
11264 \catcode`\$=\active%
11265 \protected\gdef${\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

Used by `chemformula` to escape single-dollar math:

```
11266 \protected\gdef\LWR@newsingledollar{\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

\LWR@doubledollar Redefine the double dollar sign to place math inside a `lateximage`, or use MATHJAX:

```
11267 \protected\gdef\LWR@doubledollar${\@ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%

```

If MATHJAX or formatting for a word processor, print the L^AT_EX expression:

```
11268 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%

```

For MATHJAX, print the math between \[and \]:

```
11269 {
11270     \textbackslash%
11271     \textbackslashtextbackslash\%%
11272     {\LWR@print@ttfamily\LWR@HTMLsanitize{\#1}}%
11273     \textbackslashtextbackslash\%
11274
11275 }% mathjax
```

For SVG, print the math inside a `lateximage`, with an `<alt>` tag of the L^AT_EX code:

```
11276 {%
11277     \begin{BlockClass}{displaymath}%
11278     \LWR@newautoidanchor%
11279     \booltrue{\LWR@indisplaymathimage}%
11280     \begin{lateximage}%
11281     [%
11282         \textbackslashtextbackslash\{} % extra space
11283         \LWR@HTMLsanitize{\#1} % extra space
11284         \textbackslashtextbackslash\{}\%
11285     ]%
11286     *% do not add open/closing braces
```

Support for `xfakebold`:

```
11287     \LWR@applyxfakebold%
11288     \LWR@origdollar\LWR@origdollar#\LWR@origdollar\LWR@origdollar%
11289     \end{lateximage}%
11290     \end{BlockClass}%
11291 }% not mathjax
```

Clear the single-use alt text:

```
11292 \gdef\LWR@ThisAltText{}%
11293 }%
```

`\LWR@singledollar {<alt text>} {<math expression>}`

```
11294 \protected\gdef\LWR@singledollar#1${%
11295 \ifbool{mathjax}{%
11296     \LWR@subsingledollar*%
11297     {% alt tag
11298         \textbackslash%
11299         \LWR@HTMLsanitize{\#1} % extra space
11300         \textbackslash%
11301     }%
11302     {singledollar}% add'l hashing
11303     {\#1}% contents
11304 }% not mathjax
11305     \LWR@subsingledollar*%
11306     {% alt tag
11307         \textbackslash%
```

```

11308      \LWR@HTMLsanitize{\#1} % extra space
11309      \textbackslash%
11310  }%
11311  {singledollar}{ add'l hashing
11312  {\LWR@origensuredmath{\#1}}% contents
11313 }% not mathjax

```

Clear the single-use alt text:

```

11314 \gdef\LWR@ThisAltText{}%
11315 }

```

\(Redefine to the above dollar macros.

\[

```

11316 \AtBeginDocument{%
11317     \protected\gdef\(#1\){\$#1\$}
11318     \protected\gdef\[#1\]{\$\$#1\$\$}
11319 }
11320
11321 \endgroup% active $

```

```

11322 \AtBeginDocument{%
11323 \LetLtxMacro{\LWR@openbracketnormal}{%
11324 \LetLtxMacro{\LWR@closebracketnormal}{%
11325 }

```

\@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.

```

11326 \LetLtxMacro{\LWR@origensuredmath}{\@ensuredmath}
11327
11328 \renewcommand{\@ensuredmath}[1]{%
11329     \ifbool{mathjax}{%
11330         \LWR@subsingle$*{\AltTextOpen\MathImageAltText\AltTextClose}{%
11331             \%%
11332             \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}%
11333             \%%
11334             \%%
11335             \relax%
11336             \LWR@origensuredmath{\#1}%
11337             \%%
11338         }{\% SVG math

```

If already inside a `lateximage` in math mode, continue as-is.

```

11339     \ifmmode%
11340         \LWR@origensuredmath{\#1}%
11341     \else%

```

Create an inline math `lateximage` with a simple `alt` tag and additional hashing according to the contents.

```

11342      \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
11343          {\LWR@origensuredmath{#1}}%
11344          {%
11345              \LWR@subsingle dollar*%
11346              {\AltTextOpen\MathImageAltText\AltTextClose}%
11347              {\protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}}%
11348                  {\LWR@origensuredmath{#1}}%
11349          }%
11350      \fi%
11351  }%

```

Clear the single-use alt text:

```

11352      \gdef\LWR@ThisAltText{}%
11353 }

```

Remember then remove the old `math` and `displaymath` environments:

```

11354 \let\LWR@orig@math\math
11355 \let\LWR@orig@endmath\endmath
11356 \let\LWR@orig@displaymath\displaymath
11357 \let\LWR@orig@enddisplaymath\enddisplaymath
11358
11359 \let\math\relax
11360 \let\endmath\relax
11361 \let\displaymath\relax
11362 \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`.

```
11363 \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`.

```
11364 \NewEnviron{LWR@displaymathnormal}{\expandafter[\BODY]\ignoretrue}
```

Set the default `displaymath` to the normal version:

```

11365 \LetLtxMacro\displaymath\LWR@displaymathnormal%
11366 \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.

```

11367 \newenvironment{LWR@displaymathother}%
11368 {%

```

```

11369 \begin{BlockClass}{displaymath}%
11370 \LWR@newautoidanchor%
11371 \booltrue{\LWR@indisplaymathimage}%
11372 \begin{lateximage}%
11373 [\MathImageAltText]%
11374 \LWR@origdollar\LWR@origdollar%
11375 }%
11376 {%
11377 \LWR@origdollar\LWR@origdollar%
11378 \end{lateximage}%
11379 \end{BlockClass}%
11380 }

```

Env `\LWR@equationother` A version of `displaymath` which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```

11381 \newenvironment{\LWR@equationother}%
11382 {%
11383 \begin{BlockClass}{displaymathnumbered}%
11384 \LWR@newautoidanchor%
11385 \booltrue{\LWR@indisplaymathimage}%
11386 \begin{lateximage}[\MathImageAltText]%
11387 \LWR@origequation%
11388 }%
11389 {%
11390 \LWR@origendequation%
11391 \end{lateximage}%
11392 \end{BlockClass}%
11393 }

```

81.4 MATHJAX support

Ctr `\LWR@nextequation` Used to add one to compute the next equation number.

```
11394 \newcounter{\LWR@nextequation}
```

Determining how to set MATHJAX section and equation numbers. Adjusts for various kinds of `\theequation` to determine `\theMathJaxsection` and `\theMathJaxequation`.

```

11395 \newcommand{\LWR@article@theequation}{\@arabic\c@equation}%
11396 %
11397 \newcommand{\LWR@book@theequation}%
11398 {\ifnum \c@chapter>\z@ \thechapter.\fi \@arabic\c@equation}%
11399 %
11400 %
11401 \newcommand{\LWR@chapter@theequation}{\thechapter.\arabic{equation}}%
11402 \newcommand{\LWR@section@theequation}{\thesection.\arabic{equation}}%
11403 \newcommand{\LWR@subsection@theequation}{\thesubsection.\arabic{equation}}%
11404 %
11405 \AtBeginDocument{%
11406 % default per article class:%
11407 \newcommand*{\theMathJaxsubequations}{0}}

```

```

11408  \newcommand*{\theMathJaxsection}{}
11409  \newcommand*{\theMathJaxequation}{\arabic{equation}}
11410
11411  \ifdefstreq{\theequation}{\LWR@article@theequation}
11412  {}{
11413  \ifdefstreq{\theequation}{\LWR@book@theequation}{
11414    \renewcommand*{\theMathJaxsection}{\ifnum \c@chapter>\z@ \thechapter.\fi}
11415  }{
11416  \ifdefstreq{\theequation}{\LWR@subsection@theequation}{
11417    \renewcommand*{\theMathJaxsection}{\thesubsection{}}
11418  }{
11419  \ifdefstreq{\theequation}{\LWR@section@theequation}{
11420    \renewcommand*{\theMathJaxsection}{\thesection{}}
11421  }{
11422  \ifdefstreq{\theequation}{\LWR@chapter@theequation}{
11423    \renewcommand*{\theMathJaxsection}{\thechapter{}}
11424  }% unknown format
11425  \PackageWarningNoLine{lwarf}
11426  {%
11427    Unknown equation tag format for \protect\theequation.\MessageBreak
11428    Article-style equation numbering will be used%
11429  }
11430  }}}}}
11431 }

```

\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.

```
11432 \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.

```

11433      \LWR@stopars%
11434      \InlineClass{hidden}{%
11435        \textbackslash%%
11436        \textbackslash%{}seteqnumber%
11437        \{\theMathJaxsubequations\}%
11438        \{\theMathJaxsection\}%

```

```

11439      \{\theMathJaxequation\}%
11440      \textbackslash)%
11441  }
11442  \LWR@startpars%
11443 }
```

\LWR@hidelatexequation {*environment*} {*contents*}

Creates the L^AT_EX version of the equation inside an HTML comment.

```
11444 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%
```

Stop HTML paragraph handling and open an HTML comment:

```

11445  \LWR@stoppars
11446  \LWR@htmlopencomment
11447
```

Start the L^AT_EX math environment inside the HTML comment:

```

11448  \begingroup
11449  \nameuse{\LWR@orig#1}
```

While in the math environment, restore various commands to their L^AT_EX meanings.

```

11450  \LWR@restoreorigformatting
11451  \booltrue{\LWR@insidemathcomment}
```

See \LWR@htmlmathlabel in section 81.7.1.

Print the contents of the equation:

```
11452  #2
```

End the L^AT_EX math environment inside the HTML comment:

```

11453  \nameuse{\LWR@origend#1}
11454  \endgroup
11455
```

Close the HTML comment and resume HTML paragraph handling:

```

11456  \LWR@htmlclosecomment
11457  \boolfalse{\LWR@insidemathcomment}
11458  \LWR@startpars
11459 }
```

\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^AT_EX.

```
11460 \NewDocumentCommand{\LWR@addmathjax}{m +m}{%
```

Enclose the MATHJAX environment inside printed “\(`” and “\)`” characters.

```
11461 \LWR@origtilde\LWR@orignewline
```

Print the environment name and contents, sanitizing for HTML special characters.

```
11462 {%
11463   \LWR@print@ttfamily%
11464   \textbackslash{}begin\{\#1\}
11465   \LWR@orignewline%
11466   \LWR@HTMLsanitizeexpand{\detokenize\expandafter\{\#2\}}%
11467   \LWR@orignewline%
11468   \textbackslash{}end\{\#1\}
11469 }%
11470 \LWR@orignewline
11471 }
```

81.5 Equation environment

Remember existing equation environment, after redefined by `amsmath`, if loaded.

```
11472 \AtBeginDocument{%
11473   \let\LWR@origequation\equation
11474   \let\LWR@origendequation\endequation
11475   \csletcs{\LWR@origequation*}{equation*}
11476   \csletcs{\LWR@origendequation*}{endequation*}
11477 }
```

```
\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.

```
11478 \newcommand*{\LWR@doequation}[2]{%
11479 }
```

If `mathjax` or `FormatWP`, print the LATEX expression:

```
11480 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
```

MATHJAX output:

```
11481 {
```

Print commands to synchronize MATHJAX's equation number and format to the current L^AT_EX chapter/section and equation number:

```
11482 \LWR@syncmathjax%
```

Print the L^AT_EX math inside an HTML comment:

```
11483 \LWR@hidelatexequation{#2}{#1}
11484 }
```

SVG output: Create the `lateximage` along with an HTML `<alt>` tag having an equation number, the L^AT_EX equation environment commands, and the contents of the environment's `\BODY`.

```
11485 {% not mathjax
```

Begin the `lateximage` with an `<alt>` tag containing the math source:

```
11486 \ifstrequal{#2}{equation*}{%
11487   \begin{BlockClass}{displaymath}%
11488 }{%
11489   \begin{BlockClass}{displaymathnumbered}%
11490 }%
11491 \LWR@newautoanchor%
11492 \booltrue{\LWR@indisplaymathimage}%
11493 \begin{lateximage}[%]
11494   \ifstrequal{#2}{equation*}{%
11495     \ifdefequal{\LWR@equationtag}{\theequation}{%
11496       % no tag was given
11497     }{%
11498       (\LWR@equationtag) % tag was given
11499     }%
11500   }{%
11501     (\LWR@equationtag) % automatic numbering
11502   }%
11503   \textbackslash\begin{#2} % extra space
11504   \LWR@HTMLsanitizeexpand{\detokenize\expandafter{#1}} % extra space
11505   \textbackslash\end{#2}%
11506 ]* alt tag
```

Support for `xfakebold`:

```
11507 \LWR@applyxfakebold%
```

Create the actual L^AT_EX-formatted equation inside the `lateximage` using the contents of the environment.

```
11508 \@nameuse{\LWR@orig#2}%
11509 #1% contents collected by \collect@body
11510 \@nameuse{\LWR@origend#2}%
11511 \end{lateximage}%
11512 \end{BlockClass}%
11513 }% not mathjax
```

Clear the single-use alt text:

```
11514     \gdef\LWR@ThisAltText{}%
11515 }
```

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.

```
11516 \newcommand*{\LWR@doendequation}[1]{%
11517     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
11518     {%
11519         \IfSubStr{\detokenize\expandafter{\BODY}}{\detokenize{note}}{%
11520             \InlineClass{hidden}{\LWR@syncnotenumbers}%
11521             \LWR@addmathjax{\#1}{\BODY}%
11522             \InlineClass{hidden}{\LWR@syncnotenames}%
11523         }{%
11524             \LWR@addmathjax{\#1}{\BODY}%
11525         }%
11526     }{%
11527 }
```

Clear the single-use alt text:

```
11528     \gdef\LWR@ThisAltText{}%
11529 }
```

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*}

```
11530 \newcommand*{\LWR@synconenotenumber}[2]{%
11531     \textbackslash{%
11532         \textbackslash{def}\textbackslash{#1}\{\#2\}%
11533         \textbackslash{%
11534     }}
```

\LWR@syncnotenumbers Assignments to make.

```
11535 \newcommand*{\LWR@syncnotenumbers}{\LWR@synconenotenumber{\LWRfootnote}{\thefootnote}}
```

\LWR@synconenotename {*MATHJAX variable*} {*text*}

```
11536 \newcommand*{\LWR@synconenotename}[2]{%
11537     \textbackslash{%
11538         \textbackslash{def}\textbackslash{#1}\{\#2\}%
11539         \textbackslash{%
11540     }}
```

\LWR@syncnotenames Assignments to make.

```
11541 \newcommand*{\LWR@syncnotenames}{\LWR@synconenotename{\LWRfootnote}{\footnotename}}
```

Remove existing equation environment:

```
11542 \AtBeginDocument{  
11543     \let\equation\relax  
11544     \let\endequation\relax  
11545     \csletcs{equation*}{\relax}  
11546     \csletcs{\endequation*}{\relax}  
11547 }
```

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`.

```
11548 \AtBeginDocument{  
11549     \NewEnviron{equation}{%  
11550         {\LWR@doequation{\BODY}{equation}}%  
11551         [\LWR@doendequation{equation}]}  
11552  
11553     \LetLtxMacro{\LWR@equationnormal}{equation}  
11554     \LetLtxMacro{\endLWR@equationnormal}{\endequation}  
11555 }% AtBeginDocument
```

Env `equation*`

```
11556 \AtBeginDocument{  
11557     \NewEnviron{equation*}{%  
11558         {\LWR@doequation{\BODY}{equation*}}%  
11559         [\LWR@doendequation{equation*}]}  
11560  
11561     \csletcs{\LWR@equationnormalstar}{equation*}  
11562     \csletcs{\LWR@endequationnormalstar}{\endequation*}  
11563 }% AtBeginDocument
```

Remember the “less” version of `equation`, which uses `MATHJAX` and `alt` tags, but does not support complicated contents such as some `Tikz` expressions.

```
11564 \AtBeginDocument{  
11565     \LetLtxMacro{\LWR@equationless}{equation}  
11566     \LetLtxMacro{\endLWR@equationless}{\endequation}  
11567     \csletcs{\LWR@equationlessstar}{equation*}  
11568     \csletcs{\LWR@endequationlessstar}{\endequation*}  
11569 }
```

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.

```
11570 \newcommand*{\displaymathnormal}{%
11571   \ifbool{LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
11572   \LetLtxMacro{[\LWR@openbracketnormal}%
11573   \LetLtxMacro{]\LWR@closebracketnormal}%
11574   \LetLtxMacro{\displaymath}{\LWR@displaymathnormal}%
11575   \LetLtxMacro{\enddisplaymath}{\endLWR@displaymathnormal}%
11576   \LetLtxMacro{\equation}{\LWR@equationnormal}%
11577   \LetLtxMacro{\endequation}{\endLWR@equationnormal}%
11578   \csletcs{equation*}{\LWR@equationnormalstar}%
11579   \csletcs{endequation*}{\LWR@endequationnormalstar}%
11580 }
```

**\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.

```
11581 \newcommand*{\displaymathother}{%
11582   \boolfalse{mathjax}%
11583   \LetLtxMacro{\displaymath}{\LWR@displaymathother}%
11584   \LetLtxMacro{\enddisplaymath}{\endLWR@displaymathother}%
11585   \LetLtxMacro{[\LWR@displaymathother}%
11586   \LetLtxMacro{]\endLWR@displaymathother}%
11587   \LetLtxMacro{\equation}{\LWR@equationother}%
11588   \LetLtxMacro{\endequation}{\endLWR@equationother}%
11589   \csletcs{equation*}{\displaymath}%
11590   \csletcs{endequation*}{\enddisplaymath}%
11591 }
```

```
11592 \end{warpHTML}
```

for PRINT output: 11593 \begin{warpprint}

Print-mode versions:

```
11594 \newcommand*{\displaymathnormal}{}%
11595 \newcommand*{\displaymathother}{}%
```

```
11596 \end{warpprint}
```

for HTML output: 11597 \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.

```
11598 \newbool{LWR@amsmultiline}
11599 \boolfalse{LWR@amsmultiline}
```

\LWR@beginhideamsmath Starts hiding L^AT_EX math inside an HTML comment.

```
11600 \newcommand*{\LWR@beginhideamsmath}{
11601   \LWR@stoppars
11602   \LWR@origtilde\LWR@orignewline
11603   \LWR@htmlopencomment
11604
11605   \begingroup
11606   \LWR@restoreorigformatting
11607   \booltrue{LWR@insidemathcomment}
11608 }
```

\LWR@endhideamsmath Ends hiding L^AT_EX math inside an HTML comment.

```
11609 \newcommand*{\LWR@endhideamsmath}{
11610   \endgroup
11611
11612   \LWR@htmlclosecomment
11613   \boolfalse{LWR@insidemathcomment}
11614   \LWR@orignewline
11615   \LWR@startpars
11616 }
```

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 LATEX's equation numbers, typeset with LATEX 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.

```
11617 \let\LWR@origeqnarray\eqnarray
11618 \let\LWR@origendeqnarray\endeqnarray
```

To remember whether the starred environment was used, and thus whether to number the equations:

```
11619 \newbool{\LWR@numbereqnarray}
11620 \booltrue{\LWR@numbereqnarray}
```

Common code used by eqnarray and Beqnarray (from fancybox):

```
11621 \newcommand{\LWR@eqnarrayfactor}{%
```

If `mathjax` or `FormatWP`, print the LATEX expression:

```
11622 \ifboolexpr{\bool{mathjax} \or (\ bool{FormatWP} \and \bool{WPMarkMath} ) }%
11623 {%
```

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:

```
11624 \LWR@syncmathjax%
11625 \boolfalse{\LWR@amsmultiline}%
11626 \ifbool{\LWR@numbereqnarray}%
11627 {%
```

If numbering the equations, execute a copy inside an HTML comment block:

```
11628 \LWR@beginhideamsmath%
11629 \LWR@origeqnarray%
11630 \BODY%
11631 \LWR@origendeqnarray%
11632 \LWR@endhideamsmath%
```

Then print the (sanitized) contents to the output for MATHJAX to interpret:

```
11633 \LWR@addmathjax{eqnarray}{\BODY}%
11634 }%
11635 {%
  \not \LWR@numbereqnarray
```

If not numbering equations, just create the contents for MATHJAX:

```
11636 \LWR@addmathjax{eqnarray*}{\BODY}%
11637 }%
  \LWR@numbereqnarray
```

```

11638      }% mathjax
11639      {%
11640          \ifbool{LWR@numbereqnarray}{%
11641              {%

```

For numbered SVG equations, first create a `\teximage` with an `alt` attribute containing sanitized copy of the source code:

```

11642          \begin{BlockClass}{displaymathnumbered}%
11643              \LWR@newautoidanchor%
11644              \booltrue{LWR@indisplaymathimage}%
11645          \begin{teximage}[(\LWR@startingequationtag\textendash\LWR@equationtag)%
11646              \LWR@addmathjax{eqnarray}\{\BODY\}]*%

```

Support for `xfakebold`:

```
11647          \LWR@applyxfakebold%
```

Create the image contents using an actual `eqnarray`:

```

11648          \LWR@origeqnarray%
11649          \BODY%
11650          \LWR@origendeqnarray%
11651          \end{teximage}%
11652          \end{BlockClass}%
11653      }%
11654  {%

```

If not numbered, do the same, but an extra `\nonumber` seems to be required:

```

11655          \begin{BlockClass}{displaymath}%
11656              \LWR@newautoidanchor%
11657              \booltrue{LWR@indisplaymathimage}%
11658          \begin{teximage}[\LWR@addmathjax{eqnarray*}\{\BODY\}]*%

```

Support for `xfakebold`:

```

11659          \LWR@applyxfakebold%
11660          \def\@eqncr{\nonumber\@seqncr}%
11661          \csuse{LWR@origeqnarray}%
11662          \BODY%
11663          \nonumber\csuse{LWR@origendeqnarray}%
11664          \end{teximage}%
11665          \end{BlockClass}%
11666      }% LWR@numbereqnarray
11667  }% not mathjax

```

Default to number equations in the future:

```
11668      \booltrue{LWR@numbereqnarray}%

```

Clear the single-use `alt` text:

```
11669     \gdef\LWR@ThisAltText{}%
11670 }
```

eqnarray itself is made with a blank line before and after to force it to be on its own line:

```
11671 \RenewEnviron{eqnarray}{%
11672 {%
11673   \LWR@eqnarrayfactor
11674 }%
11675 }%
11676 }
```

The starred version is patched to turn off the numbering:

```
11677 \csgpreto{eqnarray*}{\boolfalse{\LWR@numbereqnarray}}%
11678 \end{warpHTML}
```

82 Lateximages

82.1 Description

Env `lateximage` A `lateximage` is a piece of the document which is typeset in L^AT_EX 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 `` 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^AT_EX 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^AT_EX 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: 11679 `\begin{warpHTML}`

Ctr LWR@lateximagenumber Sequence the images.

```
11680 \newcounter{LWR@lateximagenumber}
11681 \setcounter{LWR@lateximagenumber}{0}
```

Ctr LWR@lateximagedepth Do not create `\lateximage` inside of `\lateximage`.

```
11682 \newcounter{LWR@lateximagedepth}
11683 \setcounter{LWR@lateximagedepth}{0}
```

A few utility macros to write special characters:

```
11684 \edef\LWR@hashmark{\string#} % for use in \write
11685 \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`.

```
11686 \newcounter{LWR@LIpage}
```

```
11687 \end{warpHTML}
```

82.3 Font size

for HTML & PRINT: 11688 \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.*

```
11689 \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.

```
11690 \newcommand*\{\LateximageFontSize\}{1}
```

```
11691 \end{warpall}
```

82.4 Equation numbers

for HTML output: 11692 \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.

```
11693 \newcounter{LWR@startingequation}
11694
11695 \@ifundefined{chapter}
11696 {
11697 \renewcommand{\theLWR@startingequation}{%
11698     \arabic{LWR@startingequation}%
11699 }
11700 }
11701 {%
11702     chapter defined
11703 \renewcommand{\theLWR@startingequation}{%
11704     \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}. }{}%
11705     \arabic{LWR@startingequation}%
11706 }
```

Bool LWR@isstartingequation True for the first equation tag, false for later tags in the same environment.

```
11707 \newbool{LWR@isstartingequation}
```

\LWR@startingequationtag Prints the starting equation number or tag.

```
11708 \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`.

```
11709 \newcommand*{\LWR@equationtag}{}%
```

Only if SVG math, patch `\tag` after packages have loaded, in case someone else modified `\tag`.

```
11710 \AtBeginDocument{%
11711   \ifbool{mathjax}{}{%
11712     \xdef\LWR@startingequationtag{\#1}%
11713     \xdef\LWR@equationtag{\#1}%
11714   }%
11715 }
```

\LWR@remembertag {*tag*}

For use inside the math environments while using SVG math. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```
11713 \NewDocumentCommand{\LWR@remembertag}{m}{%
11714   \ifbool{LWR@isstartingequation}{%
11715     \global\boolfalse{LWR@isstartingequation}%
11716     \xdef\LWR@startingequationtag{\#1}%
11717     \xdef\LWR@equationtag{\#1}%
11718   }%
11719 }
```

```
11720 }%
11721 }%
11722 }% AtBeginDocument
```

82.5 HTML alt tags

\LWR@amsmathbody {*envname*} For use inside the optional argument to a `\teximage` to add the contents of a AMS math environment to the `<alt>` tag.

```
11723 \newcommand*{\LWR@amsmathbody}[1]{%
11724   \textbackslash\begin\{#1\} % extra space
11725   \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\the\@envbody}}%
11726   \textbackslash\end\{#1\}%
11727 }
```

\LWR@amsmathbodynumbered {*envname*} 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.

```

11729 \newcommand{\LWR@amsmathbodynumbered}[1]
11730 {%
11731   \ifnumcomp{\value{\LWR@startingequation}}{=}{\value{equation}}{%
11732     {(\LWR@equationtag)}%
11733     {(\LWR@startingequationtag\textrandash\LWR@equationtag)} % extra space
11734   \LWR@amsmathbody{\#1} % extra space
11735 }

```

82.6 `lateximage` environment

`\LWR@lateximage@oneimageb {<1: alt text>} {<2: filename>} {<3: CSS style>}` Creates the image for the `lateximage`.

```

11736 \newcommand{\LWR@lateximage@oneimageb}[3]{%
11737   \LWR@subinlineimage{\#1}{\textrm{lateximage}}%
11738   {%
11739     \LWR@print@mbox{%
11740       \LWR@ImagesDirectory\OSPathSymbol%
11741       \#2%
11742     }%
11743   }{\textrm{svg}}{\#3}%
11744 }

```

`\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.

```

11745 \newcommand{\LWR@lateximage@oneimage}[4]{%
11746   \ifdefvoid{\LWR@ThisAltText}{%
11747     \IfBooleanTF{\#4}{%
11748       \LWR@Lateximage@oneimageb{\#1}{\#2}{\#3}%
11749     }{%
11750       \LWR@latexitimage@oneimageb%
11751         {\AltTextOpen\#1\AltTextClose}%
11752         {\#2}{\#3}%
11753     }%
11754   }{%
11755     \LWR@latexitimage@oneimageb%
11756       {\AltTextOpen\LWR@ThisAltText\AltTextClose}%
11757       {\#2}{\#3}%
11758   }%
11759 }

```

Env `latexitimage * [<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.

```
11760 \catcode`\$=\active%
11761
11762 \NewDocumentEnvironment{lateximage}{s 0{\ImageAltText} s 0{} 0{}}
11763 {%
11764 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
11765 \LWR@traceinfo{lateximage: entering depth is \arabic{LWR@lateximagedepth}}%
```

Nested `lateximage`s remain one large `lateximage`:

```
11766 \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.

```
11767 {%
11768 %      \addtocounter{LWR@lateximagedepth}{1}%
11769      \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
11770 }%
```

Otherwise, this is the outer-most `lateximage`:

```
11771 {% start of outer-most lateximage
```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```
11772      \LWR@traceinfo{lateximage: starting outer-most lateximage}%
```

```

11773 \setcounter{LWR@startingequation}{\value{equation}}%
11774 \addtocounter{LWR@startingequation}{1}%
11775 \booltrue{LWR@isstartingequation}%
11776 \let\LWR@startingequationtag\theLWR@startingequation%

```

The default equation tag, unless overwritten by \tag:

```
11777 \let\LWR@equationtag\theequation%
```

Starting a new lateximage:

```

11778 \addtocounter{LWR@lateximagenumber}{1}%
11779 \LWR@traceinfo{lateximage: LWR@lateximagenumber is \arabic{LWR@lateximagenumber}}%

```

While inside a lateximage, locally do not use mathjax:

```
11780 \boolfalse{mathjax}%
```

Be sure that are doing a paragraph:

```
11781 \LWR@ensuredoingapar%
```

Next file:

```

11782 \addtocounter{LWR@externalfilecnt}{1}%
11783 \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:

```

11784 \setcounterpageref{LWR@LIPage}{%
11785   LWR@lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}%
11786 }%
11787 \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:

```

11788 \LWR@htmllag{span\LWR@indentHTML%
11789   id="lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}"\LWR@indentHTML%
11790   class="lateximagesource"\LWR@orignewline%
11791 }%

```

Write instructions to the <ImagesDirectory>.txt file:

```

11792 \LWR@traceinfo{lateximage: about to write to \BaseJobname-images.txt}%
11793 \IfBooleanTF{#1}{} starred%
11794 {} hash%

```

Compute and save the hashed file name for later use:

```

11795 \ifdefvoid{\LWR@ThisAltText}{%
11796   \IfBooleanTF{#3}{%

```

```

11797          \edef\LWR@hashedname{%
11798              \LWR@mdfive{\detokenize\expandafter{\#2}-!-\#4}%
11799          }%
11800      }{%
11801          \edef\LWR@hashedname{%
11802              \LWR@mdfive{\detokenize\expandafter{\AltTextOpen#2\AltTextClose}-!-\#4}%
11803          }%
11804      }%
11805  }{%
11806      \edef\LWR@hashedname{%
11807          \LWR@mdfive{\detokenize\expandafter{\AltTextOpen\LWR@ThisAltText\AltTextClose}-!-\#4}%
11808      }%
11809  }%
11810  \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%

```

Write the page, hashing, and hashed name:

```

11811      \immediate\write\LWR@lateximagesfile{%
11812          |\arabic{\LWR@LIPage}|true|\LWR@hashedname|%
11813          }%
11814      }% hash
11815  {%- no hash

```

No hash, so write the page, no hashing, and the image number:

```

11816      \LWR@traceinfo{lateximage: hash false}%
11817      \immediate\write\LWR@lateximagesfile{%
11818          |\arabic{\LWR@LIPage}|false|\LWR@ImagesName\arabic{\LWR@externalfilecnt}|%
11819          }%
11820  }% no hash

```

Place an open comment tag. This will hide any traces of the lateximage PDF page which were picked up by *pdftotext*.

```

11821      \LWR@traceinfo{lateximage: about to create open comment}%
11822      \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.

```

11823      \addtocounter{\LWR@lateximagedepth}{1}%

```

Start the new PDF page:

```

11824      \LWR@traceinfo{lateximage: about to create a new page}%
11825      \LWR@maybe@orignewpage%

```

If the current page is larger, typeset the image in a “standard” width page and font size:

```

11826      \LWR@traceinfo{lateximage: about to create minipage}%
11827      \ifdimless{\linewidth}{6in}{%
11828          \LWR@print@minipage{\linewidth}%
11829      }%

```

```

11830      \LWR@print@minipage{6in}%
11831      }%
11832      \nameuse{\LWR@print@\LateximageFontSizeName}%

```

Temporarily restore formatting to its PDF definitions: Do not produce HTML tags for \\hspace, etc. inside a lateximage.

```

11833      \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
11834      \LWR@restoreorigformatting%

```

Use full-page footnotes instead of minipage footnotes. These become HTML footnotes.

```

11835      \def\@mpfn{footnote}%
11836      \def\thempfn{\thefootnote}%
11837      \LetLtxMacro\@footnotetext\LWR@footnotetext%

```

Create the LWR lateximage<number> label:

```

11838      \LWR@traceinfo{lateximage: about to create label}%
11839      \LWR@orig@label{LWR lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
11840      \LWR@traceinfo{lateximage: finished creating the label}%

```

Adjust the rule color to match HTML:

```

11841      \ifdefvoid{\LWR@ruleHTMLcolor}{}{%
11842          \LWR@print@arrayrulecolor[HTML]{\LWR@ruleHTMLcolor}%
11843      }%

```

Enable print-mode math functions:

```

11844      \LetLtxMacro$\LWR@origdollar%
11845      \catcode`\$=3% math shift
11846      \LetLtxMacro\(\LWR@origopenparen%
11847      \LetLtxMacro\)\LWR@origcloseparen%

```

Only enable print-mode display math if are not already inside display math:

```

11848      \ifbool{\LWR@indisplaymathimage}{}{%
11849          \LetLtxMacro\[ \LWR@origopenbracket%
11850          \LetLtxMacro\] \LWR@origclosebracket%
11851          \let\equation\LWR@origequation%
11852          \let\endequation\LWR@origendequation%
11853          \csletcs{equation*}{\LWR@origequation*}%
11854          \csletcs{endequation*}{\LWR@origendequation*}%
11855      }%

```

For chemformula:

```

11856      \LetLtxMacro\newsingledollar$%
11857      \LetLtxMacro\newsingledollar$% syntax highlighting
11858 }% end of outer-most lateximage
11859 \LWR@traceinfo{lateximage: finished start of environment}%
11860 }% end of \begin{lateximage}

```

\end{lateximage} When the environment closes:

```
11861 {%
  start of \end{lateximage}
11862 \LWR@traceinfo{lateximage: starting end of lateximage}%
```

Nested more than one deep?

```
11863 \LWR@traceinfo{lateximage: internal depth was \arabic{LWR@lateximagedepth}}%
11864 \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.

```
11865 {%
11866   \LWR@traceinfo{lateximage: unnesting}%
11867   \global\advance\c@LWR@lateximagedepth -1\relax%
11868 }%
```

If this is the outer-most lateximage:

```
11869 {%
  end of outer-most lateximage
```

Finish the lateximage minipage and start a new PDF page:

```
11870 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
11871   \endLWR@print@minipage%
11872   \LWR@maybe@orignewpage%
```

Close the HTML comment which encapsulated any traces of the lateximage picked up by pdftotext:

```
11873   \LWR@print@vspace*{.5\baselineskip}%
11874   \LWR@htmclosecomment%
11875   \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}%
```

Create a link to the lateximage, allowing its natural height:

```
11876   \IfBooleanTF{#1}{%
11877     starred
11878     \LWR@lateximage@oneimage{#2}{\LWR@hashedname}{#5}{#3}%
11879   }{%
11880     no hash
11881     \LWR@lateximage@oneimage{#2}{\LWR@ImagesName\theLWR@externalfilecnt}{#5}{#3}%
11882   }{%
11883     no hash}
```

Be sure that are doing a paragraph:

```
11883 \LWR@ensuredoingapar%
```

Close the HTML span which has the pdftotext comment and also the link to the .svg image:

```
11884 \LWR@htmlltag{/span}%
```

```
11885 \ifbool{HTMLDebugComments}{%
11886     \LWR@htmlcomment{End of lateximage}%
11887 }{}%
```

Undo one lateximage level. This is not inside an \mathcal{AM} \mathcal{S} $\text{\texttt{text}}$, so regular $\text{\texttt{\addtocounter}}$ may be used here.

```
11888 \addtocounter{LWR@lateximagedepth}{-1}%
```

Clear the single-use alt text:

```
11889 \gdef\LWR@ThisAltText{}%
11890 }% end of outer-most lateximage
11891 \LWR@traceinfo{lateximage: exiting depth is \arabic{LWR@lateximagedepth}}%
11892 \LWR@traceinfo{lateximage: done}%
11893 }%
11894 \catcode`\$=3% math shift
11895 \end{warpHTML}
```

for PRINT output: 11896 $\begin{warpprint}$

Env $\text{\texttt{lateximage}}$ * [$\langle alt \rangle$ tag] * [$\langle add'l\ hashing \rangle$] [$\langle css\ style \rangle$]

$\text{\texttt{varwidth}}$ is used to create a box of the natural width of its contents.

```
11897 \NewDocumentEnvironment{lateximage}{s o s o o}
11898     {\begin{varwidth}[b]{\linewidth}}
11899     {\end{varwidth}}
```

```
11900 \end{warpprint}
```

83 center, flushleft, flushright

for HTML output: 11901 $\begin{warpHTML}$

Env $\text{\texttt{center}}$ Replace center functionality with css tags:

```
11902 \newenvironment*{\LWR@HTML@center}{%
11903 {
11904     \LWR@forcenewpage
11905     \ifbool{FormatWP}{%
11906         {\BlockClass[\LWR@print@mbox{text-align:center}]{center}}%
11907         {\BlockClass{center}}%
11908     }%
11909     {\endBlockClass}%
11910 }
11911 \LWR@formattedenv{center}}
```

Env flushright

```
11912 \newenvironment*{\LWR@HTML@flushright}{%
11913 {
11914     \LWR@forcenewpage
11915     \ifbool{FormatWP}{%
11916         {\BlockClass[\LWR@print@mbox{text-align:right}]{flushright}}%
11917         {\BlockClass{flushright}}%
11918 }%
11919 {\endBlockClass}%
11920
11921 \LWR@formattedenv{flushright}
```

Env flushleft

```
11922 \newenvironment*{\LWR@HTML@flushleft}{%
11923 {
11924     \LWR@forcenewpage
11925     \ifbool{FormatWP}{%
11926         {\BlockClass[\LWR@print@mbox{text-align:left}]{flushleft}}%
11927         {\BlockClass{flushleft}}%
11928 }%
11929 {\endBlockClass}%
11930
11931 \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

```
11932 \newcommand*{\LWR@HTML@centering}{%
11933     \ifbool{HTMLDebugComments}{%
11934         \LWR@htmlcomment{centering}%
11935     }{}%
11936 }%
11937 \LWR@formatted{centering}
```

\raggedleft

```
11938 \newcommand*{\LWR@HTML@raggedleft}{%
11939     \ifbool{HTMLDebugComments}{%
11940         \LWR@htmlcomment{raggedleft}%
11941     }{}%
11942 }%
11943 \LWR@formatted{raggedleft}
```

\raggedright

```
11944 \newcommand*{\LWR@HTML@raggedright}{%
```

```

11945 \ifbool{HTMLDebugComments}{%
11946     \LWR@htmlcomment{raggedright}%
11947 }{}%
11948 }
11949 \LWR@formatted{raggedright}

\leftline {\langle text\rangle}

11950 \renewcommand{\leftline}[1]{\begin{flushleft}\#1\end{flushleft}}


\centerline {\langle text\rangle}

11951 \renewcommand{\centerline}[1]{\begin{center}\#1\end{center}}


\rightline {\langle text\rangle}

11952 \renewcommand{\rightline}[1]{\begin{flushright}\#1\end{flushright}}


11953 \end{warpHTML}

```

84 Preloaded packages

for HTML output: 11954 \begin{warpHTML}

If the given package was loaded before or by `lwarp`, load the `lwarp` version as well.

```

\LWR@PreloadedPackage {\langle packagename\rangle}

11955 \newcommand*{\LWR@PreloadedPackage}[1]{%
11956     \@ifpackageloaded{\#1}{%
11957         {%
11958             \AtBeginDocument{%
11959                 \LWR@origRequirePackage{lwarp-\#1}%
11960             }%
11961         }%
11962     }%
11963 }

```

If `inputrc` was loaded before `lwarp`, as is usually done, explicitly load the `lwarp` patches now:

```
11964 \LWR@PreloadedPackage{inputrc}
```

If `textcomp` was loaded before `lwarp`, perhaps as part of the font-related packages, explicitly load the `lwarp` patches now:

```
11965 \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:

11966 `\LWR@PreloadedPackage{xunicode}`

If `graphics` or `graphicx` were loaded before `l warp`, perhaps by `xunicode`, explicitly load the `l warp` patches now:

11967 `\LWR@PreloadedPackage{graphics}`
11968 `\LWR@PreloadedPackage{graphicx}`

`scalefnt` may have been preloaded by `babel`

11969 `\LWR@PreloadedPackage{scalefnt}`

`fontaxes` must be preloaded so that `l warp` may patch it for `HTML`.

11970 `\LWR@PreloadedPackage{fontaxes}`

Various font packages which may be loaded before `l warp`:

11971 `\LWR@PreloadedPackage{cmbright}`
11972 `\LWR@PreloadedPackage{fourier}`
11973 `\LWR@PreloadedPackage{kpfonts}`
11974 `\LWR@PreloadedPackage{kpfonts-otf}`
11975 `\LWR@PreloadedPackage{libertinust1math}`
11976 `\LWR@PreloadedPackage{pxfonts}`
11977 `\LWR@PreloadedPackage{txfonts}`
11978 `\LWR@PreloadedPackage{txgreeks}`
11979 `\LWR@PreloadedPackage{newpxmath}`
11980 `\LWR@PreloadedPackage{newtxmath}`
11981 `\LWR@PreloadedPackage{newtxsf}`
11982 `\LWR@PreloadedPackage{mathalpha}`
11983 `\LWR@PreloadedPackage{unicode-math}`

`nfssext-cfr` may be preloaded by `cfm-lm` or related font packages.

11984 `\LWR@PreloadedPackage{nfssext-cfr}`

`ulem` may be preloaded by `ctex`, `ctexart`, and related classes.

11985 `\LWR@PreloadedPackage{ulem}`

`xetexko-vertical` may be preloaded by `xetexko`.

11986 `\LWR@PreloadedPackage{xetexko-vertical}`

`geometry` is preloaded by `l warp`, and perhaps by various classes.

11987 `\LWR@PreloadedPackage{geometry}`

`plex` is preloaded by some CJK classes.

11988 `\LWR@PreloadedPackage{plex}`

`stfloats` is preloaded by `ltj*` classes.

```
11989 \LWR@PreloadedPackage{stfloats}
```

`lltjext` is preloaded by `ltj*` classes.

```
11990 \LWR@PreloadedPackage{lltjext}
```

`luatexko` must be loaded before `lwarp`.

```
11991 \LWR@PreloadedPackage{luatexko}
```

```
11992 \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: 11993 \begin{warpHTML}

Options for siunitx:

```
11994 \newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}
11995 \newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}
11996 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLunicode{2032}}
11997 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLunicode{2033}}
11998 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\HTMLunicode{210F}}}}}
11999
12000 \appto{\LWR@restoreorigformatting}{%
12001 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^\circ}\!C}}%
12002 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^\circ}}}%
12003 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{^{\prime}}}}%
12004 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{^{\prime\prime}}}}%
12005 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}}%
12006 }
12007
12008 \PassOptionsToPackage{%
12009   detect-mode=true,
12010   per-mode=symbol,% fraction is not seen by pdftotext
12011   text-celsius = {\LWR@siunitx@textcelsius},
12012   text-degree = {\LWR@siunitx@textdegree},
12013   text-arcminute = {\LWR@siunitx@textprime},
12014   text-arcsecond = {\LWR@siunitx@textdblprime},
12015 }{siunitx}

12016 \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 formats For `\includegraphics` with .pdf or .eps files, the user must provide a .pdf or .eps image file for use in print mode, and also a .svg, .png, or .jpg version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, l warp will automatically choose the .pdf or .eps format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a .pdf or .eps image is referred to with its file extension, the extension will be changed to .svg for HTML:

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

Prog pdftocairo To convert a PDF image to SVG, use the utility **pdftocairo**:

[PDF to SVG](#)

Enter ⇒ **pdftocairo -svg filename.pdf**

Prog l warpmk pdftosvg For a large number of images, use **l warpmk**:

Enter ⇒ **l warpmk pdftosvg *.pdf (or a list of filenames)**

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

[epstopdf package](#)

Enter ⇒ **l warpmk pdftosvg *.PDF**

to convert to SVG images.

DVI 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 combi-

nation, 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^AT_EX, 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:

```
12017 \begin{warpprint}
12018 \define@key{Gin}{class}{}
12019 \define@key{Gin}{alt}{}
```

Print-mode additions for the `overpic` package. See section 427 for the HTML version.

```
12020 \AtBeginDocument{
12021 \@ifpackageloaded{overpic}{
12022 \newcommand*\overpicfontsize{12}
12023 \newcommand*\overpicfontskip{14}
12024 }{ }
12025 }
12026 \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 `\teximage`. 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: 12027 `\begin{warpall}`

After `xparse` may have been loaded ...

```
12028 \AtBeginDocument{
```

... and *only* if `xcolor` was loaded:

```
12029 \@ifpackageloaded{xcolor}{
12030 \LWR@traceinfo{patching xcolor}
```

The print version:

`\colorboxBlock` `\colorboxBlock` is the same as `\colorbox`:

```
12031 \LetLtxMacro\colorboxBlock\colorbox
```

The original definition is reused by the new versions:

```
12032 \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`.)

```
12033 \newsavebox{\LWR@colorminipagebox}
12034
12035 \NewDocumentCommand{\LWR@print@fcolorbox}{o m o m +m}{%
12036 \LWR@traceinfo{\LWR@print@fcolorbox #2 #4}%

```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
12037 \begin{lrbox}{\LWR@colorminipagebox}%
12038 #5%
12039 \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.

```
12040 \ifstreq{\#4}{none}%
12041 {%
12042     \LWR@traceinfo{background is none}%
12043     {% scope the \colorlet
12044         \colorlet{\LWR@currentcolor}{.}%
12045         \color{\#2}%
12046         \fbox{%
12047             \color{\LWR@currentcolor}%
12048             \usebox{\LWR@colorminipagebox}%
12049         }%
12050     }%
12051 }%
12052 {%
12053 \LWR@traceinfo{background not none}%

```

```

12054 \IfValueTF{#1}%
12055 {%
12056     \IfValueTF{#3}%
12057     {\LWR@orig@print@fcolorbox[#1]{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
12058     {\LWR@orig@print@fcolorbox[#1]{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
12059 }%
12060 {%
12061     no value #1
12062     \IfValueTF{#3}%
12063     {\LWR@orig@print@fcolorbox[#2]{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
12064     {\LWR@orig@print@fcolorbox[#2]{#4}{\usebox{\LWR@colorminipagebox}}}%
12065 }%
12066 }% #4 not none
12066 \LWR@traceinfo{\LWR@print@fcolorbox done}%
12067 }

12068 \newrobustcmd*\fcolorbox{\LWR@print@fcolorbox}%

\fcolorboxBlock [⟨framemode⟩] {⟨framecolor⟩} [⟨boxmodel⟩] {⟨boxcolor⟩} {⟨text⟩}

In print mode, \fcolorboxBlock is the same as \fcolorbox.
```

```

12069 \newcommand*\fcolorboxBlock{\LWR@print@fcolorboxBlock}%
12070 \newrobustcmd*\fcolorboxBlock{\LWR@print@fcolorboxBlock}%
Env fcolorminipage [⟨1:framemode⟩] {⟨2:framecolor⟩} [⟨3:boxmodel⟩] {⟨4:boxcolor⟩} [⟨5:align⟩] [⟨6:height⟩]%
[⟨7:inner-align⟩] {⟨8:width⟩}

In print mode, becomes a \fcolorbox containing a minipage:
```

```

12071 \NewDocumentEnvironment{\LWR@print@fcolorminipage}{o m o m O{c} O{} o m}
12072 {%
12073 \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%

```

Pre-load the contents into an LR box so that they can be used inside a \fcolorbox:

```
12074 \begin{lrbox}{\LWR@colorminipagebox}%
```

If inner alignment is not given, use the outer alignment instead:

```

12075 \IfValueTF{#7}%
12076 {\begin{minipage}[#5][#6][#7]{#8}}%
12077 {\begin{minipage}[#5][#6][#5]{#8}}%
12078 }%
12079 {%
12080 \end{minipage}%
12081 \end{lrbox}%
12082 \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.

```

12083 \ifstreq{#4}{none}%
12084 {%
12085     \% scope the \colorlet
12086         \colorlet{LWR@currentcolor}{.}%
12087         \color{#2}%
12088         \fbox{%
12089             \color{LWR@currentcolor}%
12090             \usebox{\LWR@colorminipagebox}%
12091         }%
12092     }%
12093 }%
12094 {%
12095     \IfValueTF{#1}%
12096     {%
12097         \IfValueTF{#3}%
12098             {\LWR@orig@print@fcolorbox[#1][#2][#3][#4]{\usebox{\LWR@colorminipagebox}}}%
12099             {\LWR@orig@print@fcolorbox[#1][#2][#4]{\usebox{\LWR@colorminipagebox}}}%
12100         }%
12101         \% no value #1
12102         \IfValueTF{#3}%
12103             {\LWR@orig@print@fcolorbox[#2][#3][#4]{\usebox{\LWR@colorminipagebox}}}%
12104             {\LWR@orig@print@fcolorbox[#2][#4]{\usebox{\LWR@colorminipagebox}}}%
12105         }%
12106     }%
12107 }%
12108 \LWR@traceinfo{*** finished end fcolorminipage}%
12109 }%
12110 \NewDocumentEnvironment{fcolorminipage}{}%
12111     {\LWR@print@fcolorminipage}%
12112     {\endLWR@print@fcolorminipage}%
12113 }%
12114 \AtBeginDocument{%
12115 \end{warpall}}

```

88 chemmacros environments

\makepolymerdelims and redox reactions must be enclosed in a `latximage` 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 `latximage` with an appropriate `alt` tag.

for PRINT output: 12116 \begin{warpprint}

```

12117 \AtBeginDocument{%
12118 \@ifpackageloaded{chemmacros}{}

```

```
Env  polymerdelims
12119 \DeclareDocumentEnvironment{polymerdelims}{}{}
```

```
Env  redoxreaction  {\langle space above\rangle} {\langle space below\rangle}
```

For print output, extra space is include above and below the image, and a `\textrimage` is not necessary. This extra space must be enforced, even inside a float, so zero-width rules are used.

For the HTML version, see section [186.4](#).

```
12121 \DeclareDocumentEnvironment{redoxreaction}{m m}
12122   {\rule{0pt}{#1}}{\rule[-#2]{0pt}{#2}}
```



```
12123 }% chemmacros
12124 }% AtBeginDocument
```



```
12125 \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: 12126 \begin{warppHTML}
12127
12128 \AtEndPreamble{
12129   \RequirePackage{cleveref}
12130 }
12131
12132 \end{warppHTML}
```

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: 12133 \begin{warpHTML}
12134
12135 \LetLtxMacro{\LWR@orig}{\label{label}}
12136 \LetLtxMacro{\label}{\LWR@new@label}
12137
12138 \LetLtxMacro{\LWR@orig}{\pageref{pageref}}
12139 \LetLtxMacro{\pageref}{\LWR@new@pageref}
12140
12141 \end{warpHTML}
```

91 picture environment

`Env picture` The picture environment is enclosed inside a `\lateximage`.

for HTML output: 12142 \begin{warpHTML}

```
Env picture

12143 \BeforeBeginEnvironment{picture}{\begin{lateximage}[picture]}
12144
12145 \AfterEndEnvironment{picture}{\end{lateximage}}
12146 \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`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a `center` environment, the result is similar in print and `HTML`. Paragraph tags are suppressed between side-by-side `minipages` and these spacing commands, but not at the start or end of the paragraph.

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

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

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

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

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

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

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

for HTML output: 12147 `\begin{warpHTML}`

92.1 Computed lengths

Len \LWR@minipagewidth Used to convert the width into printable units.

12148 `\newlength{\LWR@minipagewidth}`

Len \LWR@minipageheight Used to convert the height into printable units.

12149 `\newlength{\LWR@minipageheight}`

92.2 Virtual page size

Ctr \LWR@virtualpagedepth Used to only reset the line width at the outermost `minipage`.

12150 `\newcounter{LWR@virtualpagedepth}`
12151 `\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.

```

12152 \NewDocumentEnvironment{LWR@setvirtualpage}{s 0{1}}{%
12153     \ifnumequal{\value{LWR@virtualpagedepth}}{0}{%
12154         \IfBooleanT{#1}{\LWR@maybe@orignewpage}%
12155         \setlength{\linewidth}{6in/#2}%
12156         \setlength{\textwidth}{6in}%
12157         \setlength{\textheight}{9in}%
12158     }{}%
12159     \addtocounter{LWR@virtualpagedepth}{1}%
12160 }
12161 {\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?

```

12162 \newbool{LWR@minipagefullwidth}
12163 \boolfalse{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 `multcols`, where the actual width depends on the browser width. Controlled by `\useminipagewidths` and `\ignoreminipagewidths`.

```

12164 \newbool{LWR@forceminipagefullwidth}
12165 \boolfalse{LWR@forceminipagefullwidth}

```

\minipagefullwidth Requests that the next minipage have no width tag in HTML:

for HTML output: 12166 `\newcommand*{\minipagefullwidth}{\global\booltrue{LWR@minipagefullwidth}}`

\UseMinipageWidths Locally requests that minipage widths be honored.

```

12167 \newcommand*{\UseMinipageWidths}{\boolfalse{LWR@forceminipagefullwidth}}

```

\IgnoreMinipageWidths Locally requests that minipage widths be ignored.

```

12168 \newcommand*{\IgnoreMinipageWidths}{\booltrue{LWR@forceminipagefullwidth}}
12169 \end{warpHTML}

```

for PRINT output: 12170 `\begin{warpprint}`

```

12171 \newcommand{\minipagefullwidth}{}
12172 \newcommand{\UseMinipageWidths}{}
12173 \newcommand{\IgnoreMinipageWidths}{}
12174 \end{warpprint}

```

for HTML output: 12175 \begin{warpHTML}

Bool LWR@minipagethispar Has a minipage been seen this paragraph? If true, prevents paragraph tags around horizontal space between minipages.

```

12176 \newbool{LWR@minipagethispar}
12177 \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.

```

12178 \NewDocumentEnvironment{LWR@HTML@sub@minipage}{m m m m}
12179 {%
12180 \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.

```
12181 \begin{LWR@setvirtualpage}*
```

Save the requested width now that \linewidth, etc. are adjusted to virtual size.

```

12182 \setlength{\LWR@minipagewidth}{#4}%
12183 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
12184   \addtolength{\LWR@minipagewidth}{3em}%
12185 }%
12186 \LWR@traceinfo{computed width is \LWR@printlength{\LWR@minipagewidth}}%

```

Compute height:

```

12187 \setlength{\LWR@minipageheight}{\textheight}%
12188 \ifblank{#2}{%
  \setlength{\LWR@minipageheight}{#2}%
}

```

LATEX 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.

```

12189 \ifbool{FormatWP}{\newline}{%
12190 \LWR@stoppars%
}

```

If FormatWP, add a text frame:

```
12191 \ifbool{FormatWP}{%
```

```

12192
12193 \addtocounter{\LWR@thisautoidWP}{1}%
12194 \LWR@htmlltag{%
12195     div id="\LWR@print@mbox{autoidWP-\arabic{\LWR@thisautoidWP}}" %
12196     class="wpminipage"%
12197 }%
12198
12199 }{}%

```

Create the <div> tag with optional alignment style:

```

12200 \LWR@traceinfo{minipage: creating div class}%
12201 \LWR@htmlltag{div class="minipage" style="%"%
12202 \ifthenelse{\equal{\#1}{t}}{\LWR@print@mbox{vertical-align:bottom} ; }{}%
12203 \ifthenelse{\equal{\#1}{c}}{\LWR@print@mbox{vertical-align:middle} ; }{}%
12204 \ifthenelse{\equal{\#1}{b}}{\LWR@print@mbox{vertical-align:top} ; }{}%
12205 \ifthenelse{\equal{\#3}{t}}{\LWR@print@mbox{justify-content:flex-start} ; }{}%
12206 \ifthenelse{\equal{\#3}{c}}{\LWR@print@mbox{justify-content:center} ; }{}%
12207 \ifthenelse{\equal{\#3}{b}}{\LWR@print@mbox{justify-content:flex-end} ; }{}%
12208 \ifthenelse{\equal{\#3}{s}}{\LWR@print@mbox{justify-content:space-between} ; }{}%

```

Print the width and optional height styles:

```

12209 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth}}%
12210 \ifbool{\LWR@minipagefullwidth}%
12211 {\global\boolfalse{\LWR@minipagefullwidth}}%
12212 {%
12213     \ifbool{\LWR@forceminipagefullwidth}%
12214         {}%
12215         {%
12216             \ifdimequal{\#4}{\linewidth}%
12217                 {}%
12218                 {width:\LWR@printlength{\LWR@minipagewidth} ; }%
12219         }%
12220 }%
12221 \LWR@traceinfo{minipage: about to print the height}%
12222 \ifblank{\#2}{}{height:\LWR@printlength{\LWR@minipageheight} ; }%
12223 "}

```

Finish with an empty line to start the contents on a new line.

```

12224
12225 % 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.

```

12226 \ifnumequal{\value{\LWR@virtualpagedepth}}{1}{%
12227     \addtolength{\LWR@minipagewidth}{-3em}%
12228 }{}%
12229 \setlength{\linewidth}{\LWR@minipagewidth}%

```

\raggedright cancels hyphenation, which will be done by HTML instead.

```
12230 \LWR@print@raggedright%
```

Set minipage footnotes:

```
12231 \def\@mpfn{mpfootnote}%
12232 \def\thempfn{\thempfootnote}\c@mpfootnote\z@%
12233 \let\@footnotetext\@mpfootnotetext%
```

Resume paragraph tag handling for the contents of the minipage:

```
12234 \LWR@startpars%
12235 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12236
12237 === begin minipage ===
12238
12239 }{ }%
12240 \LWR@traceinfo{minipage: finished starting the minipage}%
12241 }% finished \minipage
12242 { \% \endminipage
```

Print pending minipage footnotes:

```
12243 \LWR@printpendingmpfootnotes%
```

End the environment with closing tag:

```
12244 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12245
12246 === end minipage ===
12247
12248 }{ }%
12249 \LWR@stopars%
12250
12251 \ifbool{FormatWP}{%
12252
12253 \LWR@htmlelementend{div}%
12254
12255 }{ }%
12256 \LWR@htmldivclassend{minipage}%
12257
12258 \end{\LWR@setvirtualpage}%
12259 \LWR@startpars%
12260 \ifbool{FormatWP}{\newline}{ }%
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
12261 \global\booltrue{\LWR@minipagethispar}%
12262 \LWR@traceinfo{\LWR@minipage: done}%
12263 }
12264
12265 \NewDocumentEnvironment{\LWR@HTML@minipage}{O{t} O{} O{t} m}
```

```

12266 { \LWR@HTML@sub@minipage{#1}{#2}{#3}{#4}}
12267 { \endLWR@HTML@sub@minipage}
12268
12269 \LWR@formattedenv{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:

```

12270 \NewDocumentCommand{\LWR@HTML@parbox}{O{t} O{} O{t} m +m}
12271 {
12272 \LWR@traceinfo{parbox of width #4}%
12273 \begin{minipage}[#1][#2][#3]{#4}%
12274 #5
12275 \end{minipage}%
12276 }
12277
12278 \LWR@formattedenv{parbox}
```

\mbox {⟨text⟩} Nullified for HTML.

```

12279 \newcommand*{\LWR@HTML@mbox}[1]{#1}
12280
12281 \LWR@formattedenv{mbox}
```

\LWR@@makebox@paren {⟨width⟩} , {⟨height⟩}

Adds to the style in \LWR@temptwo.

```

12282 \NewDocumentCommand{\LWR@@makebox@paren}{m m}{%
12283 \IfValueTF{#2}{%
12284   \setlength{\LWR@tempwidth}{#1\unitlength}%
12285   \setlength{\LWR@tempheight}{#2\unitlength}%
12286   \appto{\LWR@temptwo}{%
12287     \LWR@print@mbox{width:\LWR@printlength{\LWR@tempwidth}} ; % space
12288     \LWR@print@mbox{height:\LWR@printlength{\LWR@tempheight}} ; % space
12289   }%
12290 }{%
12291   \PackageError{lwarp}{%
12292     {(width,height) is missing a comma ',' character}%
12293     {\protect\makebox\space and \protect\framebox\space accept
12294      a size in the format (width,height).}%
12295 }%
12296 }
```

\LWR@@makebox@align {⟨alignment character⟩}

Adds to the style in \LWR@temptwo.

```

12297 \newcommand*{\LWR@makebox@align}[1]{%
12298     \def\LWR@align{center}%
12299     \ifstrequal{#1}{l}{\def\LWR@align{left}}{}%
12300     \ifstrequal{#1}{r}{\def\LWR@align{right}}{}%
12301     \ifstrequal{#1}{s}{\def\LWR@align{justify}}{}%
12302     \appto{\LWR@temptwo}{%
12303         \LWR@print@mbox{text-align:\LWR@align} ; %
12304     }%
12305 }
```

\makebox (<width,height>) [<width>] [<pos>] {<text>}

```
12306 \NewDocumentCommand{\LWR@HTML@makebox}{>{\SplitArgument{1}{,}}d() o o +m}{%
```

Build the style depending on arguments:

```

12307 \begin{\LWR@setvirtualpage}%
12308     \def\LWR@temptwo{}%
12309     \IfValueT{\#1}{%
12310         {%
12311             (\width,\height) ..
12312             \LWR@makebox@paren \#1%
12313             \IfValueT{\#2}{%
12314                 {%
12315                     (\width,\height) [posn]
12316                     \LWR@makebox@align{\#2}%
12317                 }%
12318                 \IfValueT{\#2}{%
12319                     [\width]
12320                     \IfValueT{\#2}{%
12321                         [\width]
12322                         \setlength{\LWR@tempwidth}{\#2}%
12323                         \ifdimgreater{\LWR@tempwidth}{0pt}{%
12324                             \appto{\LWR@temptwo}{%
12325                                 width:\LWR@printlength{\LWR@tempwidth} ; % space
12326                             }%
12327                         }%
12328                         \IfValueT{\#3}{%
12329                             {%
12330                                 [\width] [posn]
12331                                 \LWR@makebox@align{\#3}%
12332                             }%
12333                             \InlineClass[%
12334                                 \LWR@print@mbox{display:inline-block} ; %
12335                                 \LWR@temptwo%
12336                             ]%
12337                             {#4}%
12338                         \end{\LWR@setvirtualpage}%
12339                     }%
12340 \LWR@formatted{makebox}
```

```
\framebox {<width,height>} [<width>] [<pos>] {<text>}

12341 \NewDocumentCommand{\LWR@HTML@framebox}{d() o o +m}{%
12342     \fbox{\makebox[#1][#2][#3]{#4}}%
12343 }
12344
12345 \LWR@formatted{framebox}
```

\LWR@forceminwidth {<length>}

Sets \LWR@atleastonept to be at least 1pt.

```
12346 \newlength{\LWR@atleastonept}
12347
12348 \newcommand*{\LWR@forceminwidth}[1]{%
12349 \setlength{\LWR@atleastonept}{#1}%
12350 \ifthenelse{%
12351     \lengthtest{\LWR@atleastonept>0pt}\AND%
12352     \lengthtest{\LWR@atleastonept<1pt}}%
12353 }%
12354     {\setlength{\LWR@atleastonept}{1pt}}%
12355     {}%
12356 }
```

\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.

```
12357 \newcommand*{\LWR@fboxstyle}{%
12358 \LWR@findcurrenttextcolor%
12359 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@origpound\LWR@tempcolor ; %
12360 padding:\LWR@printlength{\fboxsep} ; %
12361 color:\LWR@origpound\LWR@tempcolor%
12362 }
```

\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:

```
12363 \newcommand{\LWR@HTML@fbox}[1]{%
12364 \LWR@traceinfo{HTML fbox}%
12365 \LWR@forceminwidth{\fboxrule}%
12366 \InlineClass[%
12367     \LWR@print@mbox{display:inline-block} ; %
12368     \LWR@fboxstyle%
12369 ]{\fbox}{#1}%
12370 }
```

xcolor \lets things to \fbox when it is loaded, and this must remain even for HTML output while in a lateximage, so \fbox is not modified until \AtBeginDocument:

```
12371 \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:

```
12372 \end{warpHTML}
12373 \begin{warpall}
12374 \let\fboxBlock\fbox
12375 \end{warpall}
12376
12377 \begin{warpHTML}
```

for HTML output: Next, an HTML version:

```
12378 \newcommand{\LWR@HTML\fboxBlock}[1]{%
12379 \LWR@forceminwidth{\fboxrule}%
12380 \LWR@stoppars%
12381 \begin{BlockClass}[%
```

`12382 \LWR@fboxstyle%`
`12383]{\fboxBlock}`
`12384 #1`
`12385 \end{BlockClass}`
`12386 \LWR@startpars%`
`12387 }`
`12388`
`12389 \LWR@formatted{\fboxBlock}`
`12390`
`12391 \end{warpHTML}`

Env fminipage [*align*] [*height*] [*align*] {*width*}

Creates a framed HTML <div> around its contents.

for HTML & PRINT: Print version:

```
12392 \begin{warpall}
12393
12394 \newsavebox{\LWR@fminipagebox}
12395
12396 \NewDocumentEnvironment{\LWR@print\fminipage}{O{t} o O{t} m}
12397 {%
```

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:

```
12398 \IfValueTF{#3}{%
12399 {\def\LWR@thisalign{#3}}%
12400 {\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.

```
12401 \IfValueTF{#2}{%
```

```
12402 {\minipage[#1][#2+2\fboxsep+2\fboxrule][\LWR@thisalign]{#4+2\fboxsep+2\fboxrule}}%
12403 {\minipage[#1]{#4+2\fboxsep+2\fboxrule}}%
```

Capture the contents of the environment:

```
12404 \begin{lrbox}{\LWR@fminipagebox}%
```

Nest the contents inside an inner minipage of the desired size:

```
12405 \IfValueT{#2}%
12406 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
12407 {\minipage[#1]{#4}}%
12408 }%
12409 {%
```

Close the inner minipage and the LR box with the contents:

```
12410 \endminipage%
12411 \end{lrbox}%
```

Create a frame around the contents of the environment:

```
12412 \fbox{\usebox{\LWR@fminipagebox}}%
```

The entire thing is placed inside the outer minipage:

```
12413 \endminipage%
12414 }%
12415
12416 \LetLtxMacro\fminipage\LWR@print@fminipage
12417 \LetLtxMacro\endfminipage\endLWR@print@fminipage
12418 % \newenvironment{fminipage}{\LWR@print@fminipage}{\endLWR@print@fminipage}
12419
12420 \end{warpall}
```

HTML version:

for HTML output:

```
12421 \begin{warpHTML}%
12422
12423 \NewDocumentEnvironment{\LWR@HTML@fminipage}{O{t} o O{t} m}%
12424 {%
12425 \LWR@traceinfo{fminipage #1 #2 #3 #4}%
```

Locally change to the virtual page size before processing the requested sizes:

```
12426 \begin{LWR@setvirtualpage}%
12427 \setlength{\LWR@tempwidth}{#4}%
12428 \IfValueT{#2}{\setlength{\LWR@tempheight}{#2}}%
```

Use a rule of at least one pixel in width:

```
12429 \LWR@forceminwidth{\fboxrule}%
```

```
12430 \LWR@stopars%
```

```

12431 \begin{BlockClass}[%  

12432 \LWR@fboxstyle ; %  

12433 \IfValueT{\#2}{height:\LWR@printlength{\LWR@tempheight} ; }%  

12434 \ifbool{\LWR@minipagefullwidth}{%  

12435 {\global\boolfalse{\LWR@minipagefullwidth}}%  

12436 {  

12437     \ifbool{\LWR@forceminipagefullwidth}{%  

12438         {}%  

12439         {  

12440             \ifdimequal{\LWR@tempwidth}{\linewidth}{%  

12441                 {}%  

12442                 {width:\LWR@printlength{\LWR@tempwidth} ; }%  

12443             }%  

12444 }%  

12445 ]{\fminipage}{%  

12446 }  

12447 {  

12448 \end{BlockClass}%  

12449 \end{\LWR@setvirtualpage}}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

12450 \global\booltrue{\LWR@minipagethispar}%  

12451 \LWR@traceinfo{fminipage done}%  

12452 }  

12453  

12454 \LWR@formattede{fminipage}  

  

\raisebox {\raiseboxlen} [\height] [\depth] {\text}  

  

12455 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%  

12456 #4%  

12457 }  

12458  

12459 \LWR@formatted{raisebox}  

  

12460 \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: 12461 \begin{warpall}

Bool FixSmallCaps User may set FixSmallCaps to true if small caps are being incorrectly rendered as all caps.

```
12462 \newbool{FixSmallCaps}  
12463 \boolefalse{FixSmallCaps}  
  
12464 \end{warpall}
```

for HTML output: 12465 \begin{warpHTML}

```
\emph {<text>}  
  
12466 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%  
12467   {  
12468     \LWR@HTML@itshape%  
12469     \LWR@htmlspan{em}{#1}%  
12470   }%  
12471 }  
12472  
12473 \LWR@formatted{emph}
```

```
\textmd {<text>}  
  
12474 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%  
12475   {  
12476     \LWR@HTML@mdseries%  
12477     \InlineClass(font-weight:normal){textmd}{#1}%  
12478   }%  
12479 }  
12480  
12481 \LWR@formatted{textmd}
```

```
\textbf {<text>}  
  
12482 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%  
12483   {  
12484     \LWR@HTML@bfseries%  
12485     \LWR@htmlspan{b}{#1}%  
12486   }%  
12487 }  
12488  
12489 \LWR@formatted{textbf}
```

\texteb {<text>} From `nfssext-cfr`.

```
12490 \DeclareRobustCommand{\LWR@HTML@texteb}[1]{%
12491     {%
12492         \LWR@HTML@ebweight%
12493         \InlineClass{texteb}{#1}%
12494     }%
12495 }
12496
12497 \LWR@formatted{texteb}
```

\textlg {*text*} From **nfssext-cfr**.

```
12498 \DeclareRobustCommand{\LWR@HTML@textlg}[1]{%
12499     {%
12500         \LWR@HTML@lgweight%
12501         \InlineClass{textlg}{#1}%
12502     }%
12503 }
12504
12505 \LWR@formatted{textlg}
```

\textrm {*text*}

```
12506 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%
12507     {%
12508         \LWR@HTML@rmfamily%
12509         \InlineClass{font-family:serif}{textrm}{#1}%
12510     }%
12511 }
12512
12513 \LWR@formatted{textrm}
```

\textsf {*text*}

```
12514 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%
12515     {%
12516         \LWR@HTML@sffamily%
12517         \InlineClass{font-family:sans}{textsf}{#1}%
12518     }%
12519 }
12520
12521 \LWR@formatted{textsf}
```

\texttt {*text*}

```
12522 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%
12523     {%
12524         \LWR@HTML@ttfamily%
12525         \LWR@htmlspan{kbd}{#1}%
12526     }%
12527 }
12528
12529 \LWR@formatted{texttt}
```

```
\textup {<text>}

12530 \DeclareRobustCommand{\LWR@HTML@textup}[1]{%
12531   {%
12532     \LWR@HTML@upshape%
12533     \InlineClass{font-style:normal}{textup}{#1}%
12534   }%
12535 }
12536
12537 \LWR@formatted{textup}

\textit {<text>}

12538 \DeclareRobustCommand{\LWR@HTML@textit}[1]{%
12539   {%
12540     \LWR@HTML@itshape%
12541     \LWR@htmlspan{i}{#1}%
12542   }%
12543 }
12544
12545 \LWR@formatted{textit}

\textsc {<text>}

12546 \DeclareRobustCommand{\LWR@HTML@textsc}[1]{%
12547   {%
12548     \LWR@HTML@scshape%
12549     \InlineClass{textsc}{#1}%
12550   }%
12551 }
12552
12553 \LWR@formatted{textsc}

\textulc {<text>} From fontaxes.

12554 \DeclareRobustCommand{\LWR@HTML@textulc}[1]{%
12555   {%
12556     \LWR@HTML@ulcshape%
12557     \InlineClass{textulc}{#1}%
12558   }%
12559 }
12560
12561 \LWR@formatted{textulc}

\textsi {<text>}

12562 @ifundefined{textsi}{
12563   \LetLtxMacro{\LWR@print@textsi}{\LWR@print@textsc}
12564 }{%
12565
12566 \DeclareRobustCommand{\LWR@HTML@textsi}[1]{%
12567   {%
```

```
12568      \LWR@HTML@sishape%
12569      \textsc{\textit{#1}}%
12570 %      \InlineClass(
12571 %          font-style: italic;
12572 %          font-variant: small-caps ;
12573 %          font-variant-numeric: oldstyle-nums ;
12574 %      ){\textsi{#1}}%
12575  }%
12576 }
12577
12578 \LWR@formatted{textsi}

\textsl {<text>}

12579 \DeclareRobustCommand{\LWR@HTML@textsl}[1]{%
12580   {%
12581     \slshape%
12582     \InlineClass(font-style:oblique){textsl}{#1}%
12583   }%
12584 }
12585
12586 \LWR@formatted{textsl}

\textssc {<text>}

12587 \newrobustcmd{\LWR@HTML@textssc}[1]{\textsc{#1}}
12588 \LWR@formatted{textssc}

\textnormal {<text>}

12589 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{\textmd{\textrm{\textup{#1}}}}
12590
12591 \LWR@formatted{textnormal}

12592 \FilenameNullify{%
12593   \LetLtxMacro{\emph}{\firstofone}%
12594   \LetLtxMacro{\textmd}{\firstofone}%
12595   \LetLtxMacro{\textbf}{\firstofone}%
12596   \LetLtxMacro{\texteb}{\firstofone}%
12597   \LetLtxMacro{\textlg}{\firstofone}%
12598   \LetLtxMacro{\textrm}{\firstofone}%
12599   \LetLtxMacro{\textsf}{\firstofone}%
12600   \LetLtxMacro{\texttt}{\firstofone}%
12601   \LetLtxMacro{\textup}{\firstofone}%
12602   \LetLtxMacro{\textit}{\firstofone}%
12603   \LetLtxMacro{\textsc}{\firstofone}%
12604   \LetLtxMacro{\textulc}{\firstofone}%
12605   \LetLtxMacro{\textsi}{\firstofone}%
12606   \LetLtxMacro{\textsl}{\firstofone}%
12607   \LetLtxMacro{\textssc}{\firstofone}%
12608   \LetLtxMacro{\textnormal}{\firstofone}%
12609 }
```

Remembers the current font family, series, and shape. `fontaxes` support is integrated here.

```
12610 \newcommand*{\LWR@f@family}{rm}
12611 \newcommand*{\LWR@f@series}{md}
12612 \newcommand*{\LWR@f@shape}{up}
12613 \newcommand*{\LWR@f@shapecaps}{ulc}
```

`\LWR@textcurrentfont {<text>}`

Prints the text with the current font choices. Avoids nesting repeated font selections.

```
12614 \newcounter{LWR@textcurrentfontdepth}
12615 \setcounter{LWR@textcurrentfontdepth}{0}
12616
12617 \newcommand*{\LWR@textcurrentfont}[1]{%
12618     \ifnumcomp{\value{LWR@textcurrentfontdepth}}{>}{0}{%
12619         {%
12620             \addtocounter{LWR@textcurrentfontdepth}{1}%
12621             #1%
12622             \addtocounter{LWR@textcurrentfontdepth}{-1}%
12623         }%
12624     {%
12625         \addtocounter{LWR@textcurrentfontdepth}{1}%
12626         \InlineClass{%
12627             text\LWR@f@family\LWR@origtilde{}%
12628             text\LWR@f@series\LWR@origtilde{}%
12629             text\LWR@f@shape\LWR@origtilde{}%
12630             text\LWR@f@shapecaps%
12631         }%
12632         {#1}%
12633         \addtocounter{LWR@textcurrentfontdepth}{-1}%
12634     }%
12635 }
```

Env `LWR@blocktextcurrentfont` Prints the contents with the current font choices.

```
12636 \newenvironment*{\LWR@blocktextcurrentfont}{%
12637 \LWR@stoppars%
12638 \BlockClass{%
12639     text\LWR@f@family\LWR@origtilde{}%
12640     text\LWR@f@series\LWR@origtilde{}%
12641     text\LWR@f@shape\LWR@origtilde{}%
12642     text\LWR@f@shapecaps%
12643 }%
12644 }{\endBlockClass\LWR@startpars}
```

`\mdseries`

```
12645 \newrobustcmd*{\LWR@HTML@mdseries}{%
12646     \LWR@print@mdseries%
12647     \renewcommand*{\LWR@f@series}{md}%
12648 }
```

```
12648 }
12649 \LWR@formatted{mdseries}

\bfseries

12650 \newrobustcmd*{\LWR@HTML@bfseries}{%
12651     \LWR@print@bfseries%
12652     \renewcommand*{\LWR@f@series}{bf}%
12653 }
12654 \LWR@formatted{bfseries}
```

\ebweight From nfssext-cfr.

```
12655 \newrobustcmd*{\LWR@HTML@ebweight}{%
12656     \LWR@print@ebweight%
12657     \renewcommand*{\LWR@f@series}{eb}%
12658 }
12659 \LWR@formatted{ebweight}
```

\lgweight From nfssext-cfr.

```
12660 \newrobustcmd*{\LWR@HTML@lgweight}{%
12661     \LWR@print@lgweight%
12662     \renewcommand*{\LWR@f@series}{lg}%
12663 }
12664 \LWR@formatted{lgweight}
```

\rmfamily

```
12665 \newrobustcmd*{\LWR@HTML@rmfamily}{%
12666     \LWR@print@rmfamily%
12667     \renewcommand*{\LWR@f@family}{rm}%
12668 }
12669 \LWR@formatted{rmfamily}
```

\sffamily

```
12670 \newrobustcmd*{\LWR@HTML@sffamily}{%
12671     \LWR@print@sffamily%
12672     \renewcommand*{\LWR@f@family}{sf}%
12673 }
12674 \LWR@formatted{sffamily}
```

\ttfamily

```
12675 \newrobustcmd*{\LWR@HTML@ttfamily}{%
12676     \LWR@print@ttfamily%
12677     \renewcommand*{\LWR@f@family}{tt}%
12678 }
12679 \LWR@formatted{ttfamily}
```

The following use \AtBeginDocument due to the L^AT_EX core \reinstall@nfss@defs, which redefines these \AtBeginDocument. See **texdoc source2e**.

\upshape

```
12680 \newrobustcmd*\{LWR@HTML@upshape}{%
12681     \LWR@print@upshape%
12682     \renewcommand*\{LWR@f@shape}{up}%
12683 }
12684 \AtBeginDocument{\LWR@formatted{upshape}}
```

\itshape

```
12685 \newrobustcmd*\{LWR@HTML@itshape}{%
12686     \LWR@print@itshape%
12687     \renewcommand*\{LWR@f@shape}{it}%
12688 }
12689 \AtBeginDocument{\LWR@formatted{itshape}}
```

\scshape Note: \LWR@print@scshape is not used here since some fonts, such as erewhon, copy/paste as all-caps.

```
12690 \newrobustcmd*\{LWR@HTML@scshape}{%
12691     \ifbool{FixSmallCaps}{}{%
12692         \LWR@print@scshape%
12693     }%
12694     \renewcommand*\{LWR@f@shapecaps}{sc}%
12695 }
12696 \AtBeginDocument{\LWR@formatted{scshape}}
```

\ulcshape From fontaxes.

```
12697 @ifundefined{ulcshape}{
12698     \LetLtxMacro\ulcshape\upshape
12699 }{%
12700 \newrobustcmd*\{LWR@HTML@ulcshape}{%
12701     \LWR@print@ulcshape%
12702     \renewcommand*\{LWR@f@shapecaps}{ulc}%
12703 }
12704 \AtBeginDocument{\LWR@formatted{ulcshape}}}
```

\sishape

```
12705 @ifundefined{sishape}{
12706     \LetLtxMacro\sishape\scshape
12707 }{%
12708 \newrobustcmd*\{LWR@HTML@sishape}{%
12709     \ifbool{FixSmallCaps}{}{%
12710         \LWR@print@sishape%
12711     }%
12712     \renewcommand*\{LWR@f@shape}{it}
```

```
12713     \renewcommand*{\LWR@f@shapecaps}{sc}%
12714 }
12715 \AtBeginDocument{\LWR@formatted{sishape}}


\slshape

12716 \newrobustcmd*{\LWR@HTML@slshape}{%
12717     \LWR@print@slshape%
12718     \renewcommand*{\LWR@f@shape}{sl}%
12719 }
12720 \AtBeginDocument{\LWR@formatted{slshape}}


\sscshape

12721 \newrobustcmd{\LWR@HTML@sscshape}{\LWR@HTML@scshape}
12722 \AtBeginDocument{\LWR@formatted{sscshape}}


\normalfont

12723 \newrobustcmd*{\LWR@HTML@normalfont}{\rmfamily\mdseries\upshape\ulcshape}
12724 \LWR@formatted{normalfont}

12725 \FilenameNullify{%
12726     \LetLtxMacro\rmfamily\empty%
12727     \LetLtxMacro\sffamily\empty%
12728     \LetLtxMacro\ttfamily\empty%
12729     \LetLtxMacro\bfseries\empty%
12730     \LetLtxMacro\ebweight\empty%
12731     \LetLtxMacro\lgweight\empty%
12732     \LetLtxMacro\mdseries\empty%
12733     \LetLtxMacro\upshape\empty%
12734     \LetLtxMacro\slshape\empty%
12735     \LetLtxMacro\sishape\empty%
12736     \LetLtxMacro\scshape\empty%
12737     \LetLtxMacro\itshape\empty%
12738     \LetLtxMacro\ulcshape\empty%
12739     \LetLtxMacro\sscshape\empty%
12740     \LetLtxMacro\normalfont\empty%
12741 }

\sp {<text>}

For siunitx. Must work in math mode.

12742 \renewcommand{\sp}[1]{\text{<sup>#1</sup>}{}}
```

\sb {<text>}

For siunitx. Must work in math mode.

```
12743 \renewcommand{\sb}[1]{\text{<sub>#1</sub>}{}}
```

```
\textsuperscript {<text>}

12744 \newrobustcmd{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
12745 \LWR@formatted{textsuperscript}

\@textsuperscript {<text>}

12746 \newcommand{\LWR@HTML@@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
12747 \LWR@formatted{@textsuperscript}

\textsubscript {<text>}

12748 \newrobustcmd{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
12749 \LWR@formatted{textsubscript}

\@textsubscript {<text>}

12750 \newcommand{\LWR@HTML@@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
12751 \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.

```
12752 \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.

```
12753 \AtBeginDocument{\let\fup\textsuperscript}
```

\underline {<text>}

```
12754 \renewcommand{\underline}[1]{%
12755   \InlineClass%
12756   (text-decoration:underline; text-decoration-skip: auto)%
12757   {underline}{#1}%
12758 }
```

\LWR@overline {<text>}

```
12759 \newcommand{\LWR@overline}[1]{%
12760   \InlineClass%
12761   (text-decoration:overline; text-decoration-skip: auto)%
12762   {overline}{#1}%
12763 }
```

\LWR@currenttextcolor The color to use for text and \rule, defaulting to black:

```
12764 \newcommand*\{\LWR@currenttextcolor\}{black}
```

\LWR@tempcolor The color converted to HTML colorspace.

\LWR@tempcolortwo

```
12765 \newcommand*\{\LWR@tempcolor\}{}  
12766 \newcommand*\{\LWR@tempcolortwo\}{}  
12767 }
```

\LWR@findcurrenttextcolor Sets \LWR@tempcolor to the current color.

```
12767 \newcommand*\{\LWR@findcurrenttextcolor\}{%  
12768 \renewcommand{\LWR@tempcolor}{000000}%  
12769 }
```

\LWR@textcurrentcolor {\langle text\rangle} Like \textcolor but uses the current \color instead.

```
12770 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%  
12771     \renewcommand*\{\LWR@currenttextcolor\}{black}%  
12772     #1%  
12773 }
```

```
12774 \end{warpHTML}
```

for PRINT output: 12775 \begin{warpprint}

\LWR@textcurrentfont {\langle text\rangle}

Prints the text with the current font choices.

```
12776 \newcommand*\{\LWR@textcurrentfont\}[1]{#1}
```

Env \LWR@blocktextcurrentfont Prints the contents with the current font choices.

```
12777 \newenvironment*\{\LWR@blocktextcurrentfont\}{}{}
```

\FilenameNullify {\langle macros to nullify\rangle}

```
12778 \newcommand*\{\FilenameNullify\}[1]{}
```

```
12779 \end{warpprint}
```

94 Skips, spaces, font sizes

for HTML output: 12780 \begin{warpHTML}

\, and \thinspace may be redefined by other packages, so are redefined \AtBeginDocument here.

Direct-formatting space commands become HTML entities:

```
12781 \AtBeginDocument{
12782 \renewrobustcmd*\{\ \}{\HTMLUnicode{202f}} % HTML thin non-breakable space
12783 \renewrobustcmd*\{\thinspace\}{\HTMLUnicode{202f}} % HTML thin non-breakable space
12784 \renewrobustcmd*\{\negthinspace\}{\HTMLUnicode{202f}} % HTML thin non-breakable space
12785 \renewrobustcmd*\{\~{}\}{\HTMLEntity{nbsp}}
12786 \renewrobustcmd*\{\textellipsis\}{\HTMLUnicode{2026}}
12787 \renewrobustcmd*\{\vdots\}{\HTMLUnicode{22EE}}
12788 }
```

Direct-formatting font sizes are remembered for future use:

```
12789 \newcommand*\{LWR@font@size\}{normalsize}
12790
12791 \newrobustcmd*\{LWR@HTML@normalsize\}{\renewcommand*\{LWR@font@size\}{normalsize}}
12792 \LWR@formatted{normalsize}
12793
12794 \newrobustcmd*\{LWR@HTML@small\}{\renewcommand*\{LWR@font@size\}{small}}
12795 \LWR@formatted{small}
12796
12797 \newrobustcmd*\{LWR@HTML@footnotesize\}{\renewcommand*\{LWR@font@size\}{footnotesize}}
12798 \LWR@formatted{footnotesize}
12799
12800 \newrobustcmd*\{LWR@HTML@scriptsize\}{\renewcommand*\{LWR@font@size\}{scriptsize}}
12801 \LWR@formatted{scriptsize}
12802
12803 \newrobustcmd*\{LWR@HTML@tiny\}{\renewcommand*\{LWR@font@size\}{tiny}}
12804 \LWR@formatted{tiny}
12805
12806 \newrobustcmd*\{LWR@HTML@large\}{\renewcommand*\{LWR@font@size\}{large}}
12807 \LWR@formatted{large}
12808
12809 \newrobustcmd*\{LWR@HTML@Large\}{\renewcommand*\{LWR@font@size\}{Large}}
12810 \LWR@formatted{Large}
12811
12812 \newrobustcmd*\{LWR@HTML@LARGE\}{\renewcommand*\{LWR@font@size\}{LARGE}}
12813 \LWR@formatted{LARGE}
12814
12815 \newrobustcmd*\{LWR@HTML@huge\}{\renewcommand*\{LWR@font@size\}{huge}}
12816 \LWR@formatted{huge}
12817
12818 \newrobustcmd*\{LWR@HTML@Huge\}{\renewcommand*\{LWR@font@size\}{Huge}}
12819 \LWR@formatted{Huge}

12820 \DeclareDocumentCommand{\onecolumn}{}{ }
12821
12822 \DeclareDocumentCommand{\twocolumn}{O{}}{ }
12823
12824 #1
12825
```

```
12826 }

\nhfill

12827 \newcommand*{\LWR@HTML@hfill}{\qquad}
12828 \LWR@formatted{hfill}

\hrulefill

12829 \newcommand*{\LWR@HTML@hrulefill}{%
12830     \ifbool{LWR@doingapar}{%
12831         {\rule{1in}{1pt}}{%
12832             {%
12833                 \LWR@findcurrenttextcolor{%
12834                     \ifdefstring{\LWR@tempcolor}{000000}{%
12835                         {%
12836                             \begin{BlockClass}{hrule}{%
12837                                 \end{BlockClass}}{%
12838                         }{%
12839                         {%
12840                             \begin{BlockClass}{[%
12841                                 border-top: 1px solid \LWR@origpound\LWR@tempcolor % space
12842                                 ]}{hrule}{%
12843                                     \end{BlockClass}}{%
12844                         }{%
12845                     }{%
12846             }{%
12847 \LWR@formatted{hrulefill}}}
```

\dotfill

```
12848 \newcommand*{\LWR@HTML@dotfill}{\dots}
12849 \LWR@formatted{dotfill}
```

\newpage

```
12850 \renewcommand*{\newpage}{%
12851
12852 }
```

\newline Uses the HTML
 element.

```
12853 \newrobustcmd*{\LWR@newlinebr}{\unskip\LWR@htmltag{br /}\LWR@orignewline}%
12854 \LetLtxMacro{\newline}{\LWR@newlinebr}
```

\\\ Redefined to \LWR@endofline or \LWR@tabularendofline.

```
\LWR@endofline * [\langle len\rangle]
```

\\\ is assigned to \LWR@endofline at \LWR@LwarpStart.

Inside tabular, \\ is temporarily changed to \LWR@tabularendofline.

```

12855 \LetLtxMacro{\LWR@origendofline} \\
12856 \NewDocumentCommand{\LWR@endofline}{s O{0pt}}{%
12857 {%
12858 \newline%}

12859 \setlength{\LWR@templengthone}{#2}%
12860 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{()}%
12861 }

```

\LWR@minipagestartpars Minipages are often placed side-by-side inside figures, with a bit of horizontal space to separate them. Since HTML does not allow a <div> to be inside a p, paragraphs must be turned off during the generation of the minipage, then turned on after the minipage is complete. When this occurs between side-by-side minipages, l warp correctly suppresses the paragraph tags between the minipages, unless some other text is between the minipages. Such text forms its own paragraph, resulting in text after a minipage to be on its own line. Since people often place small horizontal space between minipages, it is desirable to maintain this space if possible. l warp tries to do this by remembering that a minipage has been seen, in which case paragraph tags are suppressed around \hspace, \enskip, \quad, and \qquad until the end of the paragraph, when the closing p tag is created.

When a minipage is seen, the boolean \LWR@minipagethispar is set, telling the following horizontal whitespace commands to try to suppress their surrounding paragraph tags. \LWR@minipagethispar is cleared at the next end of paragraph, when the HTML paragraph closing tag is generated.

Placed just before \hspace, \quad, or \qquad's HTML output.

```

12862 \newcommand*{\LWR@minipagestartpars}{%
12863     \ifbool{\LWR@minipagethispar}{\LWR@startpars}{()}%
12864 }

```

\LWR@minipagestopars Placed just after \hspace, \quad, or \qquad's HTML output.

```

12865 \newcommand*{\LWR@minipagestopars}{%
12866     \ifbool{\LWR@minipagethispar}{\LWR@stopars}{()}%
12867 }

```

\quad Handles special minipage & horizontal space interactions. Uses 2003 EM SPACE to pass validation.

```

12868 \renewrobustcmd*{\quad}{%
12869     \LWR@minipagestopars%
12870     \HTMLunicode{2003}%
12871     \LWR@minipagestartpars%
12872 }

```

\qquad Handles special minipage & horizontal space interactions.

```
12873 \renewrobustcmd*{\qquad}{\quad\quad}
```

\enskip Handles special minipage & horizontal space interactions.

```
12874 \renewrobustcmd{\enskip}{%
12875   \LWR@minipagestoppars%
12876   \HTMLunicode{2002}%
12877   \LWR@minipagestartpars%
12878 }
```

Len \LWR@tempwidth Used to compute span width, height, raise for \hspace and \rule:

```
Len \LWR@tempheight
12879 \newlength{\LWR@tempwidth}
Len \LWR@tempraise
12880 \newlength{\LWR@tempheight}
12881 \newlength{\LWR@tempraise}
```

\LWR@select@html@hskip * {\langle length\rangle} * {\langle length\rangle}
\hskip

Handles special minipage & horizontal space interactions.

Prints a span of a given width. Ignores the optional star.

\hskip{\fill} is converted to \hskip{2em}, equal to \qqquad.

```
12882 \newcommand{\LWR@select@html@hskip}{%
12883 \RenewDocumentCommand{\hskip}{s m}{%
12884 \setlength{\LWR@tempwidth}{##2}%

```

If \fill, change to \qqquad:

```
12885 \ifnum\gluestretchorder\LWR@tempwidth>0%
12886 \setlength{\LWR@tempwidth}{2em}%
12887 \fi%
```

Only if the width is greater than zero:

```
12888 \ifdimcomp{\LWR@tempwidth}{>}{0pt}{%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
12889 \LWR@minipagestoppars%
```

Support the HTML thin wrappable space:

```
12890 \ifdimcomp{\LWR@tempwidth}{=}{.16667em}%
12891 {%
12892   \HTMLunicode{2009}%
12893 }% thin breakable space
```

Print the span with the converted width. Not rounded.

```
12894 {%
12895   \LWR@htmltagc{%
12896     span style="width:\LWR@printlength{\LWR@tempwidth}; % extra space
```

```
12897           display:inline-block"%  
12898 }%
```

If formatting for a word processor, approximate with a number of \quads, in case a span of a given width is not supported:

```
12899     \ifbool{FormatWP}{%  
12900         \setlength{\LWR@templengthone}{\LWR@tempwidth}%  
12901         \whiledo{\lengthtest{\LWR@templengthone>1em}}{  
12902             \quad%  
12903             \addtolength{\LWR@templengthone}{-1em}}%  
12904         }%  
12905     }%
```

If NOT formatting for a word processor, include an empty comment to avoid an empty span:

```
12906     {\LWR@htmlcomment{} }%
```

Close the span:

```
12907     \LWR@htmlltagc{/span} %  
12908 }
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
12909     \LWR@minipagestartpars%  
12910 }{ }% width greater than 0  
12911 }%  
12912 }
```

```
\LWR@select@html@nohspase * {<length>}  
\hspase  
Used to disable \hspase while creating description \items.
```

```
12913 \newcommand{\LWR@select@html@nohspase}{%  
12914     \RenewDocumentCommand{\hspase}{s m}{ }%  
12915 }
```

```
\LWR@select@print@hspase  
  
12916 \newcommand*{\LWR@select@print@hspase}{%  
12917     \renewrobustcmd\hspase{@ifstar@hspacer@hspase}{ }%  
12918 }
```

```
\hspase * {<length>}
```

Handles special minipage & horizontal space interactions.

```
12919 \LWR@select@html@hspase
```

\LWR@vspace * {*length*} Nullified vspace.

```
12920 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}  
12921  
12922 \LWR@formatted{vspace}
```

\linebreak [*num*] Inserts an HTML br tag.

```
12923 \renewcommand*\linebreak[1][]{\newline}
```

\nolinebreak [*num*]

```
12924 \renewcommand*\nolinebreak[1][]{}
```

\pagebreak [*num*] Starts a new paragraph.

```
12925 \renewcommand*\pagebreak[1][]{  
12926  
12927 }
```

\nopagebreak [*num*]

```
12928 \renewcommand*\nopagebreak[1][]{}
```

\enlarge thispage * {*len*}

```
12929 \RenewDocumentCommand{\enlarge thispage}{s m}{}  
  
\clearpage  
\cleardoublepage
```

```
12930 \renewcommand*\clearpage{}  
12931 \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.

```
12932 \newcommand*\LWR@HTML@rule[3][]{%
```

The width is copied into a temporary L^AT_EX length, from which comparisons and conversions may be made:

```
12933 \setlength{\LWR@tempwidth}{#2}%
```

If it's zero-width then skip the entire rule:

```
12934 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}%
12935 {}% zero- width
12936 {% non-zero width
```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```
12937 \ifthenelse{%
12938   \lengthtest{\LWR@tempwidth>0pt}\AND%
12939   \lengthtest{\LWR@tempwidth<1pt}%
12940 }%
12941   {\setlength{\LWR@tempwidth}{1pt}}%
12942 {}%
```

Likewise with height:

```
12943 \setlength{\LWR@tempheight}{#3}%
12944 \ifthenelse{%
12945   \lengthtest{\LWR@tempheight>0pt}\AND%
12946   \lengthtest{\LWR@tempheight<1pt}%
12947 }%
12948   {\setlength{\LWR@tempheight}{1pt}}%
12949 {}%
```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```
12950 \LWR@minipagestopars%
```

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^AT_EX code.

```
12951 \LWR@findcurrenttextcolor%
12952 \LWR@htmntagc{%
12953 span\LWR@indentHTML%
12954 style="%"
```

The HTML background color is used to draw the filled rule according to the L^AT_EX foreground color set by \textcolor.

```
12955 \ifbool{FormatWP}{}{background:\LWR@currenttextcolor ; }%
```

The width and height are printed, converted to PT:

```
12956 width:\LWR@printlength{\LWR@tempwidth} ; %
12957 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^AT_EX length allows a typical L^AT_EX expression to be used as an argument for the raise, whereas printing the raise argument directly to HTML output without conversion to a L^AT_EX length limits the

allowable syntax. To do: A superior method would compute a ratio of L^AT_EX ex height, then print that to HTML with an ex unit.

```

12958     \ifblank{#1}%
12959     {}%
12960     {%
12961         \setlength{\LWR@tempraise}{0pt-#1}%
12962         \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
12963         \LWR@indentHTML%
12964         -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
12965         \LWR@indentHTML%
12966         -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
12967         \LWR@indentHTML%
12968         transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
12969         \LWR@indentHTML%
12970     }%

```

Display inline-block to place the span inline with the text:

```

12971     display:inline-block;"\LWR@orignewline%
12972     }%

```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```

12973     \ifbool{FormatWP}{%
12974         \setlength{\LWR@templengthone}{\LWR@tempwidth}%
12975         \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
12976             \_{}%
12977             \addtolength{\LWR@templengthone}{-1em}%
12978         }%
12979     }%

```

If NOT formatting for a word processor, add a comment to avoid an empty :

```

12980     {\LWR@htmlcomment{}}

```

Close the span:

```

12981     \LWR@htmlltagc{/span}%

```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

12982     \LWR@minipagestartpars%
12983 }% non-zero width
12984 }
12985
12986 \LWR@formatted{rule}

12987 \end{warpHTML}

```

95 \phantomsection

for HTML output: 12988 \begin{warpHTML}

\LWR@phantomsection Emulate the hyperref \phantomsection command, often used to insert the bibliography into the table of contents. Ignores \ForceHTMLTOC.

```
12989 \newrobustcmd*\LWR@phantomsection}{%
12990     \begingroup%
12991     \boolfalse{\LWR@forcinghtmltoc}%
12992     \section*{}%
12993     \endgroup%
12994 }%
```

```
12995 \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: 12996 \begin{warpall}

```
12997 \newbool{\LWR@warnXe}
12998 \boolfalse{\LWR@warnXe}
12999
13000 \newrobustcmd*\Xe{%
13001     \raisebox{-.5ex}{E}%
13002     \hspace{-.1667em}%
13003     \global\booltrue{\LWR@warnXe}%
13004 }
13005
13006 \AtBeginDocument{%
13007     \@ifpackageloaded{graphics}{%
13008         \@ifpackageloaded{metalogo}{%
13009             \renewrobustcmd*\Xe{%
13010                 \raisebox{-.5ex}{\reflectbox{E}}%
13011             }%
13012         }%
13013     }%
13014
13015 \AtEndDocument{%
13016     \ifbool{\LWR@warnXe}{%
```

```

13017      \PackageWarningNoLine{lwarp}{Load graphicx or graphics
13018          for improved XeTeX logo}
13019  }()
13020 }
13021
13022 \providerobustcmd*{\XeTeX}{\mbox{\Xe\hspace{-.125em}\TeX}}
13023 \providerobustcmd*{\XeLaTeX}{\mbox{\Xe\hspace{-.125em}\LaTeX}}
13024 \providerobustcmd*{\AmS}{%
13025     \leavevmode\hbox{$\mathcal A$\kern-.2em\lower.376ex%
13026     \hbox{$\mathcal M$}\kern-.2em$\mathcal S$}%
13027 }
13028 \newrobustcmd*{\LyX}{\textsf{LyX}}
13029 \providerobustcmd*{\LuaTeX}{\mbox{Lua\TeX}}
13030 \providerobustcmd*{\LuaLaTeX}{\mbox{Lua\LaTeX}}
13031 \providerobustcmd*{\BibTeX}{\mbox{B\textsc{ib}\TeX}}
13032 \providerobustcmd*{\MakeIndex}{\mbox{\textit{MakeIndex}}}
13033 \providerobustcmd*{\ConTeXt}{\mbox{Con\TeX{}t}}
13034 \providerobustcmd*{\MiKTeX}{\mbox{MiK\TeX}}
13035 \end{warpall}

```

for HTML output: 13036 \begin{warpHTML}

The print-mode versions of the following may be changed by **metalogo**, so their print formatting is recorded \AtBeginDocument.

\TeX \TeX

`latexlogo` is a css class used to properly typeset the E and A in L^AT_EX and friends.

`latexlogofont` is a css class used to select the font for the rest of the logo in L^AT_EX, LuaTeX, ConTeXt, etc.

```

13037 \newrobustcmd*{\LWR@HTML@TeX}
13038 {%
13039     \InlineClass{latexlogofont}%
13040     {%
13041         \InlineClass{latexlogo}%
13042         {%
13043             T%
13044             \InlineClass{latexlogosub}{e}%
13045             X%
13046         }%
13047     }%
13048 }
13049 \AtBeginDocument{\LWR@formatted{TeX}}% may have been patched by metalogo

```

\LaTeX L^AT_EX, L^AT_EX2_E

\LaTeXe

```

13050 \newrobustcmd*{\LWR@HTML@LaTeX}
13051 {%
13052     \InlineClass{latexlogofont}%
13053     {%
13054         \InlineClass{latexlogo}%
13055     }%

```

```

13056      L%
13057      \InlineClass{latexlogosup}{a}%
13058      T%
13059      \InlineClass{latexlogosub}{e}%
13060      X%
13061      }%
13062      }%
13063 }
13064
13065 \AtBeginDocument{\LWR@formatted{LaTeX}}% may have been patched by metalogo
13066
13067
13068 \newrobustcmd*\LWR@HTML@LaTeXe}%
13069 {%
13070     \LaTeX%
13071     \InlineClass{latexlogofont}{%
13072         \InlineClass{latexlogotwoe}{%
13073             2%
13074             \InlineClass{latexlogotwoesub}{\HTMLUnicode{03B5}}%
13075         }%
13076     }%
13077 }
13078 \AtBeginDocument{\LWR@formatted{LaTeXe}}% may have been patched by metalogo

\LuaTeX \LuaTeX, \LuaLATEX
\LuaLaTeX
13079 \newrobustcmd*\LWR@HTML@LuaTeX}{\InlineClass{latexlogofont}{Lua}\TeX}
13080 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo
13081
13082 \newrobustcmd*\LWR@HTML@LuaLaTeX}{\InlineClass{latexlogofont}{Lua}\LaTeX}
13083 \AtBeginDocument{\LWR@formatted{LuaLaTeX}}% may have been patched by metalogo

\XeTeX \XeTeX, \XeLATEX
\XeLaTeX
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.

13084 \newrobustcmd*\LWR@HTML@Xe}%
13085     {%
13086         X%
13087         \InlineClass{xelatexlogosub}{\HTMLUnicode{18e}}%
13088     }%
13089 \AtBeginDocument{\LWR@formatted{Xe}}% may have been patched by metalogo
13090
13091 \newrobustcmd*\LWR@HTML@XeTeX}{\InlineClass{xelatexlogo}{\Xe}\TeX}
13092 \AtBeginDocument{\LWR@formatted{XeTeX}}% may have been patched by metalogo
13093
13094 \newrobustcmd*\LWR@HTML@XeLaTeX}{\InlineClass{xelatexlogo}{\Xe}\LaTeX}
13095 \AtBeginDocument{\LWR@formatted{XeLaTeX}}% may have been patched by metalogo

```

\ConTeXt \ConTeXt

```

13096 \newrobustcmd*\{ \LWR@HTML@ConTeXt\}{%
13097     \InlineClass{latexlogofont}{Con}\TeX{}%
13098     \InlineClass{latexlogofont}{t}%
13099 }
13100 \LWR@formatted{ConTeXt}

```

\BibTeX \BIBTeX, *MakeIndex*

```

\MakeIndex
13101 \newrobustcmd*\{ \LWR@HTML@BibTeX\}
13102     {\InlineClass{latexlogofont}{B\textsc{ib}}\TeX{}}
13103 \LWR@formatted{BibTeX}
13104
13105 \newrobustcmd*\{ \LWR@HTML@MakeIndex\}
13106     {\InlineClass{latexlogofont}{\textit{MakeIndex}}}
13107 \LWR@formatted{MakeIndex}

```

\AmS \mathcal{AMS}

`amslogo` is a css class used for the \mathcal{AMS} logo.

```

13108 \AtBeginDocument{%
13109 \newrobustcmd*\{ \LWR@HTML@AmS\}
13110 {%
13111     \InlineClass{amslogo}{%
13112         \textit{%
13113             A%
13114             \InlineClass{latexlogosub}{M}%
13115             S%
13116         }%
13117     }%
13118 }%
13119 \LWR@formatted{AmS}
13120 }

```

\MiKTeX \MiKTeX

```

13121 \newrobustcmd*\{ \LWR@HTML@MiKTeX\}{\InlineClass{latexlogofont}{MiK}\TeX{}}
13122 \LWR@formatted{MiKTeX}

```

\LyX \LyX

`lyxlogo` is a css class used for the \mathbf{LyX} logo.

```

13123 \newrobustcmd*\{ \LWR@HTML@LyX\}{\InlineClass{lyxlogo}{LyX}}
13124 \LWR@formatted{LyX}

13125 \end{warpHTML}

```

97 Starting and stopping lwarp

for HTML output: 13126 \begin{warpHTML}

```
\LWR@LwarpStart  Automatically sets up the HTML-related actions for the start and end of the document.
\LWR@LwarpEnd
13127 \AfterEndPreamble{\LWR@LwarpStart}
13128 \AtEndDocument{\LWR@LwarpEnd}

13129 \end{warpHTML}
```

98 Loading everyshi patches

`everyshi` is emulated by the `LATEX` core, so its patches are loaded here. `\AtBeginDocument` is used in case an older verison of `LATEX` is used.

for HTML output: 13130 \begin{warpHTML}
13131 \AtBeginDocument{
13132 \@ifpackageloaded{everyshi}{
13133 \RequirePackage{lwarp-everyshi}
13134 }{}
13135 }
13136 \end{warpHTML}

99 Loading textcomp patches

`textcomp` has now been integrated into the `LATEX` core, so its patches are loaded now.

for HTML output: 13137 \begin{warpHTML}
13138 \RequirePackage{lwarp-textcomp}
13139 \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: 13140 \begin{warpHTML}
13141 \@ifpackageloaded{amsthm}{
13142 \RequirePackage{lwarp-amsthm}
13143 }{}

13144 \@ifpackageloaded{amsmath}{
13145 \RequirePackage{lwarp-amsmath}

```
13146 }{}  
13147  
13148 % \pkg{amsthm} may load \pkg{centernot}, so \pkg{centernot} must be checked second.  
13149 %     \begin{macrocode}  
13150 \@ifpackageloaded{centernot}{  
13151     \RequirePackage{lwarp-centernot}  
13152 }{}  
13153 \end{warpHTML}
```

101 Loading KOMA-SCRIPT class patches

Load patches to koma-script.

for HTML output: 13154 \begin{warpHTML}

```
13155 \@ifclassloaded{scrbook}{\RequirePackage{lwarp-patch-komascript}}{}  
13156 \@ifclassloaded{scrlatex}{\RequirePackage{lwarp-patch-komascript}}{}  
13157 \@ifclassloaded{scrreprt}{\RequirePackage{lwarp-patch-komascript}}{}  
  
13158 \end{warpHTML}
```

102 Loading MEMOIR class patches

Load patches to memoir.

for HTML & PRINT: 13159 \begin{warpprint}
13160 \@ifclassloaded{memoir}{\LWR@origRequirePackage{xcolor}}{}
13161 \end{warpprint}

for HTML output: 13162 \begin{warpHTML}
13163 \@ifclassloaded{memoir}{\RequirePackage{lwarp-patch-memoir}}{}
13164 \end{warpHTML}

103 ut* class patches

Load patches to uj* and ut* classes, as well as ltj* classes.

for HTML output: 13165 \begin{warpHTML}

```
13166 \newcommand*{\LWR@patchujtclasses}{  
  
    uj/t does not use \partname  
  
13167     \def\@partnameformat{}}
```

```

13168 \def\@partcntformat##1{%
13169     \prepartname%
13170     \csname the##1\endcsname%
13171     \postpartname%
13172     \quad%
13173 }
13174 \@ifundefined{chapter}{}{%
13175     \def\@chapcntformat##1{%
13176         \prechaptername%
13177         \csname the##1\endcsname%
13178         \postchaptername%
13179         \quad%
13180     }
13181 }
13182 \renewcommand*{\LWR@printchaptername}{}

```

Use decimal points instead of centered dots:

```

13183 \renewcommand{\thepart}{\@Roman\c@part}
13184 \@ifundefined{chapter}{%
13185     \renewcommand{\thesection}{\@arabic\c@section}%
13186 }{%
13187     \renewcommand{\thechapter}{\@arabic\c@chapter}%
13188     \renewcommand{\thesection}{\thechapter.\@arabic\c@section}%
13189 }
13190 \renewcommand{\thesubsection}{\thesection.\@arabic\c@subsection}%
13191 \renewcommand{\thesubsubsection}{%
13192     \thesubsection.\@arabic\c@subsubsection}%
13193 \renewcommand{\theparagraph}{%
13194     \thesubsubsection.\@arabic\c@paragraph}%
13195 \renewcommand{\thesubparagraph}{%
13196     \theparagraph.\@arabic\c@subparagraph}%
13197 \@ifundefined{chapter}{%
13198     \renewcommand{\thefigure}{\@arabic\c@figure}%
13199     \renewcommand{\thetable}{\@arabic\c@table}%
13200 }{%
13201     \renewcommand{\thefigure}{%
13202         \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@figure}%
13203     \renewcommand{\thetable}{%
13204         \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@table}%
13205 }
13206 }
13207
13208 \@ifclassloaded{ujarticle}{\LWR@patchujtclasses}{}%
13209 \@ifclassloaded{ujbook}{\LWR@patchujtclasses}{}%
13210 \@ifclassloaded{ujreport}{\LWR@patchujtclasses}{}%
13211 \@ifclassloaded{utarticle}{\LWR@patchujtclasses}{}%
13212 \@ifclassloaded{utbook}{\LWR@patchujtclasses}{}%
13213 \@ifclassloaded{utreport}{\LWR@patchujtclasses}{}%
13214 \@ifclassloaded{ltjarticle}{\LWR@patchujtclasses}{}%
13215 \@ifclassloaded{ltjbook}{\LWR@patchujtclasses}{}%
13216 \@ifclassloaded{ltjreport}{\LWR@patchujtclasses}{}%
13217 \@ifclassloaded{ltjsarticle}{\LWR@patchujtclasses}{}%
13218 \@ifclassloaded{ltjsbook}{\LWR@patchujtclasses}{}%
13219 \@ifclassloaded{ltjsreport}{\LWR@patchujtclasses}{}%

```

```

13220 \@ifclassloaded{ltjskiyou}{\LWR@patchujtclasses}{}%
13221 \@ifclassloaded{ltjspf}{\LWR@patchujtclasses}{}%
13222 \@ifclassloaded{ltjarticle}{\LWR@patchujtclasses}{}%
13223 \@ifclassloaded{ltjtbook}{\LWR@patchujtclasses}{}%
13224 \@ifclassloaded{ltjtreport}{\LWR@patchujtclasses}{}%

13225 \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: 13226 \begin{warpHTML}

\AtBeginDocument in case the user set FileSectionNames in the preamble.

```

13227 \AtBeginDocument{%
13228     \@ifpackageloaded{ctexpatch}{%
13229         \def\@partcntformat#1{%
13230             \LWR@isolate{\CTEX@partname}~%
13231             \CTEX@part@aftername%
13232         }%
13233     }%
13234     \def\@partnameformat{}%
13235     \def\@chapcntformat#1{%
13236         \LWR@isolate{\CTEX@chaptername}~%
13237         \CTEX@chapter@aftername%
13238     }%
13239     \renewcommand*\LWR@printchaptername{}%
13240 }%
13241 \{}%
13242 \}%
13243 }

13244 \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: 13245 \begin{warpHTML}

If kotexutf's version of \@setref is detected, it is reverted to the original.

```

13246 \AtBeginDocument{
13247   @ifpackageloaded{kotexutf}){
13248     \def\LWR@kotexutf@setref#1#2#3{%
13249       @setref@dhucs@orig{#1}{#2}{#3}%
13250       \ifx#1\relax\else
13251         \bgroup
13252           \dhucs@make@cjkchar@null
13253           \edef@\temp{\expandafter#2#1}\global\josatoks\expandafter{\@temp}%
13254           \egroup
13255         \fi%
13256     }%
13257   %
13258   \ifdefequal{@setref}{\LWR@kotexutf@setref}%
13259     \let@setref\@setref@dhucs@orig
13260   }%
13261 }%
13262 }

13263 \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.)

lwarp 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 lwarp.

for HTML output:

```

13264 \begin{warpHTML}
13265 \AtBeginDocument{
13266 %
13267 \@ifpackageloaded{polyglossia}%
13268   \PackageWarningNoLine{lwarp}%
13269   {%
13270     Polyglossia has been loaded. Lwarp also uses cleveref.\MessageBreak

```

```

13271      See the cleveref documentation regarding \MessageBreak
13272      polyglossia support. Some languages are not supported%
13273  }
13274  \typeout{---}
13275  \typeout{Package l warp:}
13276  \typeout{If the error}
13277  \typeout{\space\space`! Undefined control sequence.
13278      \space ... \space \protect\@begindocumenthook`}
13279  \typeout{occurs here, use the polyglossia macro:}
13280  \typeout{\space\space\protect\setmainlanguage\protect{...}\protect{}}
13281  \typeout{---}
13282 }{
13283  \@ifpackageloaded{babel}{
13284      \PackageWarningNoLine{l warp}
13285  {
13286      Babel has been loaded. L warp also uses cleveref.\MessageBreak
13287      See the cleveref documentation regarding \MessageBreak
13288      babel support. Some languages are not supported%
13289  }
13290  }{}
13291 }
13292
13293 }
13294 \end{warpHTML}

```

107 MATHJAX warnings

\LWR@mathjaxwarn {⟨packagename⟩} {⟨More text.⟩}

To be done \AtBeginDocument.

```

13295 \newcommand*{\LWR@mathjaxwarn}[2]{%
13296     \@ifpackageloaded{l warp-#1}{%
13297         \ifblank{#2}{%
13298             \PackageWarningNoLine{l warp}
13299             {%
13300                 L warp provides emulation for MathJax when used\MessageBreak
13301                 with the #1 package%
13302             }
13303         }{%
13304             \PackageWarningNoLine{l warp}
13305             {%
13306                 L warp provides emulation for MathJax when used\MessageBreak
13307                 with the #1 package.\MessageBreak
13308                 #2%
13309             }
13310         }%
13311     }{}%
13312 }
13313
13314 \AtBeginDocument{
13315     \ifbool{mathjax}{%

```

```
13316      \LWR@mathjaxwarn{arydshln}
13317          {In a math array, do not use the optional argument\MessageBreak
13318              for \protect\cdashline.\space\space
13319              Furthermore, \protect\cline\space is not\MessageBreak
13320              supported by MathJax}
13321      \LWR@mathjaxwarn{autonum}
13322          {MathJax does not support equation+.\MessageBreak
13323              You may use the warpprint and warpHTML\MessageBreak
13324              environments to isolate the package load\MessageBreak
13325              and the equation+ environments}
13326      \LWR@mathjaxwarn{backnaur}
13327          {You may enclose its uses inside\MessageBreak
13328              lateximage environments to force SVG output,\MessageBreak
13329              but this also changes the print output}
13330      \LWR@mathjaxwarn{bigdelim}
13331          {Delimiters appear only of the first line}
13332      \LWR@mathjaxwarn{booktabs}
13333          {In a math array, do not use (trim) for \protect\cmidrule}
13334      \LWR@mathjaxwarn{breqn}
13335          {Each environment becomes an SVG image}
13336      \LWR@mathjaxwarn{delarray}
13337          {Enclose its uses inside lateximage\MessageBreak
13338              environments to force SVG output}
13339      \LWR@mathjaxwarn{jkmath}{}
13340      \LWR@mathjaxwarn{mathtools}
13341          {See the Lwarp manual regarding the disallowspaces\MessageBreak
13342              and showonlyrefs options, the alignat environment,\MessageBreak
13343              and \protect\DeclarePairedDelimiter\space and related%
13344          }
13345      \LWR@mathjaxwarn{mathspec}{}
13346      \LWR@mathjaxwarn{multirow}
13347          {Multirow works as expected in text mode, but\MessageBreak
13348              limited emulation is provided for MathJax math.\MessageBreak
13349              \protect\multirow\space ignores all arguments except\MessageBreak
13350              the text}
13351      \LWR@mathjaxwarn{pb-diagram}
13352          {Enclose its uses inside lateximage environments\MessageBreak
13353              to force SVG output}
13354 %
13355 % %
13356 %
13357 %
13358      \LWR@mathjaxwarn{physics}
13359          {The third-party extension is not used.\MessageBreak
13360              {The MathJax v3 extension is used.\MessageBreak
13361                  See the Lwarp manual for details}
13362      \LWR@mathjaxwarn{unicode-math}
13363          {Do not use embedded Unicode characters.\MessageBreak
13364              Not all characters are encoded correctly.\MessageBreak
13365              \protect\left\space and \protect\right\space may not work.\MessageBreak
13366                  Some symbol fonts are not supported by MathJax,\MessageBreak
13367                  and are only approximated.\MessageBreak
13368                  Latin characters may not be correct}
13369      \LWR@mathjaxwarn{witharrows}
13370          {Arrows can only point to the next line.\MessageBreak
13371              Text is only placed on a single line}
13372      \LWR@mathjaxwarn{xy}
13373          {xy works in text, but in math you must\MessageBreak
13374              enclose its uses inside lateximage\MessageBreak}
```

```
13371      environments to force SVG output}
13372  }
13373 }
```

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{##2}}%
32     \underset{\raise 2pt {#1}}{\#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 **lwarf-accessibility.sty**

§ 116 Package **accessibility**

Pkg **accessibility** **accessibility** is emulated.

for HTML output: Discard all options for **lwarf-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 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   \lineskip\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]{%
110 }
```

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 `` of the required length, and comments are placed inside a `` which is floated right.

⚠ **package conflicts** If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 585.1.

```

2 \AtBeginEnvironment{algorithmic}{%
3 %
4 \let\origALG@doentity\ALG@doentity%
5 %
6 \renewcommand*\ALG@doentity{%
7 \origALG@doentity%
8 \LWR@htmltagc{%
9 span style="width:\LWR@printlength{\ALG@thistlm}; display:inline-block;"%
10 }%
11 \ifbool{FormatWP}{%
12 \setlength{\LWR@templengthone}{\the\ALG@thistlm}%
13 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
14 \quad%
15 \addtolength{\LWR@templengthone}{-1em}%
16 }%
17 }{%
18 \LWR@htmltagc{/span}%
}

```

```

19 }%
20
21 \let\LWR@origComment\Comment%
22
23 \renewcommand{\Comment}[1]{%
24     \InlineClass{floatright}{\LWR@origComment{#1}}%
25 }%
26 }
27
28 \renewcommand\algorithmiccomment[1]{%
29 \hfill\HTMLunicode{25B7} #1% white right triangle
30 }%

```

File 19 **l warp-alltt.sty**

§ 125 Package **alltt**

(Emulates or patches code by JOHANNES BRAAMS.)

Pkg alltt alltt is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{alltt}[1997/06/16]

```

2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching alltt.}
4
5 \AtBeginEnvironment{alltt}{%
6     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
7         {}%
8         {%
9             \LWR@forcenewpage

```

Vertical spacing changes if inside a list.

```

10          \LWR@atbeginverbatim{alltt}%
11          }%
12 }
13
14 \AfterEndEnvironment{alltt}{%
15     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
16         {}%
17         {%

```

Vertical spacing changes if inside a list.

```

18          \LWR@afterendverbatim%
19          }%
20 }
21
22 }

```

File 20 l warp-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 AMS math \tag macro to remember the first tag:

```
6 \ifbool{mathjax}{}{\% not mathjax
7
8 \LetLtxMacro{\LWR@origmake@df@tag@@}{\make@df@tag@@}
9 \LetLtxMacro{\LWR@origmake@df@tag@@@}{\make@df@tag@@@}
10
11 \renewcommand*{\make@df@tag@@}[1]{%
12 \LWR@remembertag{\#1}%
13 \LWR@origmake@df@tag@@{\#1}%
14 }
15
16 \renewcommand*{\make@df@tag@@@}[1]{%
17 \LWR@remembertag{\#1}%
18 \LWR@origmake@df@tag@@@{\#1}%
19 }
20
21 }% not mathjax
```

For nesting AMS environments:

```
22 \newcounter{\LWR@amsmathdepth}
23 \setcounter{\LWR@amsmathdepth}{0}
```

The following AMS 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 `latentimage`.

```

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             \LWR@syncmathjax%
40             \boolfalse{\LWR@amsmultiline}%
41             \ifstreq{\#2}{multiline}{\booltrue{\LWR@amsmultiline}}{}%
42             \ifstreq{\#2}{multiline*}{\booltrue{\LWR@amsmultiline}}{}%
43         }}
```

 autonum's “+” environments are not supported by MATHJAX.

```

44         \LWR@beginhideamsmath%
45     }%
46     {%
47         \IfBooleanTF{#1}{%
48             \LWR@amsmathenv@@before*{#2}%
49         }{%
50             \LWR@amsmathenv@@before{#2}%
51         }%
52     }%
53 }{}%
54 \addtocounter{\LWR@amsmathdepth}{1}%
55 }
```

`\LWR@amsmathenv@@after`

Embeds the environment inside a `latentimage`.

```

56 \newcommand*{\LWR@amsmathenv@@after}{%
57     \end{latentimage}\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 `latentimage`.

```

59 \NewDocumentCommand{\LWR@amsmathenv@after}{s m}{%
60     \ifnumequal{\value{LWR@amsmathdepth}}{1}{%
61         \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
62             {
63                 \LWR@endhideamsmath
64                 \boolfalse{LWR@amsmultiline}
65                 \LWR@addmathjax{#2}{\the\@envbody}
66             }
67             {\LWR@amsmathenv@after}

```

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}{
```

Table 17: `amsthm` package—css styling of theorems and proofs

Theorem: <div> of class `amsthmbody<theoremstyle>`

Theorem Name: of class `amsthmname<theoremstyle>`

Theorem Number: of class `amsthmnumber<theoremstyle>`

Theorem Note: of class `amsthmnote<theoremstyle>`

Proof: <div> of class `amsthmproof`

Proof Name: of class `amsthmproofname`

where <theoremstyle> is plain, definition, etc.

```

2   \PackageError{l warp}
3   {%
4     Package mdframed must be loaded after package amsthm.\MessageBreak
5     Enter 'H' for solutions%
6   }
7   {%
8     Move ``\protect\usepackage{amsthm}'' before
9     ``\protect\usepackage{mdframed}''.\MessageBreak
10    Package amsthm may be loaded by something else,\MessageBreak
11    which must also be moved before mdframed.%
12  }
13 }
14 {}
```

Necessary for `\text`, used by `\openbox`, etc., below:

```

15 \RequirePackage{amsmath}

16 \LWR@ProvidesPackagePass{amsthm}[2017/10/31]
```

Storage for the style being used for new theorems:

```
17 \newcommand{\LWR@newtheoremstyle}{plain}
```

Patched to remember the style being used for new theorems:

```

18 \renewcommand{\theoremstyle}[1]{%
19   \@ifundefined{th@#1}{%
20     \PackageWarning{amsthm}{Unknown theoremstyle '#1'}%
21     \thm@style{plain}%
22     \renewcommand{\LWR@newtheoremstyle}{plain}% l warp
23   }{%
24     \thm@style{#1}%
25     \renewcommand{\LWR@newtheoremstyle}{#1}% l warp
26   }%
27 }
```

Patched to remember the style for this theorem type:

```

28 \def\xnuthm#1#2{%
29   \csedef{LWR@thmstyle#2}{\LWR@newtheoremstyle}% lwrap
30   \let\@tempa\relax
31   \exp\@ifdefinable\csname #2\endcsname{%
32     \global\exp\@let\csname end#2\endcsname\@endtheorem
33     \ifx *#1% unnumbered, need to get one more mandatory arg
34       \edef\@tempa##1{%
35         \gdef\exp\@nx\csname#2\endcsname{%
36           \exp\@thm{\exp\@nx\csname th@\the\thm@style\endcsname}%
37           {}{##1}}%
38     \else % numbered theorem, need to check for optional arg
39       \def\@tempa{\oparg{\ynuthm{#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}%                                lwrap
70   \let\currentlabelname\GetTitleStringResult%        lwrap
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% l warp
88   \BlockClass{amsthmbody}\LWR@thisthmstyle}%
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   \topsep \thm@preskip % used by thm head
98   \topsepadd \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 \atbegindocument to do \cref@thmoptarg if an optional argument is given. l warp 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% l warp
112   \BlockClass{amsthmbody}\LWR@thisthmstyle}%
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{\begin{theorem}{}}[]}\%
125    \else%
126        \refstepcounter[\#1]{\#3} % << cleveref modification
127        \def\@tempa{\@oparg{\begin{theorem}{\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{\LWR@orig@blacksquare}{\blacksquare}
138 \LetLtxMacro{\LWR@orig@Box}{\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}{\LWR@orig@blacksquare}%
147     \LetLtxMacro{\Box}{\LWR@orig@Box}%
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 l warp-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 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 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 anysize**

(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)

Pkg anysize anysize 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}{\fi}%
```

Print the original glyph using the newly set font series:

```
12 \LWR@print@AR%
```

Done.

```
13 \end{lateximage}%
14 }
```

Combine the print and HTML versions:

```
15 \LWR@formatted{AR}
```

```
16 \newrobustcmd*\{\LWR@HTML@ARb\}{%
17   \begin{lateximage}*{[AR][b]}[\LWR@ar@printwidth{\LWR@print@ARb}]%
18   \LWR@print@ARb%
19   \end{lateximage}%
20 }
21 \LWR@formatted{ARb}

22 \newrobustcmd*\{\LWR@HTML@ARss\}{%
23   \begin{lateximage}*{[ARss]}[\LWR@f@series][\LWR@ar@printwidth{\LWR@print@ARss}]%
24   \ifmmode\else\csuse{\LWR@orig\LWR@f@series series}\fi%
25   \LWR@print@ARss%
26   \end{lateximage}%
27 }
28 \LWR@formatted{ARss}

29 \newrobustcmd*\{\LWR@HTML@ARssb\}{%
30   \begin{lateximage}*{[AR][ssb]}[\LWR@ar@printwidth{\LWR@print@ARssb}]%
31   \LWR@print@ARssb%
32   \end{lateximage}%
33 }
34 \LWR@formatted{ARssb}

35 \newrobustcmd*\{\LWR@HTML@ARtt\}{%
36   \begin{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 plexarray do not affect \firsthline or \lasthline, and so are not affected by the following.

for HTML output: Remove the default nullified macros:

```
1 \let\firsthline\relax
2 \let\lasthline\relax
3
4 \LWR@ProvidesPackagePass{array}[2018/12/30]

5 \newcommand*{\LWR@HTML@firsthline}{\LWR@HTMLhline}%
6 \LWR@expandableformatted{firsthline}
7
8 \newcommand*{\LWR@HTML@lasthline}{\LWR@HTMLhline}%
9 \LWR@expandableformatted{lasthline}

10 \providecommand*{\LWR@HTML@tabularnewline}{\LWR@tabularendofline}
11 \LWR@formatted{tabularnewline}
```

For MATHJAX:

```
12 \CustomizeMathJax{
13     \newcommand{\multicolumn}[3]{#3}% only uses one cell
14 }
```

File 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{;}{|}[1]{|}%
22 \LetLtxMacro\hdashline\hline%
23 }
```

Some of these macros are already defined as temporary placeholders in the l warp 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@hdashline\adl@ihdashline
26     \adl@hdashline\adl@inactivehdl
27 }
28 \def\adl@hdashline#1{\noalign{\ifnum0='}\fi
29 %         \ifadl@zwhrule \vskip-\arrayrulewidth
```

```

30 %           \else
31 %             \adl@hline\adl@connect\arrayrulewidth
32             \hrule \height \arrayrulewidth% l warp
33 %           \fi
34           \@ifnextchar[%]
35             {#1}%
36             {#1[%}
37 %               \dashlinedash/\dashlinegap
38               1pt/1pt
39             ]{}}
40 % \def\adl@ihashline[#1/#2]{\ifnum0='{\fi}%
41 %   \multispan{\adl@columns}\unskip \adl@hcline\z@[#1/#2]%
42 %   \noalign{\ifnum0='}\fi
43 %   \futurelet@tempa\adl@xhline}
44 \def\adl@inactivehdl[#1/#2]{%
45   \ifadl@zwhrule \vskip-\arrayrulewidth \fi
46   \hrule\height\arrayrulewidth
47   \futurelet@tempa\adl@xhline}
48 \def\adl@xhline{\ifx@\tempa\hline \adl@ixhline\fi
49   \ifx@\tempa\hdashline \adl@ixhline\fi
50   \ifnum0='{\fi}}
51 \def\adl@ixhline{\vskip\doublerulesep \adl@hline\relax\doublerulesep}
52 \def\adl@hline#1#2{%
53 % \tempcpta#
54 %   \global\advance\adl@totalheight\tempcpta
55 %   \xdef\adl@rowsL{\adl@rowsL
56 %     (#1/\number\tempcpta);}%
57 %   \xdef\adl@rowsR{\adl@rowsR
58 %     (#1/\number\tempcpta);}
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{\firsthdashline}[1][]{\hline}}
72 \CustomizeMathJax{\let\lastdashline\firsthdashline}
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
```

```
l warpmk print
asy project-*.asy
l warpmk print1
l warpmk print1
```

```
l warpmk html
asy project_html-*.asy
l warpmk html1
l warpmk html1
l warpmk 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{lateximage} *%
5         [-attachfile-] %
6         [%
7             \detokenize\expandafter{\atfi@icon@icon}-%
8             \detokenize\expandafter{\atfi@color@rgb} %
9         ] %
10 }
11 {
12     \end{lateximage}
13 }

```

Each icon is enclosed inside a `\LWR@attachfile@icon` environment:

```

14 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
15 \xapptocmd{\atfi@acroGraph}{\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 **lwarp-attachfile2.sty**

§ 138 Package **attachfile2**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg **attachfile2** **attachfile2** is patched for use by **lwarp**.

⚠ Metadata is ignored for now.

for HTML output: 1 \LWR@ProvidesPackagePass{attachfile2}[2016/05/16]

Adds memory of the selected color:

```

2 \def\LWR@attachfiletwo@color{}%
3
4 \define@key{AtFi}{color}{%
5   \def\LWR@attachfiletwo@color{\#1}%
6   \HyColor@AttachfileColor{\#1}%
7   \atfi@color@tex\atfi@color@inline\atfi@color@annot

```

```

8           {attachfile2}{color}%
9 }

```

Encloses each icon:

```

10 \newenvironment*{\LWR@attachfile@icon}{}
11 {
12   \begin{lateximage}%
13     [-attachfile-]%
14     [%]
15     \detokenize\expandafter{\atfi@icon@icon}-%
16     \detokenize\expandafter{\LWR@attachfiletwo@color}%
17   ]%
18 }
19 {
20   \end{lateximage}
21 }

```

Each icon is enclosed inside a `\LWR@attachfile@icon` environment:

```

22 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
23 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
24
25 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
26 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
27
28 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
29 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
30
31 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
32 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```
33 \DeclareRobustCommand{\atfi@embedfile}[1]{}
```

The displayed output for an `\attachfile` reference:

```

34 \newcommand*{\LWR@attachfile@appearance}{}%
35
36 \def\atfi@set@appearance@icon{%
37   \atfi@set@appearance{\csname atfi@acro\atfi@icon\endcsname}%
38 }
39
40 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
41   \def\LWR@attachfile@appearance{\#1}%
42 }

```

A file annotation becomes a reference:

```

43 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
44   \LWR@href{\#1}{\LWR@attachfile@appearance}%
45 }

```

Modified for text color:

```

46 \DeclareRobustCommand{\notextattachfile}[2][]{%
47   \begingroup
48     \atfi@setup{#1}%
49     \ifatfi@print
50       \leavevmode
51       \begingroup
52         \HyColor@UseColor\atfi@color@tex
53         \LWR@textcurrentcolor{#2}%
54         l warp
55       \endgroup
56     \else
57       \sbox\ltx@zero{#2\strut}%
58       \makebox[\wd0]{}
59     \fi
60   \endgroup
61 }
```

Modified to draw the icon:

```

62 \DeclareRobustCommand{\noattachfile}[1][]{%
63   \begingroup
64     \atfi@setup{#1}%
65     \atfi@set@appearance@icon
66     \ifatfi@print
67       \LWR@attachfile@appearance%
68     \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^AT_EX titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.

⚠ load order 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 l warp-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}[% margin-left: 2\% ; vertical-align: top
34   ]{minipage}
35     \color{#6}\Huge #5
36   \end{BlockClass}
37   \begin{BlockClass}[% width:75\% ;
38   ]{minipage}
```

```

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@TwelweStar}{\LWR@bbdingsymbol{112}} {2739}}
79 \newcommand{\LWR@HTML@SixteenStarLight}{\LWR@bbdingsymbol{113}} {273A}}
80 \newcommand{\LWR@HTML@SixFlowerPetalRemoved}{\LWR@bbdingsymbol{114}} {273B}}
81 \newcommand{\LWR@HTML@SixFlowerOpenCenter}{\LWR@bbdingsymbol{115}} {273C}}
82 \newcommand{\LWR@HTML@Asterisk}{\LWR@bbdingsymbol{116}} {273D}}
83 \newcommand{\LWR@HTML@SixFlowerAlternate}{\LWR@bbdingsymbol{117}} {273E}}
84 \newcommand{\LWR@HTML@FiveFlowerPetal}{\LWR@bbdingsymbol{120}} {273F}}
85 \newcommand{\LWR@HTML@SixFlowerPetalDotted}{\LWR@bbdingsymbol{121}} {2740}}
86 \newcommand{\LWR@HTML@FiveFlowerOpen}{\LWR@bbdingsymbol{122}} {2740}}
87 \newcommand{\LWR@HTML@EightFlowerPetal}{\LWR@bbdingsymbol{123}} {2741}}
88 \newcommand{\LWR@HTML@SunshineOpenCircled}{\LWR@bbdingsymbol{124}} {2742}}
89 \newcommand{\LWR@HTML@SixFlowerAltPetal}{\LWR@bbdingsymbol{125}} {2743}}
90 \newcommand{\LWR@HTML@FourClowerOpen}{\LWR@bbdingsymbol{126}} {273F}}
91 \newcommand{\LWR@HTML@FourClowerSolid}{\LWR@bbdingsymbol{127}} {273F}}
92 \newcommand{\LWR@HTML@AsteriskRoundedEnds}{\LWR@bbdingsymbol{130}} {2749}}
93 \newcommand{\LWR@HTML@EightFlowerPetalRemoved}{\LWR@bbdingsymbol{131}} {274A}}
94 \newcommand{\LWR@HTML@EightAsterisk}{\LWR@bbdingsymbol{132}} {274B}}
95 \newcommand{\LWR@HTML@SixFlowerRemovedOpenPetal}{\LWR@bbdingsymbol{133}} {2740}}
96 \newcommand{\LWR@HTML@SparkleBold}{\LWR@bbdingsymbol{134}} {2748}}
97 \newcommand{\LWR@HTML@Sparkle}{\LWR@bbdingsymbol{135}} {2747}}
98 \newcommand{\LWR@HTML@SnowflakeChevron}{\LWR@bbdingsymbol{136}} {2744}}
99 \newcommand{\LWR@HTML@SnowflakeChevronBold}{\LWR@bbdingsymbol{137}} {2746}}
100 \newcommand{\LWR@HTML@Snowflake}{\LWR@bbdingsymbol{140}} {2744}}
101 \newcommand{\LWR@HTML@CircleSolid}{\LWR@bbdingsymbol{141}} {25CF}}
102 \newcommand{\LWR@HTML@Ellipse}{\LWR@bbdingsymbol{142}} {274D}}
103 \newcommand{\LWR@HTML@EllipseSolid}{\LWR@bbdingsymbol{143}} {25CF}}
104 \newcommand{\LWR@HTML@CircleShadow}{\LWR@bbdingsymbol{144}} {274D}}
105 \newcommand{\LWR@HTML@EllipseShadow}{\LWR@bbdingsymbol{145}} {274D}}
106 \newcommand{\LWR@HTML@Square}{\LWR@bbdingsymbol{146}} {25A1}}
107 \newcommand{\LWR@HTML@SquareSolid}{\LWR@bbdingsymbol{147}} {25A0}}
108 \newcommand{\LWR@HTML@SquareShadowBottomRight}{\LWR@bbdingsymbol{150}} {2751}}
109 \newcommand{\LWR@HTML@SquareShadowTopRight}{\LWR@bbdingsymbol{151}} {2752}}
110 \newcommand{\LWR@HTML@SquareShadowTopLeft}{\LWR@bbdingsymbol{152}} {2752}}
111 \newcommand{\LWR@HTML@SquareCastShadowBottomRight}{\LWR@bbdingsymbol{153}} {2751}}
112 \newcommand{\LWR@HTML@SquareCastShadowTopRight}{\LWR@bbdingsymbol{154}} {2752}}
113 \newcommand{\LWR@HTML@SquareCastShadowTopLeft}{\LWR@bbdingsymbol{155}} {2752}}
114 \newcommand{\LWR@HTML@TriangleUp}{\LWR@bbdingsymbol{156}} {25B2}}
115 \newcommand{\LWR@HTML@TriangleDown}{\LWR@bbdingsymbol{157}} {25BC}}
116 \newcommand{\LWR@HTML@DiamondSolid}{\LWR@bbdingsymbol{160}} {25C6}}
117 \newcommand{\LWR@HTML@OrnamentDiamondSolid}{\LWR@bbdingsymbol{161}} {2756}}
118 \newcommand{\LWR@HTML@HalfCircleRight}{\LWR@bbdingsymbol{162}} {25D7}}
119 \newcommand{\LWR@HTML@HalfCircleLeft}{\LWR@bbdingsymbol{163}} {25D6}}
120 \newcommand{\LWR@HTML@RectangleThin}{\LWR@bbdingsymbol{164}} {2758}}
121 \newcommand{\LWR@HTML@Rectangle}{\LWR@bbdingsymbol{165}} {2759}}
122 \newcommand{\LWR@HTML@RectangleBold}{\LWR@bbdingsymbol{166}} {275A}}
123 \newcommand{\LWR@HTML@ArrowBoldRightStrobe}{\LWR@bbdingsymbol{167}} {27A0}}
124 \newcommand{\LWR@HTML@ArrowBoldUpRight}{\LWR@bbdingsymbol{170}} {27A6}}
125 \newcommand{\LWR@HTML@ArrowBoldDownRight}{\LWR@bbdingsymbol{171}} {27A5}}
126 \newcommand{\LWR@HTML@ArrowBoldRightShort}{\LWR@bbdingsymbol{172}} {27A7}}
127 \newcommand{\LWR@HTML@ArrowBoldRightCircled}{\LWR@bbdingsymbol{173}} {27B2}}
128
129
```

```
130 \LWR@formatted{ScissorRightBrokenBottom}
131 \LWR@formatted{ScissorRight}
132 \LWR@formatted{ScissorRightBrokenTop}
133 \LWR@formatted{ScissorLeftBrokenBottom}
134 \LWR@formatted{ScissorLeft}
135 \LWR@formatted{ScissorLeftBrokenTop}
136 \LWR@formatted{ScissorHollowRight}
137 \LWR@formatted{ScissorHollowLeft}
138 \LWR@formatted{Phone}
139 \LWR@formatted{PhoneHandset}
140 \LWR@formatted{Tape}
141 \LWR@formatted{Plane}
142 \LWR@formatted{Envelope}
143 \LWR@formatted{HandCuffRight}
144 \LWR@formatted{HandCuffLeft}
145 \LWR@formatted{HandCuffRightUp}
146 \LWR@formatted{HandCuffLeftUp}
147 \LWR@formatted{HandRight}
148 \LWR@formatted{HandLeft}
149 \LWR@formatted{HandRightUp}
150 \LWR@formatted{HandLeftUp}
151 \LWR@formatted{Peace}
152 \LWR@formatted{HandPencilLeft}
153 \LWR@formatted{PencilRight}
154 \LWR@formatted{PencilLeft}
155 \LWR@formatted{PencilRightUp}
156 \LWR@formatted{PencilLeftUp}
157 \LWR@formatted{PencilRightDown}
158 \LWR@formatted{PencilLeftDown}
159 \LWR@formatted{NibRight}
160 \LWR@formatted{NibLeft}
161 \LWR@formatted{NibSolidRight}
162 \LWR@formatted{NibSolidLeft}
163 \LWR@formatted{Checkmark}
164 \LWR@formatted{CheckmarkBold}
165 \LWR@formatted{XSolid}
166 \LWR@formatted{XSolidBold}
167 \LWR@formatted{XSolidBrush}
168 \LWR@formatted{PlusOutline}
169 \LWR@formatted{Plus}
170 \LWR@formatted{PlusCenterOpen}
171 \LWR@formatted{PlusThinCenterOpen}
172 \LWR@formatted{Cross}
173 \LWR@formatted{CrossOpenShadow}
174 \LWR@formatted{CrossOutline}
175 \LWR@formatted{CrossBoldOutline}
176 \LWR@formatted{CrossMaltese}
177 \LWR@formatted{DavidStarSolid}
178 \LWR@formatted{DavidStar}
179 \LWR@formatted{FourAsterisk}
180 \LWR@formatted{JackStar}
181 \LWR@formatted{JackStarBold}
182 \LWR@formatted{CrossClowerTips}
183 \LWR@formatted{FourStar}
184 \LWR@formatted{FourStarOpen}
```

```
185 \LWR@formatted{FiveStarLines}
186 \LWR@formatted{FiveStar}
187 \LWR@formatted{FiveStarOpen}
188 \LWR@formatted{FiveStarOpenCircled}
189 \LWR@formatted{FiveStarCenterOpen}
190 \LWR@formatted{FiveStarOpenDotted}
191 \LWR@formatted{FiveStarOutline}
192 \LWR@formatted{FiveStarOutlineHeavy}
193 \LWR@formatted{FiveStarConvex}
194 \LWR@formatted{FiveStarShadow}
195 \LWR@formatted{AsteriskBold}
196 \LWR@formatted{AsteriskCenterOpen}
197 \LWR@formatted{AsteriskThin}
198 \LWR@formatted{AsteriskThinCenterOpen}
199 \LWR@formatted{EightStarTaper}
200 \LWR@formatted{EightStarConvex}
201 \LWR@formatted{SixStar}
202 \LWR@formatted{EightStar}
203 \LWR@formatted{EightStarBold}
204 \LWR@formatted{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
16 \protected\def\blx@imc@bibhyperref{%
17     \@ifnextchar[%]
18     {\blx@bibhyperref}%
19     {\blx@bibhyperref[\abx@field@entrykey]}}
20
21 \long\def\blx@bibhyperref[#1]#2{%
22 %     \blx@sfsave%
23 %     \hyperlink{cite.\the\c@refsection @#1}{%
24 %         \blx@sfrst%
25 %         #2%
26 %         \blx@sfsave%
27 %         }%
28 %     \blx@sfrst%
29 }% \def\blx@nohyperref[#1]#2{#2}%
30
31 \protected\long\def\blx@imc@bibhyperlink#1#2{%
32 %     \blx@sfsave%
33 %     \hyperlink{cite.\the\c@refsection:#1}{%
34 %         \blx@sfrst%
35 %         #2%
36 %         \blx@sfsave%
37 %         }%
38 %     \blx@sfrst%
39 }%
40
41 \protected\long\def\blx@imc@bibhypertarget#1#2{%
42 %     \blx@sfsave%
43 %     \hypertarget{cite.\the\c@refsection:#1}{%
44 %         \blx@sfrst%
45 %         #2%
46 %         \blx@sfsave%
47 %         }%
48 %     \blx@sfrst%
49 }
50
51 \let\blx@ifhyperref\@firstoftwo

```

The following patches are for back page references.

```

52 \DeclareListFormat{pageref}{%
53     \ifnumless{\abx@pagerefstyle}{0}%
54     {\usebibmacro{list:plain}%
55      \ifhyperref
56      {%
57 %          \hyperlink{page.#1}{#1}%
58          \ref{\BaseJobname-autopage-#1}%
59      }
60      {#1}%
61     \ifnumequal{\value{listcount}}{1}%

```

```
62      {\usebibmacro{pageref:init}}
63      {}%
64      \usebibmacro{pageref:comp}{#1}%
65      \ifnumequal{\value{listcount}}{\value{liststop}}%
66          {\usebibmacro{pageref:dump}}
67      {}}%
68
69 \renewbibmacro*{pageref:comp}[1]{%
70   \numdef\abx@range@prev{\abx@range@prev+1}%
71   \ifinteger{#1}
72     {\def\abx@range@num{#1}%
73      \def\abx@range@this{1}%
74      \ifnumequal{\abx@range@this}{\abx@range@last}%
75          {}
76          {\def\abx@range@prev{-1}}%
77      \ifrmnum{#1}%
78        {\numdef\abx@range@num{\rmntonum{#1}}%
79         \def\abx@range@this{2}%
80         \ifnumequal{\abx@range@this}{\abx@range@last}%
81             {}
82             {\def\abx@range@prev{-1}}%
83         \undef\abx@range@num%
84         \def\abx@range@this{0}%
85         \def\abx@range@prev{-1}}%
86     \ifdef\abx@range@num
87       {\ifnumequal{\abx@range@num}{\abx@range@prev}%
88        {\def\abx@range@hold{#1}%
89         \numdef\abx@range@diff{\abx@range@diff+1}%
90         \usebibmacro{pageref:dump}%
91         \ifnumgreater{\abx@range@last}{-1}%
92           {\printdelim{multilistdelim}}%
93           {}%}
94       \ifhyperref
95 %         {\hyperlink{page.#1}{#1}}
96         {\ref{\BaseJobname-autopage-#1}}% lwarp
97         {#1}}%
98     \edef\abx@range@prev{\abx@range@num}%
99     \usebibmacro{pageref:dump}%
100    \ifnumgreater{\abx@range@last}{-1}%
101      {\printdelim{multilistdelim}}%
102      {}%
103    \ifhyperref
104 %         {\hyperlink{page.#1}{#1}}
105         {\ref{\BaseJobname-autopage-#1}}% lwarp
106         {#1}}%
107     \def\abx@range@prev{-1}%
108     \edef\abx@range@last{\abx@range@this}%
109
110 \renewbibmacro*{pageref:dump}{%
111   \ifnumgreater{\abx@range@diff}{0}%
112     {\ifcase\abx@pagerefstyle\relax % two
113       \bibrangedash
114     \ifhyperref
115       {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}%
116       \ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
```

```
117      {\abx@range@hold}%
118  \or % three
119    \ifnumless{\abx@range@diff}{2}
120      {\printdelim{multilistdelim}}
121      {\bibrangedash}%
122      \ifhyperref
123        {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
124        {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
125        {\abx@range@hold}%
126  \or % two+
127    \ifnumless{\abx@range@diff}{2}
128      {\sqspace}
129      \ifhyperref
130        {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}%
131        {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
132        {\bibstring{sequens}}%
133        {\bibrangedash}
134        \ifhyperref
135          {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
136          {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
137          {\abx@range@hold}%
138  \or % three+
139    \ifnumless{\abx@range@diff}{2}
140      {\sqspace}
141      \ifhyperref
142        {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}%
143        {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
144        {\bibstring{sequens}}%
145        {\ifnumless{\abx@range@diff}{3}
146          {\sqspace}
147          \ifhyperref
148            {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}%
149            {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
150            {\bibstring{sequentes}}%
151            {\bibrangedash}
152            \ifhyperref
153              {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
154              {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
155              {\abx@range@hold}}}}%
156  \else % all+
157    \ifnumless{\abx@range@diff}{2}
158      {\sqspace}
159      \ifhyperref
160        {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}%
161        {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
162        {\bibstring{sequens}}%
163        {\sqspace}
164        \ifhyperref
165          {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}%
166          {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
167          {\bibstring{sequentes}}}}%
168    \fi
169    \def\abx@range@diff{0}
170  {}
```

```
172 }% \AfterPreamble
```

File 44 **l warp-bibunits.sty**

§ 150 Package **bibunits**

(Emulates or patches code by THORSTEN HANSEN.)

Pkg bibunits bibunits is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{bibunits}[2004/05/12]

2 \def\bu@bibdata{\BaseJobname}

File 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 lateximage, and patched for HTML.

The delimiters are displayed in HTML by printing the delimiter, the text, and a thick border across the side of the \multirow which indicates the actual height of the delimiter. The delimiter character is given a class of ldelim or rdelim, and the default css sets this to font-size:200%

⚠ use \mrowcell \ldelim and \rdelim use \multirow, so \mrowcell must be used in the proper number of empty cells in the same column below \ldelim or \rdelim, but not in cells which are above or below the delimiter:

```
\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\{}{\}{3}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}
```

<->	a	b
c	d	
e	f	
g	h	
<->	i	j

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

for HTML output: First, remove the temporary definitions of `\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@l delim}{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@r delim}{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 % \l delim ( [n]{width}[text]
19 \CustomizeMathJax{\newcommand{\LWRl delim}[1][]{\text{\#1}\sim\text{\#1}}}
20 \CustomizeMathJax{\def\l delim#1#2#3{\def\LWRbigdelim{\#1}\LWRl delim}}
21 % \r delim ) [n]{width}[text]
22 \CustomizeMathJax{\newcommand{\LWRr delim}[1][]{\text{\#1}\sim\text{\#1}}}
23 \CustomizeMathJax{\def\r delim#1#2#3{\def\LWRbigdelim{\#1}\LWRr delim}}
24 \end{warpMathJax}
```

File 46 lwarp-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 **lwarp-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 `\teximage`, 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 **lwarp-bitpattern.sty**

§ 154 Package **bitpattern**

(Emulates or patches code by JEAN-MARC BOURGUET.)

Pkg **bitpattern** **bitpattern** is patched for use by `lwarp`.

for **HTML output**: 1 \LWR@ProvidesPackagePass{bitpattern}[2015/12/11]

```

2 \xpatchcmd{\bitpattern}
3   {\begingroup}
4   {\begin{\teximage}[-bitpattern-\PackageDiagramAltText]}
5   {}
6   {\LWR@patcherror{bitpattern}{bitpattern}}
7

```

```
8 \xpatchcmd{\bp@Done}
9   {\endgroup}
10  {\end{lateimage}}
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
59 \LWR@expandableformatted{bottomrule}
60
61 \DeclareDocumentCommand{\LWR@HTML@addlinespace}{o}{%
62
63 \LWR@expandableformatted{addlinespace}
64
65 \DeclareDocumentCommand{\LWR@HTML@morecmidrules}{}{%
66
67 \LWR@expandableformatted{morecmidrules}
68
69 \DeclareDocumentCommand{\LWR@HTML@specialrule}{m m m d()}{%
70     {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}\LWR@getmynexttoken}%
71
72 \LWR@expandableformatted{specialrule}

```

For MATHJAX:

```

73 \begin{warpMathJax}
74 \CustomizeMathJax{\newcommand{\toprule}[1][]{\hline}}
75 \CustomizeMathJax{\let\midrule\toprule}
76 \CustomizeMathJax{\let\bottomrule\toprule}
77 \CustomizeMathJax{\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 **lwarf-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-bussproofs.sty**

§ 168 Package **bussproofs**

(Emulates or patches code by SAMUEL R. BUSS.)

Pkg bussproofs **bussproofs** is used as-is for HTML, and emulated by MATHJAX's extension.

⚠ **\DisplayProof** If not using MATHJAX, inline proofs with `\DisplayMath` must be placed inside a math expression.

If using MATHJAX, only the `prooftree` environment may be used, not `\DisplayProof`.

for HTML output:

```

1 \LWR@ProvidesPackagePass{bussproofs}%
no date in file

2 \ifbool{mathjax}{%
3   \CustomizeMathJax{\require{bussproofs}}%
4   \NewEnviron{LWR@HTML@prooftree}{%
5     {\LWR@doequation{\BODY}{prooftree}}%
6     [\LWR@doendequation{prooftree}]%
7     \LWR@formattedenv{prooftree}%
8   }{%
9   }{%
10  \BeforeBeginEnvironment{prooftree}{%
11    \begin{lateximage}[-bussproofs-\~\PackageDiagramAltText]%
12  }%
13  \AfterEndEnvironment{prooftree}{\end{lateximage}}%
14 }

```

File 63 **l warp-bxpapersize.sty**

§ 169 Package **bxpapersize**

Pkg `bxpaper size` `bxpaper size` is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{bxpaper size}[2017/10/08]

2 \providecommand*\papersizesetup{\bxpaper sizesetup}%
3 \newcommand*\bxpaper sizesetup[1]{}

```

File 64 **l warp-bytefield.sty**

§ 170 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 65 **lwarp-cancel.sty**

§ 171 Package **cancel**

Pkg **cancel** **cancel** is used as-is for SVG math, and emulated for **HTML** text output.

for HTML output:

```
1 \LWR@origRequirePackage{lwarp-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{lwarp, cancel}{The MathJax v3 extension will be used}
```

```
31 \CustomizeMathJax{\require{cancel}}
32 \end{warpMathJax}
```

File 66 **lwarp-canoniclayout.sty**

§ 172 Package **canoniclayout**

Pkg canoniclayout canoniclayout is ignored.

for HTML output: s1 \LWR@ProvidesPackageDrop{canoniclayout}[2011/11/05]

```
2 \newcommand*{\currentfontletters}{}
3 \newcommand*{\charactersperpage}{}
```

File 67 **lwarp-caption.sty**

§ 173 Package **caption**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg caption caption is patched for use by lwarp.

for HTML output:

```
1 \typeout{---}
2 \typeout{Packages lwarp and caption:}
3 \typeout{If a ‘‘Missing \protect\begin\protect{document}\protect’’ error occurs here,}
4 \typeout{try using: \space \protect\usepackage\protect{caption}\protect}\space%
5   \protect\captionsetup{options}
6 \typeout{instead of: \protect\usepackage[options]\protect{caption}\protect.}
7 \typeout{---}
8
9 \LWR@ProvidesPackagePass{caption}[2020/08/24]
```

```
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 }
```

```
26 }
```

```

25   \parbox[t]{\linewidth}{%
26     #1\relax
27     \caption@setposition t%
28 %     #2%
29     {\caption#4{#5}}%
30 %     \captionbox@hrule
31 %     \csname caption@hj@\#7\endcsname
32     #8%
33   }%
34 }{%
35   \endgroup

36 %   \parbox[b]{#6}{%
37   \minipagefullwidth          lwarp
38   \parbox[b]{\linewidth}{%           lwarp
39     #1\relax
40     \caption@setposition b%
41 %     \csname caption@hj@\#7\endcsname
42     #8%
43 %     \captionbox@hrule
44 %     #3
45     {\caption#4{#5}}%
46   }%
47 }%
48 }

```

\caption@makecaption

```

49 \long\def\caption@makecaption#1#2{%
50 %   \caption@make@above
51   \caption@make{#1}{#2}%
52 %   \caption@make@below
53 }
54
55 \AtBeginDocument{
56   \let\@makecaption\caption@makecaption
57 }

```

Appended to look ahead to the next token for \centering, etc:

```

58 \AtBeginDocument{
59 \xapptocmd{\xfloat}
60   {\LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment}
61   {}
62   {\LWR@patcherror{caption}{\xfloat}}
63
64 \xapptocmd{\xdblfloat}
65   {\LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment}
66   {}
67   {\LWR@patcherror{caption}{\xdblfloat}}
68 }

```

Updates for late patches for scrextend:

```

69 \caption@AtBeginDocument{
70 \@ifpackageloaded{l warp-scrextend}){
71   \LetLtxMacro\captionbelow\caption
72   \LetLtxMacro\captionabove\caption
73   \LetLtxMacro\captionofbelow\captionof
74   \LetLtxMacro\captionofabove\captionof
75 }{}
76 }

```

File 68 **l warp-caption3.sty**

§ 174 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}\%                                l warp
25 \endgroup
26 \fi}%
27 {\ifcaption@star\else

```

```
28      \begingroup
29          \caption@iflabelfont\captionlabelfont
30          \relax\caption@labelsep
31      \endgroup
32  \fi}%
33 {{\captionontextfont
34      \let\\newline%                      l warp
35 %
36      \caption@textstart
37 %
38      \caption@ifstrut
39          {\vrule@height\ht\strutbox@width\z@}%
40          {}%
41          \nobreak\hskip\z@skip % enable hyphenation
42 %
43      \LWR@isolate{\caption@textformat{#2}}%    l warp
44 %
45      \caption@ifstrut
46          {\ifhmode@\finalstrut\strutbox\fi}%
47          {}%
48      \caption@textend}%
49 %
50 \LWR@traceinfo{caption@@@make done}%
51 %
52 \LWR@traceinfo{caption@@@make}%
53      \LWR@stoppars%                      l warp
54 %
55      \sbox@\tempboxa{#1}%
56      \ifdim\wd\tempboxa=\z@
57          \let\caption@lsep\relax
58      \fi
59      \caption@ifempty{#2}{%
60          \let\caption@lsep\empty
61          \let\caption@tfmt@\firstofone
62      }%
63      \setpar{\@@par\caption@@par}\caption@@par
64      \caption@applyfont
```

\caption@fmt with plain format is defined as {#1#2#3\par}:

```
64 %
65      \caption@fmt
66      {\ifcaption@star\else
67          \begingroup
68              \captionlabelfont
69              \LWR@isolate{#1}%                      l warp
70          \endgroup
71      \fi}%
72      {\ifcaption@star\else
73          \begingroup
74              \caption@iflf\captionlabelfont
75              \relax
76              \caption@lsep
77          \endgroup
78      \fi}%
79      \relax
```

```

78    {{%
79      \captiontextfont
80      \let\\newline%                                lwarp
81 %     \caption@ifstrut
82 %       {\vrule@height\ht\strutbox@width\z@}%
83 %       {}%
84 %     \nobreak\hskip\z@skip % enable hyphenation
85 %     \LWR@isolate{\caption@tfmt{#2}}%          lwarp
86 %     \caption@ifstrut
87 %       {ifhmode@\finalstrut\strutbox\fi}%
88 %       {}%
89 %       }}%
90      \LWR@startpars%                                lwarp
91 \LWR@traceinfo{caption@@@make done}%
92 }
93 }% earlier than 2020/08/23

\caption@@@make@  {\langle\rangle} {\langle\rangle}

94 \renewcommand{\caption@@@make@}[2]{%
95   \caption@stepthecounter%
96   \caption@beginhook%
97   \caption@@@make{#1}{#2}%
98   \caption@endhook%
99 }

100 \DeclareCaptionBox{none}{#2}
101 \DeclareCaptionBox{parbox}{%
102   #2%
103 }

104 \DeclareCaptionBox{colorbox}{%
105   #2%
106 }

```

File 69 **lwarp-cases.sty**

§ 175 Package **cases**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg cases **cases** is patched for use by **lwarp**.

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 70 **l warp-centernot.sty**

§ 176 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}{\LWRoverlaysymbols{\unicode{x2215}}{\#1}}
6 \LWRoverlaysymbols{\unicode{x2215}}{\#1}
7 \}}
8 \end{warpMathJax}
```

File 71 **l warp-changebar.sty**

§ 177 Package **changebar**

Pkg changebar changebar is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{changebar}[2018/03/09]

```

2 \newcommand*{\cbstart}(){}
3 \newcommand*{\cbend}(){}
4 \newenvironment*{\changebar}{}{}
```

```
5 \newcommand*{\cbdelete}{}  
6 \newcommand*{\nochnagebars}{}  
7 \newcommand*{\cbccolor}[1]{}  
8 \newlength{\changebarwidth}  
9 \newlength{\deletebarwidth}  
10 \newlength{\changebarsep}  
11 \newcounter{changebargrey}
```

File 72 l warp-changelayout.sty**§ 178 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 73 l warp-changepage.sty**§ 179 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}{\oddpagefalse}
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 74 **l warp-changes.sty**

§ 180 Package **changes**

(*Emulates or patches code by EKKART KLEINOD.*)

Pkg **changes** **changes** is patched for use by **l warp**.

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}[4]{%
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}[4]{%
12   \IfSubStr{\Changes@loc@show}{#1}{%
13     \ifthenelse{\not\equal{\Changes@loc@style}{compactsummary} \or #2 > 0}{%
14       %
15       #3:~#2#4%
16     }{}%
17   }{}%
18 }
19

```

```
20 \xpatchcmd{\listofchanges}
21   {{\changesauthorname: \changesanonymous}}
22   {{\LWR@textcurrentcolor{\changesauthorname: \changesanonymous}}}
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}]}: } }%
48       {\textbf{[#3~\arabic{Changes@commentCount}]}: } }%
49     #1%
50   }
51   {%
52     \LWR@textcurrentcolor{%
53       \ifthenelse{\isAnonymous{#2}}%
54         {\textbf{[\arabic{Changes@commentCount}]}: } }%
55         {\textbf{[#3~\arabic{Changes@commentCount}]}: } }%
56     #1%
57   }%
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}]}: } }%
67         {\textbf{[#3~\arabic{Changes@commentCount}]}: } }%
68     #1%
69   }%
70   {}%
71   {%
72     \LWR@textcurrentcolor{%
73       \uwave{%
74         \ifthenelse{\isAnonymous{#2}}%
```

```

75          {\textbf{\{[\arabic{Changes@commentCount\#2}]\}}}%
76          {\textbf{\{[\#3\~\arabic{Changes@commentCount\#2}]\}}}%
77          #1%
78      }%
79  }%
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 75 lwarf-chappg.sty

§ 181 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 76 **l warp–chapterbib.sty**

§ 182 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 77 **l warp–chemfig.sty**

§ 183 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{latextimage}[-chemfig-~\PackageDiagramAltText]
\chemfig{...}
\polymerdelim[...]{...}
\end{latextimage}
```

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{latextimage}[-chemfig-~\PackageDiagramAltText]}
8     {}{\LWR@patcherror{chemfig}{charge}}
9   \xpretocmd\Charge{\begin{latextimage}[-chemfig-~\PackageDiagramAltText]}
10    {}{\LWR@patcherror{chemfig}{Charge}}
11   \xapptocmd\charge_c{\end{latextimage}}
12     {}{\LWR@patcherror{chemfig}{charge_c}}
13 }{}
14
```

```
15 \@ifpackagelater{chemfig}{2019/04/18}%
16 {%
17 %
18 %
19 \LetLtxMacro{\LWR@chemfig}{\origchemfig\chemfig}
20 %
21 \renewcommand*\chemfig[2][]{%
22   \begin{ lateximage }[-chemfig-\~\PackageDiagramAltText]%
23     \LWR@chemfig{\origchemfig[#1]{#2}}%
24   \end{ lateximage }%
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 }%
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 }%
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 78 **l warp-chemformula.sty**

§ 184 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 dollar*{%
13     \textbackslash{}ch\{\LWR@HTMLsanitize{#2}\}%
14   } alt text
15   \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
16   add'l hashing
17   }%
18   \chemformula_ch:nn {#1} {#2}%
19   original
20   \endgroup%
21 }
22 }

```

\chcpd Similar to \ch.

```

23 \@ifpackagelater{chemformula}{2019/10/13}%
24 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
25 {
26   \begingroup%
27   \boolfalse{mathjax}%
28   \LWR@subsingle dollar*{%
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_sanitize: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 {%
55 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
56 {
57   \begingroup%
58   \boolfalse{mathjax}%
59   \LWR@subsingledollar*{\% l warp
60     \textbackslash{}chcpd\{\LWR@HTMLsanitize{\#2}\}\%
61   }{%
62     \protect\lWR@HTMLsanitize{\detokenize\expandafter{\#1}}\%
63   }{%
64     \original
65     \group_begin:
66       \tl_if_blank:nF {\#2}
67       {
68         \keys_set:nn {chemformula} {\#1}
69         \__chemformula_save_catcodes:
70         \__chemformula_sanitize:Nn
71         \l__chemformula_chemformula_tmpa_tl
72         {\#2}
73         \__chemformula_input_compound_no_check:NV
74           \l__chemformula_compound_tl
75           \l__chemformula_chemformula_tmpa_tl
76           \__chemformula_prepare_output:N \l__chemformula_compound_tl
77           \chemformula_write:V \l__chemformula_compound_tl
78       }
79     \group_end:
80   }
81 }
82 }% earlier than 2019/10/13

```

\charrow If standalone, appears in a regular `lateximage`.

```

83 \RenewDocumentCommand \charrow { mO{}O{} }
84 {
85   \begin{lateximage}[-chemformula- charrow]
86   \group_begin:
87     \__chemformula_draw_arrow:nnn {\#1} {\#2} {\#3}
88   \group_end:
89   \end{lateximage}
90 }

```

\chname If standalone, appears in a regular `lateximage`, hashed according to contents.

```

91 \RenewDocumentCommand \chname { R(){}R(){} }
92 {
93   \begin{lateximage}*[%
94     \textbackslash{}chname(\LWR@HTMLsanitize{\#1})(\LWR@HTMLsanitize{\#2})%
95   ]*%
96   \chemformula_chwritebelow:nn {\#1} {\#2}
97   \end{lateximage}
98 }

```

\chlewis Placed inline, hashed according to contents and options.

```

99 \RenewDocumentCommand \chlewis { O{}mm }
100 {
101   \begingroup%
102   \boolfalse{mathjax}%
103   \LWR@subsingledollar*\{\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_tmpa_int
143     \int_zero:N \l__chemformula_tmpb_int
144     \int_set:Nn \l__chemformula_tmpa_int { \tl_count:n {#2} }
145     \tl_map_inline:nn {#2}
146     {
147         \int_incr:N \l__chemformula_tmpb_int
148         \int_compare:nT { \l__chemformula_tmpb_int = 1 }
149     }

```

At the start, the cs_ version compares control sequences:

```

150         \ifdstrequal{##1}{#3}%
151             \l warp
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         \ifdstrequal{##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% l warp
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 l warp:

```

182          \bool_if:NF \l__chemformula_first_last_mathbraces_bool% l warp
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          }% l warp
189      }
190  }

191 \ExplSyntaxOff

```

File 79 l warp-chemgreek.sty

§ 185 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_ELa_TE_X, Lua_La_TE_X If using X_ELa_TE_X or Lua_La_TE_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 80 **l warp-chemmacros.sty**

§ 186 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.

§ 186.1 Changes to the user's document

⚠ \makepolymerdelims When using \makepolymerdelims, enclose the entire expression inside a polymerdelims environment, such as (from the chemmacros manual):

```
\begin{polymerdelims}
\chemfig{-[@{op,.75}]CH_2-CH(-[6]Cl)-[@{cl,0.25}]}
\makepolymerdelims{5pt}[27pt]{op}{cl}
\end{polymerdelims}
```

⚠ redox reactions Redox reactions must be enclosed inside a redoxreaction environment. For print output, extra space must be included above and/or below the result, so they are declared as arguments to the environment, instead of being manually entered as per the chemmacros manual. For HTML output, the extra space is ignored and a lateximage is used instead.

```
\begin{redoxreaction}{7mm}{7mm}
\OX{a,Na} $\rightarrow$ \OX{b,Na}\pch\redox(a,b){oxidation}
\end{redoxreaction}
```

§ 186.2 **Code**

§ 186.3 **Loading modules**

Patching chemmacros modules must be done \AtBeginDocument, since modules are invoked by the user in the preamble, and each patch is only done if the module is loaded.

2 \ExplSyntaxOn

3

```

4 \newcommand{\@ifchemmacrosmoduleloaded}[1]{%
5 \@ifl@aded{\c__chemmacrosmodule_extension_tl}{\c__chemmacrosmodule_prefix_tl.\#1}%
6 }
7
8 \ExplSyntaxOff

```

§ 186.4 New environments

\makepolymerdelims and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in HTML mode, and in the `lwarp` core in print mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

Env `polymerdelims`

```

9 \DeclareDocumentEnvironment{polymerdelims}{}%
10 {\begin{lateximage}[-chemmacrospolymer]}
11 {\end{lateximage}}

```

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}[-chemmacrospredoxreaction]}
14 {\end{lateximage}}

```

```
15 \ExplSyntaxOn
```

§ 186.5 Acid-base

```

16 \AtBeginDocument{%
17 \@ifchemmacrosmoduleloaded{acid-base}{%
18 \PackageInfo{lwarp}{Patching~chemmacrosmodule~acid-base}%
19
20 \cs_gset_protected:Npn \chemmacrosp: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             \chemmacrosp_style:n {p}%
32             \ensuremath{\{#1\}}%
33         }%
34     }%
35     \group_end:
36 }
37 \endgroup

```

```
38  }
39
40 \RenewDocumentCommand \pH {} {
41   \begingroup
42   \boolfalse{mathjax}
43   \LWR@subsingledollar*\{\textbackslash{}pH\}{chemmacros}%
44     \chemmacros_p:n { \chemmacros_chemformula:n {H} }
45   }
46   \endgroup
47 }
48
49 \RenewDocumentCommand \pOH {} {
50   \begingroup
51   \boolfalse{mathjax}
52   \LWR@subsingledollar*\{\textbackslash{}pOH\}{chemmacros}%
53     \chemmacros_p:n { \chemmacros_chemformula:n {OH} }
54   }
55   \endgroup
56 }
57
58 \RenewDocumentCommand \pKa {O{}}
59 {
60   \begingroup
61   \boolfalse{mathjax}
62   \LWR@subsingledollar*\{\textbackslash{}pKa{[]}\}{chemmacros #1}%
63     \chemmacros_p:n
64     {
65       \Ka \ifblank {\#1} {}
66       { {} \c_math_subscript_token { \chemmacros_bold:n {\#1} } }
67     }
68   }
69   \endgroup
70 }
71
72 \RenewDocumentCommand \pKb {O{}}
73 {
74   \begingroup
75   \boolfalse{mathjax}
76   \LWR@subsingledollar*\{\textbackslash{}pKb{[]}\}{chemmacros #1}%
77     \chemmacros_p:n
78     {
79       \Kb \ifblank {\#1} {}
80       { {} \c_math_subscript_token { \chemmacros_bold:n {\#1} } }
81     }
82   }
83   \endgroup
84 }
85
86 \LetLtxMacro\LWR@chemmacros@origKa\Ka
87 \renewcommand*\Ka}{%
88   \begingroup
89   \boolfalse{mathjax}
90   \LWR@subsingledollar*\{\textbackslash{}Ka\}{chemmacros}%
91     \LWR@chemmacros@origKa%
92   }%
```

```

93      \endgroup
94 }
95
96 \LetLtxMacro{\LWR@chemmacros@origKb}{\Kb}
97 \renewcommand*{\Kb}{%
98   \begingroup
99   \boolfalse{mathjax}
100  \LWR@subsingledollar*{\textbackslash{}Kb}{chemmacros}{%
101    \LWR@chemmacros@origKb%
102  }%
103  \endgroup
104 }
105
106 \LetLtxMacro{\LWR@chemmacros@origKw}{\Kw}
107 \renewcommand*{\Kw}{%
108   \begingroup
109   \boolfalse{mathjax}
110  \LWR@subsingledollar*{\textbackslash{}Kw}{chemmacros}{%
111    \LWR@chemmacros@origKw%
112  }%
113  \endgroup
114 }
115
116 }{}% \@ifchemmacrosmoduleloaded
117 }% AtBeginDocument

```

§ 186.6 Charges

```

118 \AtBeginDocument{
119 \@ifchemmacrosmoduleloaded{charges}%
120 \PackageInfo{lwarp}{Patching~chemmacros~module~charges}%
121
122 \cs_gset_protected:Npn \fplus {
123   \begingroup
124   \boolfalse{mathjax}
125   \LWR@subsingledollar*{\textbackslash{}fplus}{chemmacros}%
126   { \LWR@origensuredmath{\chemformula_fplus:} }%
127   \endgroup
128 }
129 \cs_gset_protected:Npn \fminus {
130   \begingroup
131   \boolfalse{mathjax}
132   \LWR@subsingledollar*{\textbackslash{}fminus}{chemmacros}%
133   { \LWR@origensuredmath{\chemformula_fminus:} }%
134   \endgroup
135 }
136
137 }{}% \@ifchemmacrosmoduleloaded
138 }% AtBeginDocument

```

§ 186.7 Nomenclature

```

139 \AtBeginDocument{
140 \@ifchemmacrosmoduleloaded{nomenclature}%
141 \PackageInfo{lwarp}{Patching~chemmacros~module~nomenclature}%

```

```
142 \cs_gset_protected:Npn \chemmacros_charge:n #1
143 {
144     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}
145     {\chemmacros_chemformula:n { {}^{#1} } }
146     {
147         \ifmmode
148             {\chemmacros_chemformula:n { {}^{#1} } }
149         \else
150             { \textsuperscript{\ensuremath{#1}} }
151         \fi
152     }
153 }
154
155
156
157 \LetLtxMacro{\LWR@chemmacros@origchemprime}{\chemprime}
158
159 \protected\def\chemprime { \HTMLUnicode{2032} }
160
161 \appto{\LWR@restoreorigformatting}{%
162 \LetLtxMacro{\chemprime}{\LWR@chemmacros@origchemprime}%
163 }

164 \ChemCompatibilityFrom{5.8}
165 \cs_gset_protected:Npn \__chemmacros_cip:n #1
166 {
167     \tl_set:Nn \l__chemmacros_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@subsingledollar*\{\textbackslash{}bridge\{\#1\}\}{chemmacros}{
234         \chemmacros_coordination_symbol:nnnn
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

```

§ 186.8 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{lateximage}%
264    \group_begin:%
265      \IfNoValueF {##1}%
266      { \chemmacros_set_keys:nn {particles} {##1} }%
267      \use:c {__chemmacros_} \chemmacros_remove_backslash:N #1:}%
268    \group_end:%
269    \end{lateximage}%
270  }
271 }
272
273 \RenewChemNucleophile \Nuc {Nu}
274 \RenewChemNucleophile \ba {ba}
275
276 }{}% \AtBeginDocument
277 }% AtBeginDocument

```

§ 186.9 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
```

§ 186.10 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 }{ }% \@ifchemmacrosmoduleloaded
417 }% AtBeginDocument

```

§ 186.11 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             \IfNoValueF {#2}{%
431                 { \chemmacros_newman:nn { } {#3} }
432                 { \chemmacros_newman:nn {#2} {#3} }
433             \group_end:%
434             \end{ lateximage }
435     }%
436 }%
437 }{}% \@ifchemmacrosmoduleloaded
438 }% AtBeginDocument

```

§ 186.12 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      \group_end:
462      \end{latextimage}
463  }
464
465 }{}% \@ifchemmacrosmoduleloaded
466 }% AtBeginDocument
```

§ 186.13 Reactions

```
\chemmacros_declare_reaction_env  {{<chem>}} {{<math>}} {{<args number>}} {{<argument list (#2){#3}...>}}
467 \AtBeginDocument{
468 \@ifchemmacrosmoduleloaded{reactions}%
469 \PackageInfo{l warp}{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} { 0{} } {\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
```

§ 186.14 Redox

```

497 \AtBeginDocument{
498 \@ifchemmacrosmoduleloaded{redox}){
499 \PackageInfo{l warp}{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:nnn { } {#2} #3 }
506     }
507
508 \RenewDocumentCommand \ox { s O{} m }
509 {
510     \begingroup
511     \boolfalse{mathjax}
512     \IfBooleanTF {#1}
513     {
514         \LWR@subsingle$*{%
515             \textbackslash\{\LWR@HTMLsanitize{#3}\}\% alt
516         }{%
517             \star \protect\LWR@HTMLsanitize{\detokenize\expandafter{#2}}%
518         }{%
519             \LWR@chemmacros@ox* {#2} {#3}\% contents
520         }%
521     }
522     {
523         \LWR@subsingle$*{%
524             \textbackslash\{\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 }{} \@ifchemmacrosmoduleloaded
534 }{} AtBeginDocument

```

§ 186.15 Scheme

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```

536 \AtBeginDocument{
537 \@ifchemmacrosmoduleloaded{scheme}{
538 \PackageInfo{l warp}{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
```

§ 186.16 Spectroscopy

```
548 \AtBeginDocument{
549 \@ifchemmacrosmoduleloaded{spectroscopy}{%
550 \PackageInfo{lwarp}{Patching~chemmacrosmodule~spectroscopy}}
551
552 \ChemCompatibilityTo{5.8}
553 \cs_gset_protected:Npn \__chemmacrosmacro_nmr_base:n #1#2
554 {
555     \tl_if_blank:VF \g__chemmacrosmacro_nmr_element_coupled_tl
556     {
557         \tl_put_left:Nn \g__chemmacrosmacro_nmr_element_coupled_tl { \{ }
558         \tl_put_right:Nn \g__chemmacrosmacro_nmr_element_coupled_tl { \} }
559     }
560     \tl_put_left:Nn \g__chemmacrosmacro_nmr_element_coupled_tl {#2}
561 %     \chemmacrosmacro_chemformula:n { ^{#1} }
562     \textsuperscript{#1}
563     \bool_if:NTF \l__chemmacrosmacro_nmr_parse_bool
564         { \chemformula_ch:nV {} \g__chemmacrosmacro_nmr_element_coupled_tl }
565         { \chemmacrosmacro_chemformula:V \g__chemmacrosmacro_nmr_element_coupled_tl }
566     \tl_use:N \l__chemmacrosmacro_nmr_element_method_connector_tl
567     \tl_use:N \l__chemmacrosmacro_nmr_method_tl
568 }
569 \EndChemCompatibility
570 \ChemCompatibilityFrom{5.8}
571 \cs_gset_protected:Npn \__chemmacrosmacro_nmr_base:n #1#2
572 {
573     \group_begin:
574     \tl_use:N \l__chemmacrosmacro_nmr_base_format_tl
575     \tl_if_blank:VF \g__chemmacrosmacro_nmr_element_coupled_tl
576     {
577         \tl_put_left:Nn \g__chemmacrosmacro_nmr_element_coupled_tl { \{ }
578         \tl_put_right:Nn \g__chemmacrosmacro_nmr_element_coupled_tl { \} }
579     }
580     \tl_put_left:Nn \g__chemmacrosmacro_nmr_element_coupled_tl {#2}
581 %     \chemmacrosmacro_chemformula:n { ^{#1} }
582     \textsuperscript{#1}
583     \tl_if_blank:VF \g__chemmacrosmacro_nmr_element_coupled_tl
584     {
585         \bool_if:NTF \l__chemmacrosmacro_nmr_parse_bool
586             { \chemformula_ch:nV {} \g__chemmacrosmacro_nmr_element_coupled_tl }
587             { \chemmacrosmacro_chemformula:V \g__chemmacrosmacro_nmr_element_coupled_tl }
588     }
589     \tl_use:N \l__chemmacrosmacro_nmr_element_method_connector_tl
590     \tl_use:N \l__chemmacrosmacro_nmr_method_tl
591     \group_end:
592 }
593 \EndChemCompatibility
594
595
596 \cs_gset_protected:Npn \chemmacrosmacro_nmr_position:n #1
```

```
597  {
598      \chemmacros_chemformula:x
599      {
600          \exp_not:V \g_chemmacros_nmr_element_tl
601          \bool_if:NF \l_chemmacros_nmr_position_side_bool
602          {
603              \tl_if_eq:NnTF \l_chemmacros_nmr_position_tl {^}% lwarp
604              { \textsuperscript{\exp_not:n { #1 } } }% lwarp
605              { \textsubscript{\exp_not:n { #1 } } }% lwarp
606 %              \exp_not:V \l_chemmacros_nmr_position_tl
607 %              \exp_not:n { #1 }
608          }
609      }
610      \bool_if:NT \l_chemmacros_nmr_position_side_bool
611      {
612          \tl_use:N \l_chemmacros_nmr_position_tl
613          \chemmacros_nmr_position:n {#1}
614      }
615  }
616
617 \cs_gset_protected:Npn \__chemmacros_nmr_coupling:w (#1;#2)
618  {
619      \tl_set:Nn \l_chemmacros_nmr_coupling_bonds_tl
620      {
621          \l_chemmacros_nmr_coupling_bonds_pre_tl
622          #1
623          \l_chemmacros_nmr_coupling_bonds_post_tl
624      }
625      \bool_if:NTF \l_chemmacros_nmr_coupling_nuclei_sub_bool
626      {
627          \tl_set:Nn \l_chemmacros_nmr_coupling_nuclei_tl
628          {
629 %              \c_math_subscript_token
630              \textsubscript% lwarp
631              {
632                  \l_chemmacros_nmr_coupling_nuclei_pre_tl
633                  \chemmacros_chemformula:n {#2}
634                  \l_chemmacros_nmr_coupling_nuclei_post_tl
635              }
636          }
637      }
638      {
639          \tl_set:Nn \l_chemmacros_nmr_coupling_nuclei_tl
640          {
641              \l_chemmacros_nmr_coupling_nuclei_pre_tl
642              \chemmacros_chemformula:n {#2}
643              \l_chemmacros_nmr_coupling_nuclei_post_tl
644          }
645      }
646      \__chemmacros_nmr_coupling_aux_i:w
647  }
648 \AfterEndPreamble{%
649 % \NMR{<num>,<elem>}(<num>,<unit>)[<solvent>] ALL arguments are optional
650 % \NMR* same but without ": $delta$" at end
651 \cs_gset_protected:Npn \chemmacros_nmr:nnnn #1#2#3#4
```

```
652  {
653  \bool_if:NT \l__chemmacros_nmr_list_bool { \item \scan_stop: }
654  \group_begin:

655      \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     \l warp
691     \__chemmacros_nmr_base:VV
692     \g__chemmacros_nmr_isotope_tl
693     \g__chemmacros_nmr_element_tl
694     \bool_if:NT \l__chemmacros_nmr_delimiters_bool
695     { ~ ( }
696     \bool_if:NT \l__chemmacros_nmr_frequency_bool
697     { \__chemmacros_nmr_frequency:n {#3} }
698     \bool_if:NT \l__chemmacros_nmr_comma_bool
699     { , ~ }
700     \bool_if:NT \l__chemmacros_nmr_solvent_bool
701     { \chemmacros_chemformula:n {#4} }
702     \bool_if:NT \l__chemmacros_nmr_delimiters_bool
703     { ) }
704     \tl_if_blank:nT {#1} {::~}
705 }% \l warp
```

```
705          \group_end:
706      }
707      \tl_if_blank:nT {#1}
708  {
709      \delta
710      \text { \l_chemmacros_nmr_delta_tl }
711      \bool_if:NT \l_chemmacros_nmr_use_equal_bool {=}
712  }
713 }
714 {
715     \group_begin:
716     \tl_use:N \l_chemmacros_nmr_format_tl
717 \LWR@textcurrentcolor{\LWR@textcurrentfont{%
718     \l_warp
719         \l_chemmacros_nmr_base:VV
720         \g_chemmacros_nmr_isotope_tl
721         \g_chemmacros_nmr_element_tl
722         \bool_if:NT \l_chemmacros_nmr_delimiters_bool
723             {~()}
724         \bool_if:NT \l_chemmacros_nmr_frequency_bool
725             { \l_chemmacros_nmr_frequency:n {#3} }
726         \bool_if:NT \l_chemmacros_nmr_comma_bool
727             {,~}
728         \bool_if:NT \l_chemmacros_nmr_solvent_bool
729             {
730                 \bool_if:NTF \l_chemmacros_nmr_parse_bool
731                     {
732                         { \chemformula_ch:nn { } {#4} }% original
733                         {\ch{#4}}% \l_warp
734                         {#4}
735                     }
736                 }
737             \tl_if_blank:nT {#1} {:}
738             \group_end:
739             \tl_if_blank:nT {#1}
740             {
741                 \tl_use:N \c_space_tl
742                 \c_math_toggle_token
743                 \delta
744                 \c_math_toggle_token
745                 \l_chemmacros_nmr_delta_tl
746                 \bool_if:NT \l_chemmacros_nmr_use_equal_bool {~=}
747             }
748         }
749     \group_end:
750 }
751 }% AfterEndPreamble
752
753
754 \RenewDocumentCommand \chemmacros_data:w { smo }
755 {
756     \bool_if:NT \l_chemmacros_nmr_list_bool { \item }
757     {
758         \tl_use:N \l_chemmacros_nmr_format_tl #2
```

```

759      \tl_use:N \l_chemm macros_nmr_format_tl
760      \LWR@textcurrentcolor{\LWR@textcurrentfont\% l warp
761          #2
762          \IfNoValueF {#3} { ~ ( #3 ) }
763          \IfBooleanT {#1} { \bool_if:NT \l_chemm macros_nmr_use_equal_bool { : } }
764      }%\ l warp
765  }
766  \IfBooleanF {#1} { \bool_if:NT \l_chemm macros_nmr_use_equal_bool { ~ = } }
767 }
768 }
769 }{}\% \@ifchemm macrosmoduleloaded
770 }%\ AtBeginDocument

```

§ 186.17 Thermodynamics

```

771 \AtBeginDocument{
772 \@ifchemm macrosmoduleloaded{thermodynamics} {
773 \PackageInfo{l warp}{Patching~chemm macros~module~thermodynamics}
774
775 \cs_gset_protected:Npn \chemm macros_state:nn #1#2
776 {
777     \group_begin:
778     \boolfalse{mathjax}
779     \chemm macros_set_keys:nn {thermodynamics} {#1}
780     \LWR@subsingle dollar*{\% yes hashing
781         \textbackslash state{\LWR@HTMLsanitize{#2}\% alt
782     }{\%
783         chemm macros_state% add'l hashing
784         #1% options
785         LSP \tl_use:N \l_chemm macros_state_sp_left_tl% super/subscripts
786         LSB \tl_use:N \l_chemm macros_state_sb_left_tl
787         RSP \tl_use:N \l_chemm macros_state_sp_right_tl
788         RSB \tl_use:N \l_chemm macros_state_sb_right_tl
789     }
790     {
791         \LWR@origensuredmath{
792             \chemm macros_text:V \l_chemm macros_state_pre_tl
793             \c_math_superscript_token
794             { \chemm macros_text:V \l_chemm macros_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_chemm macros_state_sb_left_tl
796     {}
797     {
798         \c_math_subscript_token
799         { \chemm macros_text:V \l_chemm macros_state_sb_left_tl }
800     }
801     #2
802     \c_math_superscript_token
803     { \chemm macros_text:V \l_chemm macros_state_sp_right_tl }
804     \tl_if_empty:NTF \l_chemm macros_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 81 **l warp-chemnum.sty**

§ 187 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 82 l warp-chkfloat.sty**§ 188 Package chkfloat**

Pkg chkfloat chkfloat is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

File 83 l warp-chngpage.sty**§ 189 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 84 l warp-cite.sty**§ 190 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 \ifdef\strequal{\@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\citepunct{}{\relax}
```

File 85 l warp-citeref.sty**§ 191 Package **citeref****

(Emulates or patches code by BJÖRN BRIEL.)

Pkg citeeref citeeref is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{citeref}[1999/27/05]

```
2 \def\@cprwritenew#1={\write\@auxout{\string\citetagref{#1}{\theLWR@currentautosec}}}
3
4 \def\citetagref#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 86 l warp-CJK.sty**§ 192 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 87 l warp-CJKutf8.sty**§ 193 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 88 **l warp-cleveref.sty**

§ 194 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 variorref 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 738 to redefine the message which is printed for page number references.

Table 14 on page 502 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 {{kindofref}} {{label}}
@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{l warp-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{l warp-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{\% before v0.21
40   \cref@getpageref[#2]{\@temppage}#1{\@temppage}{}}{}%
41
42 \def\lwr@orig@@setcpageref#1#2{\% as of v0.21
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 89 **l warp-clrdblp g.sty**

§ 195 Package **clrdblp g**

Pkg **clrdblp g** **clrdblp g** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{clrdblp g}[2018/04/21]

File 90 **l warp-cmbright .sty**

§ 196 Package **cmbright**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg **cmbright** **cmbright** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored, and `\mathbold` is available.

The dedicated macros for upright Greek letters do work correctly.

SVG math should appear the same as the printed output.

for HTML output: 1 \LWR@ProvidesPackagePass{cmbright}[2005/04/13]
 2
 3 \LWR@infoprocessingmathjax{cmbright}

 4 \LWR@origRequirePackage{l warp-common-mathjax-letters}
 5
 6 \begin{warpMathJax}
 7
 8 @ifpackagewith{cmbright}{slantedGreek}
 9 {
 10 \LWR@mathjax@addgreek@u@it*{}{}
 11 }
 12 {}
 13
 14 \LWR@mathjax@addgreek@u@up*{up}={}
 15
 16 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
 17
 18 \end{warpMathJax}

File 91 **lwarp-cmdtrack.sty**

§ 197 Package cmdtrack

Pkg cmdtrack cmdtrack is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]
2 \newcommand{\untrack}[1]{}
3 \begin{macro}{\untrack}

File 92 **l warp-colonequals.sty**

§ 198 Package **colonequals**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg colonequals colonequals is used as-is for SVG math, and is emulated for MATHJAX.

Since UNICODE symbols are not available for each of the following, only two are used for the single and double colons, and the other symbols are derived in a consistent manner. Occasional negative space is added as well. This may need to be undone for some fonts.

for HTML output: 1 \LWR@ProvidesPackagePass{colonequals}[2016/05/16]

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{colonequals}
4
5 \CustomizeMathJax{\newcommand{\ratio}{\mathrel{\text{\scriptsize\texttt{\&#x2236}}}}}
6 \CustomizeMathJax{\newcommand{\coloncolon}{\mathrel{\text{\scriptsize\texttt{\&#x2237}}}}}
7 \CustomizeMathJax{\newcommand{\colonequals}{\mathrel{\text{\scriptsize\texttt{\&#x2236}\text{\scriptsize\texttt{\&#x1f5e0}}}}}}
8 \CustomizeMathJax{\newcommand{\coloncoloncolonequals}{\mathrel{\text{\scriptsize\texttt{\&#x2237}\text{\scriptsize\texttt{\&#x1f5e0}}}}}}
9 \CustomizeMathJax{\newcommand{\equalscolon}{\mathrel{=\text{\scriptsize\texttt{\&#x2236}}}}}
10 \CustomizeMathJax{\newcommand{\equalscoloncolon}{\mathrel{=\text{\scriptsize\texttt{\&#x2237}}}}}
11 \CustomizeMathJax{\newcommand{\colonminus}{\mathrel{\text{\scriptsize\texttt{\&#x2236}\text{\scriptsize\texttt{-}}}}}}
12 \CustomizeMathJax{\newcommand{\coloncolonminus}{\mathrel{\text{\scriptsize\texttt{\&#x2237}\text{\scriptsize\texttt{-}}}}}}
13 \CustomizeMathJax{\newcommand{\minuscolon}{\mathrel{\text{\scriptsize\texttt{-}\text{\scriptsize\texttt{\&#x2236}}}}}}
14 \CustomizeMathJax{\newcommand{\minuscoloncolon}{\mathrel{\text{\scriptsize\texttt{-}\text{\scriptsize\texttt{\&#x2237}}}}}}
15 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{\text{\scriptsize\texttt{\&#x2236}\text{\scriptsize\texttt{\&#x1f5e1}}}}}}
16 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\mathrel{\text{\scriptsize\texttt{\&#x2237}\text{\scriptsize\texttt{\&#x1f5e1}}}}}}
17 \CustomizeMathJax{\newcommand{\approxcolon}{\mathrel{\text{\scriptsize\texttt{\&#x1f5e1}\text{\scriptsize\texttt{\&#x2236}}}}}}
18 \CustomizeMathJax{\newcommand{\approxcoloncolon}{\mathrel{\text{\scriptsize\texttt{\&#x1f5e1}\text{\scriptsize\texttt{\&#x2237}}}}}}
19 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{\text{\scriptsize\texttt{\&#x2236}\text{\scriptsize\texttt{\&#x1f5e2}}}}}}
20 \CustomizeMathJax{\newcommand{\coloncoloncolonsim}{\mathrel{\text{\scriptsize\texttt{\&#x2237}\text{\scriptsize\texttt{\&#x1f5e2}}}}}}
21 \CustomizeMathJax{\newcommand{\simcolon}{\mathrel{\text{\scriptsize\texttt{\&#x1f5e0}\text{\scriptsize\texttt{\&#x2236}}}}}}
22 \CustomizeMathJax{\newcommand{\simcoloncolon}{\mathrel{\text{\scriptsize\texttt{\&#x1f5e0}\text{\scriptsize\texttt{\&#x2237}}}}}}
23 \end{warpMathJax}

```

File 93 l warp-color.sty**§ 199 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 94 l warp-colortbl.sty**§ 200 Package colortbl**

Pkg colortbl colortbl is used as-is for print output, and emulated for HTML.

⚠ row/cell 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@arrayrulecolornexttoken}[2][named]{%
28   \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
29   \LWR@getmynexttoken%
30 }
31
32 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolornexttoken}}
```

\doublerulesepcolor [*model*] {{*color*}}

The version for use outside a tabular.

```
33 \newcommand{\LWR@HTML@doublerulesepcolor}[2][named]{}%
34
35 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolor}}
```

[*model*] {{*color*}}

The version for use inside a tabular.

```
36 \newcommand{\LWR@HTML@doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}%
37
38 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolornexttoken}}
```

File 95 l warp-continue.sty**§ 201 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 96 l warp-copyrightbox.sty**§ 202 Package copyrightbox**

(Emulates or patches code by THOMAS FISCHER, IVES VAN DER FLAAS.)

Pkg **copyrightbox** **copyrightbox** is emulated for use by **l warp**.

The entire copyright box is placed inside a <div> of class **copyrightbox**.

The contents are placed inside a <div> of class **copyrightboxcontents**.

The copyright notice is placed inside a <div> of class **copyrightboxnote**.

for HTML output: 1 \LWR@ProvidesPackageDrop{copyrightbox}[2011/11/27]

```
2 \newcommand{\copyrightbox}[3][r]{%  
3 \begin{BlockClass}[  
4   display: inline-flex;  
5   flex-direction: column ;  
6 ]{copyrightbox}  
7 \begin{BlockClass}{copyrightboxcontents}  
8 #2  
9 \end{BlockClass}  
10 \begin{BlockClass}{copyrightboxnote}  
11 #3  
12 \end{BlockClass}  
13 \end{BlockClass}  
14 }  
15  
16 \newcommand{\CRB@setcopyrightfont}{}  
17 \newcommand{\CRB@setcopyrightparagraphstyle}{}  
18
```

File 97 l warp-crop.sty

§ 203 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 98 l warp-ctable.sty

§ 204 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  \let@\CTframerule \dfltcTframerule  
18  \let@\CTcaptionskip \dfltcTcaptionskip  
19  \let@\CTframesep \dfltcTframesep
```

```

20   \@CTwidth      \@dfltcTwidth
21   \@CTmaxwidth   \@dfltcTmaxwidth
22   \@CTmincapwidth \@dfltcTmincapwidth
23   \@CTfooterwidth \@dfltcTfooterwidth
24   \def\@CTfactual {@dfltcTframefg}%
25   \def\@CTbgactual {@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%
78         \begin{BlockClass}[% lwarp
79             border:
80                 \LWR@printlength{\LWR@atleastonept}
81             solid
82                 \LWR@colorstyle{named}{\@CTfgactual} ; %
83             padding:\LWR@printlength{\fboxsep} ; %
84             \ifdefinedstring{\LWR@tempcolor}{FFFFFF}{%{%
85                 background: \LWR@colorstyle{named}{\@CTbgactual} ; %
86             }%
87             ]{fminipage}%
88             \ifx\@CTbotcap\@CTfalse\@CTCaption\vskip\@CTcaptionskip\fi
89             \ifx\@CTbotcap\undefined%
90                 \begin{sidecaption}[\@CTcap]{\@CTcaption}[\@CTLlabel]
91             \fi
92             \@CTdoinside
93             \begin{tabularx}{\linewidth}{#2}%
94                 \#
95             \end{tabularx}%
96             \def\@CTfootnotes{#3}%
97             \ifx\#3\empty\else% append footnotes, if any
98                 \begin{BlockClass}{tnotes}%
99                     \#
100                 \end{BlockClass}%
101             }%
102             \fi
103             \ifx\@CTbotcap\undefined\end{sidecaption}\fi
104             \ifx\@CTbotcap\@CTtrue\vskip\@CTcaptionskip\@CTCaption\fi
105             \end{BlockClass}
106         \end{center}
107         \@CTend
108     }%
109 \LWR@formatted{ctable}
```

Required to properly detect the toprule:

```
110 \LetLtxMacro\FL\toprule
```

Table notes are redefined for HTML:

```
111 \newcommand{\LWR@HTML@tmark}[1][a]{%
112     \textsuperscript{\textrm{\textit{#1}}}}
113 }
114 \LWR@formatted{tmark}
115
116 \newcommand{\LWR@HTML@tnote}[2][a]{%
117     \tmark[#1]\,,#2\par}
```

```
118 }
119 \LWR@formatted{tnote}
```

File 99 **l warp-cuted.sty**

§ 205 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 100 **l warp-cutwin.sty**

§ 206 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 101 **l warp-dblfloatfix.sty**

§ 207 Package **dblfloatfix**

Pkg dblfloatfix dblfloatfix is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{dblfloatfix}[2012/12/31]

File 102 **l warp-dblfnote.sty**

§ 208 Package **dblfnote**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg dblfnote dblfnote is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{dblfnote}[1999/07/14]

```
2 \newcounter{DFNsloppiness}  
3 \newdimen\DFNcolumnsep  
4 \newdimen\DFNcolumnwidth  
5 \def\DFNallowcbreak{}  
6 \def\DFNinhibitcbreak{}  
7 \def\DFNtrysingle{}  
8 \def\DFNalwaysdouble{}  
9 \def\DFNruleboth{}  
10 \def\DFNruleleft{}
```

File 103 **l warp-dcolumn.sty**

§ 209 Package **dcolumn**

Pkg dcolumn dcolumn is emulated by the l warp core.

1 \LWR@ProvidesPackageDrop{dcolumn}[2014/10/28]

File 104 **lwarp-decimal.sty**

§ 210 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 105 **lwarp-diagbox.sty**

§ 211 Package **diagbox**

(Emulates or patches code by LEO LIU.)

Pkg diagbox **diagbox** is patched for use by **lwarp**.

for HTML output:

```
1 \LWR@ProvidesPackagePass{diagbox}[2016/12/28]
```

To restore print-mode inside a *lateximage*:

```
2 \LetLtxMacro{\LWR@origdiagbox@double}{\diagbox@double}
3 \LetLtxMacro{\LWR@origdiagbox@triple}{\diagbox@triple}
4
5 \appto{\LWR@restoreorigformatting}{%
6   \LetLtxMacro{\diagbox@double}{\LWR@origdiagbox@double}%
7   \LetLtxMacro{\diagbox@triple}{\LWR@origdiagbox@triple}%
8 }
```

\LWR@diagbox@AB { $\langle E/W \rangle$ } { $\langle A \rangle$ } { $\langle E/W \rangle$ } { $\langle B \rangle$ }

```
9 \newcommand{\LWR@diagbox@AB}[4]{%
10 \begingroup%
11 \LetLtxMacro{\\\newline}{%
12 \BlockClassSingle{\diagbox#1}{\#2}%
13 \BlockClassSingle{\diagbox#3}{\#4}%
14 \endgroup%
15 \LWR@stoppars%
16 }
```

\LWR@diagboxNW { $\langle A \rangle$ } { $\langle B \rangle$ }

```

17 \newcommand{\LWR@diagboxNW}[2]{%
18 \LWR@diagbox@AB{E}{#2}{W}{#1}%
19 }

```

Likewise for NE, SW, SE:

```

20 \newcommand{\LWR@diagboxNE}[2]{%
21 \LWR@diagbox@AB{W}{#1}{E}{#2}%
22 }
23
24 \let\LWR@diagboxSW\LWR@diagboxNE
25 \let\LWR@diagboxSE\LWR@diagboxNW

```

```

\diagbox@double  {\langle keys\rangle} {\langle A\rangle} {\langle B\rangle}
26 \def\diagbox@double#1#2#3{%
27 \setkeys{diagbox}{dir=NW,#1}%
28 \nameuse{\LWR@diagbox\diagbox@dir}{#2}{#3}%
29 }

```

```

\LWR@diagboxTNW {\langle title\rangle} {\langle A\rangle} {\langle B\rangle}
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 {\langle keys\rangle} {\langle A\rangle} {\langle T\rangle} {\langle B\rangle}
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 106 l warp-dingbat.sty

§ 212 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 107 **l warp-DotArrow.sty**

§ 213 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 108 **l warp-dotlessi.sty**

§ 214 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 109 **l warp-dprogress.sty**

§ 215 Package **dprogress**

Pkg dprogress dprogress is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{dprogress}[2008/02/21]

File 110 **l warp-draftcopy.sty**

§ 216 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 111 **l warp-draftfigure.sty**

§ 217 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 112 **l warp-draftwatermark.sty**

§ 218 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 113 **l warp-drftcite.sty**

§ 219 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     \@citeverb{#2}\hfil]\if@filesw{\def\protect##1{\string ##1\space}%
9     \immediate\write\auxout{\string\bibcite{#2}{#1}}}\fi\ignorespaces}
```

File 114 **l warp-easy-todo.sty**

§ 220 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 115 **lwarf-ebook.sty**

§ 221 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 116 l warp-econometrics.sty

§ 222 Package **econometrics**

(Emulates or patches code by ERIK KOLE.)

Pkg econometrics **econometrics** is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```
1 \LWR@ProvidesPackagePass{econometrics}% no date specified in the original
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{econometrics}
6
7 \CustomizeMathJax{\newcommand{\SC}{\mathbb{C}}}
8 \CustomizeMathJax{\newcommand{\SN}{\mathbb{N}}}
9 \CustomizeMathJax{\newcommand{\SQ}{\mathbb{Q}}}
10 \CustomizeMathJax{\newcommand{\SR}{\mathbb{R}}}
11 \CustomizeMathJax{\newcommand{\SZ}{\mathbb{Z}}}
12
13 \CustomizeMathJax{\newcommand{\calA}{\mathcal{A}}}
14 \CustomizeMathJax{\newcommand{\calB}{\mathcal{B}}}
15 \CustomizeMathJax{\newcommand{\calC}{\mathcal{C}}}
16 \CustomizeMathJax{\newcommand{\calD}{\mathcal{D}}}
17 \CustomizeMathJax{\newcommand{\calE}{\mathcal{E}}}
18 \CustomizeMathJax{\newcommand{\calF}{\mathcal{F}}}
19 \CustomizeMathJax{\newcommand{\calG}{\mathcal{G}}}
20 \CustomizeMathJax{\newcommand{\calH}{\mathcal{H}}}
21 \CustomizeMathJax{\newcommand{\calI}{\mathcal{I}}}
22 \CustomizeMathJax{\newcommand{\calJ}{\mathcal{J}}}
23 \CustomizeMathJax{\newcommand{\calK}{\mathcal{K}}}
24 \CustomizeMathJax{\newcommand{\calL}{\mathcal{L}}}
25 \CustomizeMathJax{\newcommand{\calM}{\mathcal{M}}}
26 \CustomizeMathJax{\newcommand{\calN}{\mathcal{N}}}
27 \CustomizeMathJax{\newcommand{\calO}{\mathcal{O}}}
28 \CustomizeMathJax{\newcommand{\calP}{\mathcal{P}}}
29 \CustomizeMathJax{\newcommand{\calQ}{\mathcal{Q}}}
30 \CustomizeMathJax{\newcommand{\calR}{\mathcal{R}}}
31 \CustomizeMathJax{\newcommand{\calS}{\mathcal{S}}}
32 \CustomizeMathJax{\newcommand{\calT}{\mathcal{T}}}
33 \CustomizeMathJax{\newcommand{\calU}{\mathcal{U}}}
34 \CustomizeMathJax{\newcommand{\calV}{\mathcal{V}}}
35 \CustomizeMathJax{\newcommand{\calW}{\mathcal{W}}}
36 \CustomizeMathJax{\newcommand{\calX}{\mathcal{X}}}
37 \CustomizeMathJax{\newcommand{\calY}{\mathcal{Y}}}
38 \CustomizeMathJax{\newcommand{\calZ}{\mathcal{Z}}}
39
40 \LWR@mathjax@addlatin@u@bfit{m}% uppercase Latin, bold italic
41 \LWR@mathjax@addlatin@l@bfit{v}% lowercase Latin, bold italic
42
```

```
43 \LWR@mathjax@addgreek@l@bfit{v}{%} lowercase Greek bold italic
44 \LWR@mathjax@addgreek@u@bfit*{m}{%} uppercase Greek bold italic, capitalized macro names
45
46 \CustomizeMathJax{\newcommand{\rb}{\mathrm{b}}}
47 \CustomizeMathJax{\newcommand{\rB}{\mathrm{B}}}
48 \CustomizeMathJax{\newcommand{\rC}{\mathrm{C}}}
49 \CustomizeMathJax{\newcommand{\rD}{\mathrm{D}}}
50 \CustomizeMathJax{\newcommand{\rf}{\mathrm{f}}}
51 \CustomizeMathJax{\newcommand{\rF}{\mathrm{F}}}
52 \CustomizeMathJax{\newcommand{\rH}{\mathrm{H}}}
53 \CustomizeMathJax{\newcommand{\rL}{\mathrm{L}}}
54 \CustomizeMathJax{\newcommand{\rN}{\mathrm{N}}}
55 \CustomizeMathJax{\newcommand{\rt}{\mathrm{t}}}
56 \CustomizeMathJax{\newcommand{\rU}{\mathrm{U}}}
57 \CustomizeMathJax{\newcommand{\rGam}{\mathrm{Gam}}}
58 \CustomizeMathJax{\newcommand{\rBeta}{\mathrm{Beta}}}
59
60 \CustomizeMathJax{\newcommand{\Bin}{\mathrm{Bin}}}
61 \CustomizeMathJax{\newcommand{\eu}{\mathrm{e}}}
62 \CustomizeMathJax{\newcommand{\iu}{\mathrm{i}}}
63 \CustomizeMathJax{\newcommand{\LN}{\mathrm{LN}}}
64 \CustomizeMathJax{\newcommand{\IN}{\mathrm{IN}}}
65
66 \CustomizeMathJax{\newcommand{\Poi}{\mathrm{Poi}}}
67
68 \CustomizeMathJax{\newcommand{\ped}[1]{\mathrm{#1}}}
69 \CustomizeMathJax{\newcommand{\ap}[1]{^{\mathrm{#1}}}}
70 \CustomizeMathJax{\renewcommand{\Re}{\mathrm{Re}}{\nolimits}}
71 \CustomizeMathJax{\renewcommand{\Im}{\mathrm{Im}}{\nolimits}}
72
73 \CustomizeMathJax{\newcommand{\deriv}[3]{%
74   \frac{\mathrm{d}^{\#1}\#2}{\mathrm{d}^{\#1}\#3}%
75 }}
76 \CustomizeMathJax{\newcommand{\pderiv}[3]{%
77   \frac{\partial^{\#1}\#2}{\partial^{\#3}\#1}%
78 }}
79
80 \CustomizeMathJax{\newcommand{\bias}{\operatorname{bias}}}
81 \CustomizeMathJax{\newcommand{\col}{\operatorname{col}}}
82 \CustomizeMathJax{\newcommand{\corr}{\operatorname{corr}}}
83 \CustomizeMathJax{\newcommand{\cov}{\operatorname{cov}}}
84 \CustomizeMathJax{\newcommand{\dg}{\operatorname{dg}}}
85 \CustomizeMathJax{\newcommand{\diag}{\operatorname{diag}}}
86 \CustomizeMathJax{\newcommand{\E}{\operatorname{E}}}
87 \CustomizeMathJax{\newcommand{\etr}{\operatorname{etr}}}
88 \CustomizeMathJax{\newcommand{\ip}{\mathrm{int}}{\nolimits}}
89 \CustomizeMathJax{\newcommand{\kur}{\operatorname{kur}}}
90 \CustomizeMathJax{\newcommand{\MSE}{\operatorname{MSE}}}
91 \CustomizeMathJax{\newcommand{\MSFE}{\operatorname{MSFE}}}
92 \CustomizeMathJax{\newcommand{\OLS}{\operatorname{OLS}}}
93 \CustomizeMathJax{\newcommand{\plim}{\operatorname{plim}}}
94 \CustomizeMathJax{\newcommand{\resid}{\operatorname{resid}}}
95 \CustomizeMathJax{\newcommand{\rk}{\operatorname{rk}}}
96 \CustomizeMathJax{\newcommand{\SE}{\operatorname{SE}}}
97 \CustomizeMathJax{\newcommand{\sgn}{\operatorname{sgn}}}
```

```

98 \CustomizeMathJax{\newcommand{\tr}{\operatorname{tr}}}
99 \CustomizeMathJax{\newcommand{\var}{\operatorname{var}}}
100 \CustomizeMathJax{\renewcommand{\vec}{\operatorname{vec}}}
101 \CustomizeMathJax{\newcommand{\vech}{\operatorname{vech}}}
102
103 \CustomizeMathJax{\newcommand{\distr}{\mathrm{sim}}}
104 \CustomizeMathJax{\newcommand{\adistr}{\mathrm{stackrel{a}{distr}}}}
105 \CustomizeMathJax{\newcommand{\diff}{\Delta}}
106 \CustomizeMathJax{\newcommand{\fdiff}{\mathrm{diff}_{\mathrm{rf}}}}
107 \CustomizeMathJax{\newcommand{\bdiff}{\mathrm{diff}_{\mathrm{rb}}}}
108
109 \CustomizeMathJax{\newcommand{\eps}{\epsilon}}
110 \CustomizeMathJax{\newcommand{\epsi}{\varepsilon}}
111
112 \CustomizeMathJax{\newcommand{\longto}{\longrightarrow}}
113 \CustomizeMathJax{\newcommand{\pto}{\mathrm{stackrel{p}{\longrightarrow}}}}
114 \CustomizeMathJax{\newcommand{\dto}{\mathrm{stackrel{d}{\longrightarrow}}}}
115 \CustomizeMathJax{\newcommand{\wto}{\mathrm{stackrel{w}{\longrightarrow}}}}
116
117 \CustomizeMathJax{\newcommand{\Infmat}{\mathrm{bm}{\cal I}}}
118 \CustomizeMathJax{\newcommand{\Hesmat}{\mathrm{bm}{\cal H}}}
119 \CustomizeMathJax{\newcommand{\bcldot}{\bullet}}
120
121 \CustomizeMathJax{\newcommand{\vones}{\mathrm{bm}{\imath}}}
122 \CustomizeMathJax{\newcommand{\vzeros}{\boldsymbol{0}}}
123 \CustomizeMathJax{\newcommand{\mZeros}{\mathbf{0}}}
124
125 \CustomizeMathJax{\newcommand{\e}{\mathrm{eu}}}
126 \CustomizeMathJax{\newcommand{\mply}{\mathrm{cdot}}}
127 \CustomizeMathJax{\newcommand{\rW}{\mathrm{ensuremath}{\mathit{W}}}}
128 \end{warpMathJax}

```

File 117 lwarf-ed.sty

§ 223 Package **ed**

(Emulates or patches code by MICHAEL KOHLHASE.)

Pkg ed ed is patched for use by lwarf.

for HTML output: 1 \LWR@ProvidesPackagePass{ed}[2012/01/29]

Bugs:

1. todolist fails with the hide option, as does \edexplanation.
2. \edstubURI is actually \edstuURI.

```

2 \RequirePackage{xcolor}
3
4 \renewenvironment{edstub}[2][The following blue text]
5 {%

```

```

6   \def\@test{#1}%
7   \begin{center}%
8     \huge%
9     \textcolor{red}{%}
10    #1 is only a provisional stub\\Large
11    the Office document
12    \ifx\ed@stubURI\empty\else\LWR@href{\ed@stubURI}{#2}\fi\
13    contains more text\\which will be merged for the final document%
14    }%
15  \end{center}%
16  \BlockClass[color:blue]{edstub}%
17 }
18 {\endBlockClass}

```

File 118 **lwarp-ellipsis.sty**

§ 224 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 119 **lwarp-embrac.sty**

§ 225 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 120 **l warp-emptypage.sty**

§ 226 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 121 **l warp-endfloat.sty**

§ 227 Package **endfloat**

Pkg **endfloat** **endfloat** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{endfloat}[2019/04/15]

```

2 \newcommand\figureplace{}
3 \newcommand\tableplace{}
4 \newcommand\floatplace[1]{}
5 \newcounter{posttable}
6 \newcounter{postfigure}
7 \newcommand*\theposttbl(){}
8 \newcommand*\thepostfig(){}
9 \newcommand{\AtBeginFigures}[1]{}
10 \newcommand{\AtBeginTables}[1]{}

```

```
11 \newcommand{\AtBeginDelayedFloats}[1]{}
12 \newcommand*\processdelayedfloats(){}
13 \newcommand*\efloatseparator(){}
14 \def\efloattype{}
15 \providecommand\efloatheading[1){}
16 \providecommand\efloatpreamble={}
17 \providecommand\efloatpostamble={}
18 \NewDocumentCommand{\addtodelayedfloat}{s m m}{}
19 \providecommand{\efloatbegin}{}
20 \providecommand{\efloatend}{}
21 \providecommand{\efloatbeginlist}{}
22 \providecommand{\efloatendlist}{}
```

File 122 **lwarp-endheads.sty**

§ 228 Package **endheads**

Pkg endheads **endheads** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{endheads}[2017/04/06]

```
2 \newcommand{\changesinglepageabbrev}[1]{}
3 \newcommand{\changemultiplepageabbrev}[1]{}
4 \newcommand{\changetitlesname}[1]{}
5 \newcommand{\changetitlesheader}[1]{}
6 \newcommand{\changetitlescontentsname}[1]{}
7 \newcommand{\changechaptertitlesline}[1]{}
8 \newcommand{\checknoteheaders}{}
9 \newif\ifnotesincontents \notesincontentsfalse
10 \newcommand{\notesincontents}{\notesincontentstrue}
11 \newif\ifendnoteheaders \endnoteheadersfalse
12 \newcommand{\setupendnoteheaders}{%
13   \endnoteheaderstrue%
14 }
15 \newif\iftitleinnotes \titleinnotestrue
16 \newcommand{\styleforchapternotebegin}{}
17 \newcommand{\styleforchapternoteend}{}
18 \newcommand{\setstyleforchapternotebegin}[1]{%
19   \renewcommand{\styleforchapternotebegin}{#1}%
20 }
21 \newcommand{\setstyleforchapternoteend}[1]{%
22   \renewcommand{\styleforchapternoteend}{#1}%
23 }
24 \newcommand{\resetendnotes}{}
25 \newif\ifnotesbychapteron \notesbychapteronfalse
26 \newcommand{\notesbychapter}{\notesbychapterontrue}
```

File 123 l warp-endnotes.sty

§ 229 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 124 l warp-engtlc.sty

§ 230 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.^{\left.\right.^{#2}}}}}}
127 \CustomizeMathJax{\newcommand{\modulo}{\left.\right|}}
128 \CustomizeMathJax{\newcommand{\indB}{\%}}
129     \mathopen{}\left.\right.^{\mathsf{dB}}\mathclose{}}}%
130 \CustomizeMathJax{\newcommand{\for}[2]{\left.\right.^{\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{}\mathclose{}}}}
137 \CustomizeMathJax{\newcommand{\intinf}[1]{\int_{-\infty}^{+\infty}{#1}}}
138 \CustomizeMathJax{\newcommand{\deltain}[1]{\delta\left(\right.^{#1}})}
139 \CustomizeMathJax{\newcommand{\iu}{\mathsf{j}}}
140 \CustomizeMathJax{\newcommand{\ex}[1]{\mathsf{e}^{#1}}}
141 %
142 \CustomizeMathJax{\newcommand{\gammatens}{\Gamma^{\mathsf{V}}\Gamma}}
143 \CustomizeMathJax{\newcommand{\gammacorr}{\Gamma^{\mathsf{I}}\Gamma}}
144 \CustomizeMathJax{\newcommand{\gammatensin}[1]{\Gamma^{\mathsf{V}}\Gamma_{\mathsf{I}}}}
145 \CustomizeMathJax{\newcommand{\gammacorrin}[1]{\Gamma^{\mathsf{I}}\Gamma_{\mathsf{V}}}}
146 \CustomizeMathJax{\newcommand{\gammmain}{\Gamma_{\mathsf{V}}\Gamma_{\mathsf{I}}}}
147 \CustomizeMathJax{\newcommand{\gammak}{\Gamma^{\mathsf{k}}\Gamma}}
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\campoefas}
223 \CustomizeMathJax{\let\phasorHfiled\campohfas}
224 \CustomizeMathJax{\let\given\dato}
225 \CustomizeMathJax{\let\expval\valatt}
226 \CustomizeMathJax{\let\rmexp\ex}
227 \end{warpMathJax}

```

File 125 **lwarf-enumerate.sty**

§ 231 Package **enumerate**

Pkg **enumerate** **enumerate** is supported with no changes.

This package is only required because it was used in the past to drop and then emulate the package. It cannot be removed because an older version which dropped the package may still remain, for example in a local vs. distribution directory, but it is now supported directly by **lwarf** and thus must no longer be dropped.

for HTML output: 1 \LWR@ProvidesPackagePass{enumerate}[2015/07/23]

File 126 **lwarf-enumitem.sty**

§ 232 Package **enumitem**

(Emulates or patches code by JAVIER BEZOS.)

Pkg **enumitem** **enumitem** is supported with minor adjustments.

for HTML output: 1 \LWR@ProvidesPackagePass{enumitem}[2018/11/30]

```
\newlist {⟨name⟩} {⟨type⟩} {⟨maxdepth⟩}
\renewlist {⟨name⟩} {⟨type⟩} {⟨maxdepth⟩}
```

For `enumitem` lists, new lists must have the start and end actions assigned to the new environment. Renewed lists already have their actions assigned, and thus need no changes.

```

2 \let\LWR@enumitem@orignewlist\newlist
3
4 \renewcommand*\newlist[3]{%
5   \LWR@enumitem@orignewlist{#1}{#2}{#3}%
6   \AtBeginEnvironment{#1}{\@nameuse{\LWR@#2start}}%
7   \AtEndEnvironment{#1}{\@nameuse{\LWR@#2end}}%
8 }
9
10 \def\DrawEnumitemLabel{}

---



```

File 127 **lwarp-epigraph.sty**

§ 233 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 128 **l warp-epsfig.sty**

§ 234 Package **epsfig**

Pkg **epsfig** **epsfig** is emulated for use by **l warp**.

 Only the LATEX2e 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 129 **l warp-epstopdf.sty**

§ 235 Package **epstopdf**

Pkg **epstopdf** Previous versions of **l warp** had a nullified version, but now **epstopdf-base** is supported. **l warp-epstopdf** becomes a placeholder to overwrite previous versions.

See package **epstopdf-base** for details.

for HTML output: 1 \LWR@ProvidesPackagePass{epstopdf}[2016/05/15]

File 130 **l warp-epstopdf-base.sty**

§ 236 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 131 l warp-eqlist.sty**§ 237 Package eqlist**

Pkg eqlist eqlist is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{eqlist}[2002/08/15]

```
2 \newenvironment{eqlist}[1][] {\description}{\enddescription}
3 \newenvironment{eqlist*}[1][] {\description}{\enddescription}
4 \newenvironment{Eqlist}[2][] {\description}{\enddescription}
5 \newenvironment{Eqlist*}[2][] {\description}{\enddescription}
6 \newcommand*\longitem[1][] {\item[#1]}
7 \newcommand*\eqlistinit(){}
8 \newcommand*\eqliststarinit(){}
9 \newcommand*\eqlistinitpar(){}
10 \def\eqlistlabel#1{#1}
11 \newcommand{\eqlistauto}[1]{}
12 \newcommand{\eqlistnoauto}{}

---


```

File 132 l warp-eqparbox.sty**§ 238 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   \minipagefullwidth%
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 133 **l warp-errata.sty**

§ 239 Package **errata**

(Emulates or patches code by MICHAEL KOHLHASE.)

Pkg errata errata is patched for use by l warp.

This is for v0.3 of errata. A newer version of errata with more features is under development, at which time the l warp version will have to be updated.

for HTML output Macros are being defined with the math dollar, so enable the HTML version during package loading:

1 \StartDefiningMath

Now load the package:

2 \LWR@ProvidesPackagePass{errata}[2006/11/12]

Patches for dynamic inline math:

```

3 \xpatchcmd{\erratumAdd}
4   {$_a^{\arabic{erratum}}$}
5 %   {\inlinemathother$_a^{\arabic{erratum}}$\inlinemathnormal}
6   {\textsubscript{a}\textsuperscript{\arabic{erratum}}}
7   {}
8   {\LWR@patcherror{erratum}{erratumAdd}}
9
10 \xpatchcmd{\erratumDelete}
11   {$_d^{\arabic{erratum}}$}
12 %   {\inlinemathother$_d^{\arabic{erratum}}$\inlinemathnormal}

```

```

13      {\textsubscript{d}\textsuperscript{\arabic{erratum}}}
14      {}
15      {\LWR@patcherror{erratum}{erratumDelete}}
16
17 \xpatchcmd{\erratumReplace}
18   {$_r^{\arabic{erratum}}$}
19 %   {\inlinemathother$_r^{\arabic{erratum}}$\inlinemathnormal}
20   {\textsubscript{r}\textsuperscript{\arabic{erratum}}}
21   {}
22   {\LWR@patcherror{erratum}{erratumReplace}}
23
24 \xpatchcmd{\erratum}
25   {$_a$}
26 %   {\inlinemathother$_a$\inlinemathnormal}
27   {\textsubscript{a}}
28   {}
29   {\LWR@patcherror{erratum}{erratumDelete}}
30
31 \xpatchcmd{\erratum}
32   {$_d^{\@thefnmark}$}
33 %   {\inlinemathother$_d^{\@thefnmark} $\inlinemathnormal}
34   {\textsubscript{d}\textsuperscript{@thefnmark}}
35   {}
36   {\LWR@patcherror{erratum}{eDelete}}
37
38 \xpatchcmd{\erratum}
39   {$_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 134 **lwarf-eso-pic.sty**

§ 240 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 135 **lwarp-etoc.sty**

§ 241 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\etoctheplace \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} {\empty}
15 \DeclareRobustCommand*{\etocifnumbered}{\empty}
16 \DeclareRobustCommand*{\etociffirst}{\empty}

```

```
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
        {\hbox{\normalfont\normalsize\hb@xt@2ex {\hss.\hss}}}
49 \def\etocabrevpagename {p.~}
50 \def\etocpartname {Part}% modified 1.08b
51 \def\etocbookname {Book}
52 \def\etocdefaultlines{}
53 \def\etocabovetocskip{3.5ex \@plus 1ex \@minus .2ex}
54 \def\etocbelowtocskip{3.5ex \@plus 1ex \@minus .2ex}
55 \def\etoccolumnsep{2em}
56 \def\etocmulticolsep{0ex}
57 \def\etocmulticolpretolerance{-1}
58 \def\etocmulticoltolerance{200}
59 \def\etocdefaultnbcoll{2}
60 \def\etocinnertopsep{2ex}
61 \newcommand\etocmulticolstyle[2][]{}
62 \def\etocinnerbottomsep{3.5ex}
63 \def\etocinnerleftsep{2em}
64 \def\etocinnersrightsep{2em}
65 \def\etocoprule{\hrule}
66 \def\etoclefrule{\vrule}
67 \def\etocrightrule{\vrule}
68 \def\etocbottomrule{\hrule}
69 \def\etocoprulecolorcmd{\relax}
70 \def\etocbottomrulecolorcmd{\relax}
71 \def\etocleftrulecolorcmd{\relax}
```

```
72 \def\etocrightrulecolor{\relax}
73 \newcommand*\etocruledstyle[2][]{}
74 \def\etocframedmphook{\relax}
75 \long\def\etocbkgcolor{\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\etocmemoirtotocofcfmt #1#2{}
90 \def\etocmemoirstyle{}
91 \def\etocscrartclstyle{}
92 \let\etocscrbookstyle\etocscrartclstyle
93 \let\etocscrreprtstyle\etocscrartclstyle
94 \def\etocstandarddisplaystyle{\etocarticlestyle}
95 \newcommand*\etocmarkboth[1]{}
96 \newcommand*\etocmarkbothonuc[1]{}
97 \newcommand\etoc tocstyle[3][section]{}
98 \newcommand\etoc tocstylewithmarks[4][section]{}
99 \newcommand\etoc tocstylewithmarksnuoc[4][section]{}
100 \def\etocignoretocdepth{}
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\invisiblerealocaltableofcontents{}
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 136 **l warp-eurosym.sty**

§ 242 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\officialemu{\HTMLentity{euro}}
3 \let\geneuro\officialemu
4 \let\geneuronarrow\officialemu
5 \let\geneurowide\officialemu
6 \let\euromu\officialemu
7 \renewrobustcmd\euromubars{}
8 \renewrobustcmd\euromubarsnarrow{}
9 \renewrobustcmd\euromubarswide{}
```

File 137 **l warp-everypage.sty**

§ 243 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 138 **l warp-everyshi.sty**

§ 244 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 139 **l warp-extarrows.sty**

§ 245 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 140 l warp-extremarks.sty

§ 246 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 141 l warp-fancybox.sty

§ 247 Package **fancybox**

(Emulates or patches code by TIMOTHY VAN ZANDT.)

Pkg fancybox fancybox is supported with some patches.

framed equation example

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

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

framing alternatives

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

framed table example

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

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

⚠️ framed verbatim

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

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

framed \VerbBox

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

indented alignment

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

fancybox, fancyverb

If using `fancybox` or `fancyverb` with `\VerbatimFootnotes`, and using footnotes in a

⚠️ \VerbatimFootnotes

⚠ **sectioning or
displaymath**

sectioning command or display math, use `\footnotemark` and `\footnotetext`:

```
\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbatim+.}
```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when `\VerbatimFootnotes` are selected. The browser usually compensates.

```
1 \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\ l warp}%
7 }
```

`\V@footnotetext` Patches in a subset of `l warp`'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 `lateximage`:

```
15 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
16 \ifthenelse{%
17 \boolean{\LWR@doingstartpars} \AND%
18 \cnttest{\value{\LWR@lateximagedepth}}{=}{0}%
19 }%
20 {}%
21 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@newline}%
```

Append the footnote to the list:

```
22 \makefnlist{}%
```

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}{\thinspace}}{%
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 {<l/c/r>} [<t/c/b>]
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]~%
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}{#4\quad#3}%
107 }

```

Neutralized commands:

```

108 \RenewDocumentCommand{\fancyput}{s d() m m}{}
109 \RenewDocumentCommand{\thisfancyput}{s d() m m}{}
110
111 \RenewDocumentCommand{\fancypage}{m m}{}
112 \RenewDocumentCommand{\thisfancypage}{m m 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{Verbatim}%
121 \LWRFB@UseVerbatim{#1}%
122 \LWR@afterendverbatim%
123 }
124
125 \let\LWRFB@LUseVerbatim\LUseVerbatim
126
127 \renewcommand*\{\LUseVerbatim}[1]{%
128 \LWR@atbeginverbatim{LVerbatim}%
129 \noindent%
130 \LWRFB@LUseVerbatim{#1}%
131 \LWR@afterendverbatim%
132 }
133
134 \def@\BUseVerbatim[#1]#2{%
135 \LWR@atbeginverbatim{BVerbatim}%
136 \LWRFB@UseVerbatim{#2}%
137 \LWR@afterendverbatim%
138 }

```

File 142 l warp-fancyhdr.sty

§ 248 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*\fancyhfoffset[2](){}
20 \newcommand*\iffloatpage[2]{#2}
21 \newcommand*\iffloptopfloat[2]{#2}
22 \newcommand*\iffbotfloat[2]{#2}
23 \newcommand*\iffootnote[2]{#2}
```

File 143 l warp-fancyref.sty

§ 249 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 144 **l warp-fancytabs.sty**

§ 250 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 145 **l warp-fancyvrb.sty**

§ 251 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+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 \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\@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
15 \unvbox\@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 lateximage:

```
19 \renewrobustcmd{\textsuperscript}{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a lateximage:

```
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 \makefnlist{}
```

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\verb@LVerbatim{\LWR@forcenewpage}
33 % \preto\verb@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   \fV@BVerbatimBegin#1\fV@BVerbatimEnd%
53 }

```

`\LWR@FVstyle` Holds the style of the verbatim.

```
54 \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.

```

55 \newcommand*\LWR@fvstartnone{%
56 \LWR@traceinfo{fvstartnone}%
57 % \hbox to\z@{%
58 \BlockClass[\LWR@FVstyle]{fancyvrb}%
59 \LWR@stoppars%
60 \ifx\fV@LabelPositionTopLine\relax\else%
61   \ifx\fV@LabelBegin\relax\else%
62     \FancyVerbRuleColor{\LWR@FVfindbordercolor}%

```

```
63      \LWR@htmltagc{%
64          div class="fancyvrblabel" % extra space
65          style="color: \LWR@origpound\LWR@tempcolor"%
66      }
67      \LWR@print@textrm{\FV@LabelBegin}%
68      \LWR@htmltagc{/div}\LWR@orignewline%
69  \fi
70 \fi
71 \LWR@atbeginverbatim{verbatim}%
72 }%
73 }
74
75 \newcommand*{\LWR@fvendnone}{%
76 \LWR@traceinfo{fvendnone}%
77 % \hbox to\z@{
78 \LWR@afterendverbatim%
79 \LWR@stoppars%
80 \ifx\FV@LabelPositionBottomLine\relax\else
81     \ifx\FV@LabelEnd\relax\else
82         \FancyVerbRuleColor{\LWR@FVfindbordercolor}%
83         \LWR@htmltagc{%
84             div class="fancyvrblabel" % extra space
85             style="color: \LWR@origpound\LWR@tempcolor"%
86         }
87         \LWR@print@textrm{\FV@LabelEnd}
88         \LWR@htmltagc{/div}\LWR@orignewline%
89     \fi
90 \fi
91 \endBlockClass
92 }
93
94 \newcommand*{\LWR@fvstartsingle}{%
95 \LWR@traceinfo{fvstartsingle}%
96 \LWR@fvstartnone%
97 \FV@BeginListFrame@Single%
98 }
99
100 \newcommand*{\LWR@fvendsingle}{%
101 \LWR@traceinfo{fvendsingle}%
102 \FV@EndListFrame@Single%
103 \LWR@fvendnone%
104 }
105
106 \newcommand*{\LWR@fvstartline}{%
107 \LWR@traceinfo{fvstartline}%
108 \LWR@fvstartnone%
109 % \setlength{\LWR@templengthone}{\baselineskip}%
110 \FV@BeginListFrame@Lines%
111 % \setlength{\baselineskip}{\LWR@templengthone}%
112 % \setlength{\baselineskip}{5pt}%
113 }
114
115 \newcommand*{\LWR@fvendline}{%
116 \LWR@traceinfo{fvendline}%
117 \FV@EndListFrame@Lines%
```

```
118 \LWR@fvendnone%
119 }
```

The following patches select the start/left/right/end behaviors depending on `frame`.
Original code is from the `fancyvrb` package.

```
120 \newcommand*{\LWR@FVfindbordercolor}{%
121 \FancyVerbRuleColor%
122 \LWR@findcurrenttextcolor%
123 \color{black}%
124 }
125
126 % border width of \FV@FrameRule
127 \newcommand*{\LWR@FVborderstyle}[1]{%
128 padding#1: \strip@pt\dimexpr \FV@FrameSep\relax\relax pt ; % space
129 \LWR@FVfindbordercolor\LWR@indentHTMLtwo%
130 border#1: \strip@pt\dimexpr \FV@FrameRule\relax\relax pt % space
131 solid {\FancyVerbRuleColor{\LWR@origpound\LWR@tempcolor}} ; % space
132 }
133
134 \def\FV@Frame@none{%
135 \renewcommand*{\LWR@FVstyle}{\LWR@currenttextcolorstyle}%
136 \let\FV@BeginListFrame\LWR@fvstartnone%
137 \let\FV@LeftListFrame\relax%
138 \let\FV@RightListFrame\relax%
139 \let\FV@EndListFrame\LWR@fvendnone}
140
141 \FV@Frame@none% default values
142
143 \def\FV@Frame@single{%
144 \renewcommand*{\LWR@FVstyle}{%
145     \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
146     \LWR@FVborderstyle{}%
147 }%
148 \let\FV@BeginListFrame\LWR@fvstartsingle%
149 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
150 \let\FV@RightListFrame\FV@RightListFrame@Single%
151 \let\FV@EndListFrame\LWR@fvendsingle}
152
153 \def\FV@Frame@lines{%
154 \renewcommand*{\LWR@FVstyle}{%
155     \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
156     \LWR@FVborderstyle{-top}%
157     \LWR@indentHTMLtwo%
158     \LWR@FVborderstyle{-bottom}%
159 }%
160 \let\FV@BeginListFrame\LWR@fvstartline%
161 \let\FV@LeftListFrame\relax%
162 \let\FV@RightListFrame\relax%
163 \let\FV@EndListFrame\LWR@fvendline}
164
165 \def\FV@Frame@topline{%
166 \renewcommand*{\LWR@FVstyle}{%
167     \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
168     \LWR@FVborderstyle{-top}%
169 }}
```

```

169 }%
170 \let\fv@BeginListFrame\lwr@fvstartline%
171 \let\fv@LeftListFrame\relax%
172 \let\fv@RightListFrame\relax%
173 \let\fv@EndListFrame\lwr@fvendnone}
174
175 \def\fv@Frame@bottomline{%
176 \renewcommand*{\lwr@fvstyle}{%
177   \lwr@currenttextcolorstyle\lwr@indentHTMLtwo%
178   \lwr@fvborderstyle{-bottom}%
179 }%
180 \let\fv@BeginListFrame\lwr@fvstartnone%
181 \let\fv@LeftListFrame\relax%
182 \let\fv@RightListFrame\relax%
183 \let\fv@EndListFrame\lwr@fvendline}

```

Seems to be required in some situations:

```

184 \def\fv@FrameFillLine{}%
185 \def\fv@Frame@leftline{%
186 \renewcommand*{\lwr@fvstyle}{%
187   \lwr@currenttextcolorstyle\lwr@indentHTMLtwo%
188   \lwr@fvborderstyle{-left}%
189 }%
190 % To define the \fv@FrameFillLine macro (from \fv@BeginListFrame)
191 \ifx\fancyverbfillcolor\relax%
192 \let\fv@FrameFillLine\relax%
193 \else%
194 @tempdima\fv@FrameRule\relax%
195 \multiply@tempdima-\tw@%
196 \edef\fv@FrameFillLine{%
197 {\noexpand\fancyverbfillcolor{\vrule@width\number@tempdima sp}%
198 \kern-\number@tempdima sp}}%
199 \fi%
200 \let\fv@BeginListFrame\lwr@fvstartnone%
201 \let\fv@LeftListFrame\fv@LeftListFrame@Single%
202 \let\fv@RightListFrame\relax%
203 \let\fv@EndListFrame\lwr@fvendnone}

```

Adds the optional label to the top and bottom edges. Original code is from the `fancyvrb` package.

```

204 \def\fv@SingleFrameLine#1{%
205 %   \hbox to\z@{%
206 %     \kern\leftmargin
207 %     \ifnum#1=\z@\relax
208 %       \let\fv@Label\fv@LabelBegin
209 %     \else
210 %       \let\fv@Label\fv@LabelEnd
211 %     \fi
212 %     \ifx\fv@Label\relax
213 %       \FancyVerbRuleColor{\vrule @width\ linewidth @height\fv@FrameRule}%
214 %     \else
215 %       \ifnum#1=\z@%

```

```

216 %      \setbox\z@\hbox{\strut\enspace\FV@LabelBegin\enspace\strut}%
217     \ifx\FV@LabelPositionTopLine\relax
218     \else
219     \fi
220   \else
221 %      \setbox\z@\hbox{\strut\enspace\FV@LabelEnd\enspace\strut}%
222     \ifx\FV@LabelPositionBottomLine\relax
223     \else
224     \fi
225     \fi
226   \fi
227 %   \hss
228 %
229 }
```

Processes each line, adding optional line numbers. Original code is from the `fancyvrb` package.

```

230 \def\FV@ListProcessLine#1{%
231   \hbox to \hsize{%
232 %     \kern\leftmargin
233     \hbox to \VerbatimHTMLWidth {%
234       \ifcsvoid{FV@LeftListNumber}{}{\kern 2.5em}%
235       \FV@LeftListNumber%
236       \FV@LeftListFrame
237       \FancyVerbFormatLine{#1}%
238       \hss%
239       \FV@RightListFrame
240       \FV@RightListNumber%
241     }%
242     \hss% required to avoid underfull hboxes
243 }
244 }

245 \def\FV@ListProcessLine@i#1{%
246 %   \hbox{%
247   \ifvoid@\labels\else
248     \hbox to \z@(\kern\@totalleftmargin\box@\labels\hss)%
249   \fi
250   \FV@ListProcessLine{#1}%
251 %
252 %   \let\FV@ProcessLine\FV@ListProcessLine@ii%
253 }

254 \def\FV@ListProcessLastLine{}
```

Env `BVerbatim`

```

255
256 \xpretocmd{\FV@BeginVBox}{%
257   {%
258     \LWR@forcenewpage% instead of \preto
259     \LWR@atbeginverbatim{bverbatim}}%
```

```

260      }
261      {}
262      {\LWR@patcherror{fancyvrb}{FV@BeginVBox}}
263
264 \xapptocmd{\FV@EndVBox}
265   {%
266     \LWR@afterendverbatim%
267   }
268   {}
269   {\LWR@patcherror{fancyvrb}{FV@EndVBox}}

```

End of the modifications to make at the end of the preamble:

```
270 } % \AfterEndPreamble
```

File 146 **l warp-fbox.sty**

§ 252 Package **fbox**

(Emulates or patches code by HERBERT VOSS.)

Pkg fbox fbox is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{fbox}[2020/06/22]

This will be \LWR@formatted when \AtBeginDocument:

```
2 \LetLtxMacro{\LWR@HTML@fbox}{\fbox}
```

Instead of using the original, the new version is used with all borders:

```
3 \renewcommand*{\orig@fbox}{\FBox@i[tblr]}
```

\WR@fboxpkg@border {⟨1: top/bottom/left/right⟩} {⟨2: padding, or empty⟩}

Accumulates HTML styles for border, and padding if given:

```

4 \newcommand*{\LWR@fboxpkg@border}[2]{%
5   \appto{\LWR@tempone}{%
6     border-#1: % space
7     \LWR@printlength{\LWR@atleastonept} % space
8     solid \LWR@origpound\LWR@tempcolor ;\LWR@indentHTML
9   }%
10  \ifblank{#2}{}{%
11    \appto{\LWR@tempone}{%
12      padding-#1: \LWR@printlength{#2} ;\LWR@indentHTML
13    }%
14  }%
15 }
```

A hack to reuse the same code for inline and blocks:

```
16 \newbool{LWR@fboxpkg@ispar}
17 \boolfalse{LWR@fboxpkg@ispar}
```

Accumulate HTML styles for left and right padding, depending on `\if@fbox@space@left`, `\if@fbox@space@right`:

```
18 \newcommand{\LWR@fboxpkg@lrpadding}[1]{%
19   \csuse{if@fbox@space@#1}%
20     \appto{\LWR@tempone}{%
21       padding-#1: \LWR@printlength{\fbox@@sep}; \LWR@indentHTML
22     }
23   \else%
24     \appto{\LWR@tempone}{%
25       padding-#1: 0pt; \LWR@indentHTML
26     }
27   \fi%
28 }
```

The HTML version, modified to use HTML styles and either an `\InlineClass` or `BlockClass`:

```
29 \newcommand{\LWR@HTML@FBox@iii}[1]{%
```

Find and set the text color, rule width, margin:

```
30   \LWR@forceminwidth{\fbox@@rule}%
31   \LWR@findcurrenttextcolor%
32   \def{\LWR@tempone}{%
33     color: \LWR@origpound\LWR@tempcolor ; \LWR@indentHTML
34     margin: 1ex ; \LWR@indentHTML
35   }%
```

Add left/right padding:

```
36   \LWR@fboxpkg@lrpadding{left}%
37   \LWR@fboxpkg@lrpadding{right}%

```

Per the original to decode the borders, in a new way:

```
38   \ifnum\the\@tempcntb>8\relax
39     \advance\@tempcntb by -8
40     \LWR@fboxpkg@border{top}{\fbox@@sep}%
41   \fi
42   \ifnum\@tempcntb>3
43     \advance\@tempcntb by -4
44     \LWR@fboxpkg@border{left}{ }%
45   \fi
46   \ifnum\@tempcntb>1
47     \LWR@fboxpkg@border{right}{ }%
48   \fi
49   \ifodd\@tempcntb
50     \LWR@fboxpkg@border{bottom}{\fbox@@sep}%
51   \fi
```

Generate a `\BlockClass` or `\InlineClass` with the contents:

```

52      \color@begingroup
53      \ifbool{LWR@fboxpkg@ispar}%
54          {%
55              \begin{BlockClass}[\LWR@tempone]{fboxpkg}%
56                  #1%
57              \end{BlockClass}%
58          }%
59          {%
60              \InlineClass[\LWR@tempone]{fboxpkg}{%
61                  #1%
62              }%
63          }%
64      \color@endgroup
65      \boolfalse{LWR@fboxpkg@ispar}% globally
66 }
67 \LWR@formatted{FBox@iii}

```

For `\fparbox`, set the use of `\BlockClass`, then reuse the above:

```

68 \long\def\LWR@HTML@FParBox@i[#1]{%
69     \booltrue{LWR@fboxpkg@ispar}%
70     \FBox@i[#1]{#2}%
71 }
72 \LWR@formatted{FParBox@i}
73
74 \long\def\LWR@HTML@FParBox@ii#1{%
75     \booltrue{LWR@fboxpkg@ispar}%
76     \FBox@i[tblr]{#1}%
77 }
78 \LWR@formatted{FParBox@ii}

```

For `MATHJAX`, absorb and ignore star and optional arguments:

```

79 \CustomizeMathJax{\let\LRorigfbox\fbox}
80 \CustomizeMathJax{\newcommand{\LWRfboxpkgtwo}[2][]{\LRorigfbox{#2}}}
81 \CustomizeMathJax{\renewcommand{\fbox}{\ifstar{\LWRfboxpkgtwo}{\LWRfboxpkgtwo}}}
82 \CustomizeMathJax{\newcommand{\fparbox}{\fbox}}

```

File 147 **lwarf-fewerfloatpages.sty**

§ 253 Package **fewerfloatpages**

Pkg `fewerfloatpages` `fewerfloatpages` is ignored.

for HTML output: 1 `\LWR@ProvidesPackageDrop{fewerfloatpages}[2020/02/14]`

```

2 \newcommand\floatpagekeepfraction{\textfraction}
3 \newcounter{floatpagedeferlimit}
4 \newcounter{floatpagekeeplimit}

```

File 148 l warp-figcaps.sty

§ 254 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 149 l warp-figsize.sty

§ 255 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 150 l warp-fitbox.sty

§ 256 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 151 l warp-fix2col.sty

§ 257 Package **fix2col**

Pkg fix2col fix2col is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fix2col}[2015/11/13]

File 152 l warp-fixme.sty

§ 258 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 153 l warp-fixmetodonotes.sty**§ 259 Package fixmetodonotes**

(Emulates or patches code by GIOELE BARABUCCI.)

Pkg fixmetodonotes fixmetodonotes is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{fixmetodonotes}[2013/04/28]

2 \renewcommand{\NOTES@addtolist}[2]{%
3   \refstepcounter{NOTES@note}%
4 %   \phantomsection% REMOVED
5   \addcontentsline{notes}{NOTES@note}{%
6     \protect\numberline{\theNOTES@note}{\#1}: \#2}%
7 }%
8 %
9
10 \renewcommand{\NOTES@marker}[2]{\fbox{%
11   \textcolor{\#2}{\color{black}}% WAS \color
12   \textbf{\#1}}%
13 }%
14
15 \renewcommand{\NOTES@colorline}[2]{%
16   \bgroup%
17   \ULon{\LWR@backgroundcolor{\#1}\#2}%
18 }
```

File 154 l warp-flafter.sty**§ 260 Package flafter**

Pkg flafter flafter is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{flafter}[2018/01/08]
2 \providecommand\fl@trace[1]{}

---


```

File 155 l warp-flippdf.sty**§ 261 Package flippdf**

Pkg flippdf flippdf is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]
```

```
2 \newcommand\FlipPDF{}
3 \newcommand\UnFlipPDF{}
```

File 156 **l warp-float.sty**

§ 262 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 157 **l warp-floatflt.sty**

§ 263 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 158 **lwarp-floatpag.sty**

§ 264 Package **floatpag**

(Emulates or patches code by VYTAΣ 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 159 **l warp-floatrow.sty**

§ 265 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%
}%
45 }
```

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 160 l warp-fltrace.sty**§ 266 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 161 l warp-flushend.sty**§ 267 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 162 l warp-fnbreak.sty**§ 268 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 163 l warp-fncychap.sty**§ 269 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 164 l warp-fnlineno.sty**§ 270 Package fnlineno**

Pkg fnlineno fnlineno is ignored.

for HTML output 1 \LWR@ProvidesPackageDrop{fnlineno}[2011/01/07]

File 165 l warp-fnpara.sty**§ 271 Package fnpara**

Pkg fnpara fnpara is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnpara}

File 166 l warp-fnpos.sty**§ 272 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 167 l warp-fontawesome.sty**§ 273 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 168 **l warp-fontawesome5.sty**

§ 274 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\LWR@tempcolor]
7         \csuse{\LWR@font@size}
8         \exp_last_unbraced:Nv
9             \__fontawesome_icon_at:nnnn
10            {c__fontawesome_slot_#2_tl}
11            {#1}{#2}
12        \end{lateximage}
13    }{%
14        \msg_error:nnxx{fontawesome5}{icon-not-found}{#2}{#1}
15    }
16 }
17 \ExplSyntaxOff
```

File 169 **l warp-fontaxes.sty**

§ 275 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 170 **l warp–fontenc .sty**

§ 276 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 171 **l warp–footmisc .sty**

§ 277 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 172 **lwarp-footnote.sty**

§ 278 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 173 l warp-footnotebackref.sty

§ 279 Package **footnotebackref**

Pkg footnotebackref footnotebackref is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{footnotebackref}[2012/07/01]

File 174 l warp-footnotehyper.sty

§ 280 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 175 l warp-footnoterange.sty**§ 281 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 176 l warp-footnpag.sty**§ 282 Package **footnpag****

Pkg footnpag footnpag is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{footnpag}

File 177 l warp-foreign.sty**§ 283 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 178 l warp-forest.sty**§ 284 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 179 **lwarp-fouridx.sty**

§ 285 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} \phantom{#3}_{#4}^{#5}%
6   }%
7 }
8 \end{warpMathJax}
```

File 180 **lwarp-fourier.sty**

§ 286 Package **fourier**

(Emulates or patches code by MICHEL BOVANI.)

Pkg **fourier** `fourier` is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `sloped` and `upright` are honored for Greek characters, but MATHJAX cannot yet honor these for Latin characters.

The dedicated macros for `upright` and `italic` Greek letters do work correctly.

SVG math should appear the same as the printed output.

```

for HTML output:
1 \LWR@ProvidesPackagePass{fourier}[2020/03/03]
2
3 \LWR@infoprocessingmathjax{fourier}

4 \LWR@origRequirePackage{lwarf-common-mathjax-letters}
5
6 \LWR@origRequirePackage{lwarf-common-mathjax-overlaysymbols}
7
8 \begin{warpMathJax}
9
10 \@ifpackagewith{fourier}{sloped}
11 {
12     \LWR@mathjax@addgreek@l@up{other}{}%
13     \LWR@mathjax@addgreek@u@it*{other}{}%
14 }% sloped
15 {%
16     \@ifpackagewith{fourier}{upright}
17     {%
18         \LWR@mathjax@addgreek@l@up{}%
19         \LWR@mathjax@addgreek@u@up*{}{}%
20         \LWR@mathjax@addgreek@l@it{other}{}%
21         \LWR@mathjax@addgreek@u@it*{other}{}%
22     }%
23     {%
24         \LWR@mathjax@addgreek@l@up{other}{}%
25         \LWR@mathjax@addgreek@u@it*{other}{}%
26     }%
27 }
28
29 \CustomizeMathJax{\newcommand{\othergreek}[1]{#1}}
30 \CustomizeMathJax{\let\varvarrho\varrho}
31 \CustomizeMathJax{\let\varvarpi\varpi}
32 \CustomizeMathJax{\let\othervarvarpi\othervarpi}
33 \CustomizeMathJax{\let\othervarvarrho\othervarrho}
34 \CustomizeMathJax{\let\varpartialdiff\partial}


```

`lwarf_mathjax.txt` adds `\left`/`\right` support for delimiters.

```

35 \CustomizeMathJax{\let\llbracket\lBrack}
36 \CustomizeMathJax{\let\rrbracket\rBrack}
37 \CustomizeMathJax{\let\dblbrackleft\lBrack}
38 \CustomizeMathJax{\let\dblbrackright\rBrack}
39
40 \CustomizeMathJax{\let\VERT|}
41
42 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\!\!{\scriptsize\text{\tiny\texttt{\{}}}\!}\,\!{\scriptsize\text{\tiny\texttt{\{}}}\!}\,}}}
43 \CustomizeMathJax{\newcommand{\thething}{\mathord{\!\!{\scriptsize\text{\tiny\texttt{\{}}}\!}\,\!{\scriptsize\text{\tiny\texttt{\{}}}\!}\,}}
44 \CustomizeMathJax{\newcommand{\nparallelslant}{\%}}
```

```

45      \mathrel{\LWRoverlaysymbols{-}{\unicode{x02AFD}}}%
46 }
47 \CustomizeMathJax{\newcommand{\xswordsup}{\mathord{\unicode{x2694}}}}
48 \CustomizeMathJax{\newcommand{\xswordsdown}{\mathord{\unicode{x2694}}}}% up
49 \CustomizeMathJax{\newcommand{\notowns}{\mathrel{\unicode{x220C}}}}
50
51 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}\limits}}
52 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x222D}}\limits}}
53 \CustomizeMathJax{\newcommand{\oint}{\mathop{\unicode{x222F}}\limits}}
54 \CustomizeMathJax{\let\oiintop\oint}
55 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
56 \CustomizeMathJax{\let\oiintop\oiint}
57 \CustomizeMathJax{\newcommand{\slashint}{\mathop{\unicode{x2A0D}}\limits}}
58 \CustomizeMathJax{\let\slashintop\slashint}
59
60 \CustomizeMathJax{\let\overgroup\overparen}
61 \CustomizeMathJax{\let\wideparen\overparen}
62 \CustomizeMathJax{\let\widearc\overparen}
63 \CustomizeMathJax{\let\wideOarc\overrightarrow}
64 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\mathop{\unicode{x2218}}}{\overgroup{#1}}}}
65
66 \end{warpMathJax}

```

File 181 **lwarp-framed.sty**

§ 287 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 **lwarp-framed**:

```

1 \LWR@ProvidesPackagePass{framed}[2011/10/22]
2 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec

3
4 \renewenvironment{framed}{%
5 \LWR@forcenewpage
6 \BlockClass{framed}%
7 }
8 {\endBlockClass}
9
10 \renewenvironment{oframed}{%
11 \LWR@forcenewpage
12 \BlockClass{framed}%
13 }
14 {\endBlockClass}
15
16
17 \renewenvironment{shaded}{%
18 \convertcolorspec[named]{shadecolor}{HTML}\LWR@tempcolor%
19 \LWR@forcenewpage

```

```
20 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
21 }
22 {\endBlockClass}
23
24 \renewenvironment{shaded*}{%
25 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
26 \LWR@forcenewpage
27 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
28 }
29 {\endBlockClass}
30
31
32 \renewenvironment{leftbar}{%
33 \LWR@forcenewpage
34   \BlockClass{framedleftbar}
35   \def\FrameCommand{}%
36   \MakeFramed {}
37 }%
38 {\endMakeFramed\endBlockClass}
39
40
41 \renewenvironment{snugshade}{%
42 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
43 \LWR@forcenewpage
44 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
45 }
46 {\endBlockClass}
47
48 \renewenvironment{snugshade*}{%
49 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
50 \LWR@forcenewpage
51 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
52 }
53 {\endBlockClass}
54
55 \let\oframed\framed
56 \let\endoframed\endframed
57
58
59 \RenewEnviron{titled-frame}[1]{%
60 \CustomFBox{\#1}{}{0pt}{0pt}{0pt}{0pt}{\BODY}%
61 }

\CustomFBox {\langle toptitle\rangle} {\langle bottitle\rangle} {\langle thickness top\rangle} {\langle bottom\rangle} {\langle left\rangle} {\langle right\rangle} {\langle text contents\rangle}

62 \renewcommand{\CustomFBox}[7]{%
63 \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
64 \LWR@forcenewpage
65 \begin{BlockClass}[border: 3px solid \LWR@origpound\LWR@tempcolor]{framed}%
66 \ifthenelse{\isempty{\#1}}{\% not empty
67   \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
68   \textcolor{TFTitleColor}{\textbf{\#1}}%
69   \end{BlockClass}%
70 }%\% not empty
```

```
71
72 #7
73
74 \ifthenelse{\isempty{#2}}{}{%
75   \convertcolorspec[named]{TFFrameColor}{HTML}\LWR@tempcolor%
76   \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
77   \textcolor{TFTitleColor}{\textbf{#2}}%
78   \end{BlockClass}%
79 }%
80 \end{BlockClass}
81 }

\TitleBarFrame [<marker>] {<title>} {<contents>}

82 \renewcommand\TitleBarFrame[3][]{
83 \CustomFBox
84   {#2}%
85   \fboxrule\fboxrule\fboxrule\fboxrule
86   {#3}%
87 }

88 \renewcommand{\TF@Title}[1]{#1}

MakeFramed {<settings>}

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 182 lwarp-ftcap.sty

§ 288 Package **ftcap**

Pkg ftcap ftcap is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{ftcap}

File 183 **l warp-ftnright.sty**

§ 289 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 184 **l warp-fullminipage.sty**

§ 290 Package **fullminipage**

Pkg fullminipage fullminipage is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]

2 \newenvironment{fullminipage}[1]{}{}{}

File 185 **l warp-fullpage.sty**

§ 291 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 186 **l warp-fullwidth.sty**

§ 292 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 187 **l warp-fvextra.sty**

§ 293 Package **fvextra**

(Emulates or patches code by GEOFFREY M. POORE.)

Pkg **fvextra** **fvextra** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{fvextra}[2019/02/04]

Ignored are `highlight`, `showtabs`, `obeytabs`, `tab`, `tabcolor`. Also ignored are all options regarding line breaking except `breaklines`, which is emulated as true.

`tabsize` is honored.

If line numbers on the right side are used along with `breaklines`, the line numbers will not be aligned.

```

2
3 \define@booleankey{FV}{obeytabs}%
4 % {\let\FV@ObeyTabsInit\FV@@ObeyTabsInit}%
5 {\let\FV@ObeyTabsInit\relax}
6 {\let\FV@ObeyTabsInit\relax}
7
8 \define@key{FV}{tabcolor}%
9 {}
10
11 \define@key{FV}{tab}={}
12
13 \define@booleankey{FV}{showtabs}%
14 % {\def\FV@TabChar{\FV@TabColor{\FancyVerbTab}}}%
15 {\let\FV@TabChar\relax}
16 {\let\FV@TabChar\relax}
17
18 \newbool{\LWR@FV@breaklines}
19
20 \define@booleankey{FV}{breaklines}%
21 {\FV@BreakLinesfalse
22 \booltrue{\LWR@FV@breaklines}
23 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
24 {\FV@BreakLinesfalse
25 \boolfalse{\LWR@FV@breaklines}
26 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
27 % \fvset{breaklines}
```

```
28
29 \define@key{FV}{breakanywheresymbolpre}{\def\fancyVerbBreakAnywhereSymbolPre{}}
30 \fvset{breakanywheresymbolpre={}}
31
32 \define@key{FV}{breakanywheresymbolpost}{\def\fancyVerbBreakAnywhereSymbolPost{}}
33 \fvset{breakanywheresymbolpost={}}
34
35 \define@key{FV}{breakbeforesymbolpre}{\def\fancyVerbBreakBeforeSymbolPre{}}
36 \fvset{breakbeforesymbolpre={}}
37
38 \define@key{FV}{breakbeforesymbolpost}{\def\fancyVerbBreakBeforeSymbolPost{}}
39 \fvset{breakbeforesymbolpost={}}
40
41 \define@key{FV}{breakaftersymbolpre}{\def\fancyVerbBreakAfterSymbolPre{}}
42 \fvset{breakaftersymbolpre={}}
43
44 \define@key{FV}{breakaftersymbolpost}{\def\fancyVerbBreakAfterSymbolPost{}}
45 \fvset{breakaftersymbolpost={}}
46
47 \define@key{FV}{breaksymbolleft}{\def\fancyVerbBreakSymbolLeft{}}
48
49 \define@key{FV}{breaksymbol}{\fvset{breaksymbolleft={}}}
50
51 \fvset{breaksymbolleft={}}
52
53 \define@key{FV}{breaksymbolright}{\def\fancyVerbBreakSymbolRight{}}
54 \fvset{breaksymbolright={}}
55
56 \def\fV@ListProcessLine@NoBreak#1{%
57 %   \hbox to \hsize{%
58 %     \kern\leftmargin
59 %     \hbox to \linewidth{%
60 %       \FV@LeftListNumber%
61 %       \FV@LeftListFrame%
62 %       \FancyVerbFormatLine{%
63 %         \FancyVerbHighlightLine{%
64 %           \FV@ObeyTabs{\FancyVerbFormatText{#1}}}}}\hss
65 %       \FV@RightListFrame%
66 %       \FV@RightListNumber%
67 %     }%
68 %   \hss}%
69 \null\par%                      lwarp
70 }
71
72
73 \newcommand*{\LWR@FV@linethensep}{%
74   \ifbool{LWR@FV@breaklines}{%
75     {\theFancyVerbLine\kern\FV@NumberSep}%
76     {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}%
77 }%
78
79 \newcommand*{\LWR@FV@septhenline}{%
80   \ifbool{LWR@FV@breaklines}{%
81     {\kern\FV@NumberSep\theFancyVerbLine}%
82     {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}%
```

```
83 }
84
85 \xpatchcmd{\FV@Numbers@left}
86   {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
87   {\LWR@FV@linethensep}
88   {}
89   {\LWR@patcherror{fvextra}{FV@Numbers@left A}}
90
91 \xpatchcmd{\FV@Numbers@left}
92   {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
93   {\LWR@FV@linethensep}
94   {}
95   {\LWR@patcherror{fvextra}{FV@Numbers@left B}}
96
97 \xpatchcmd{\FV@Numbers@left}
98   {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
99   {\LWR@FV@linethensep}
100  {}
101  {\LWR@patcherror{fvextra}{FV@Numbers@left C}}
102
103 \xpatchcmd{\FV@Numbers@right}
104   {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}
105   {\LWR@FV@septhenline}
106   {}
107   {\LWR@patcherror{fvextra}{FV@Numbers@right A}}
108
109 \xpatchcmd{\FV@Numbers@right}
110   {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}
111   {\LWR@FV@septhenline}
112   {}
113   {\LWR@patcherror{fvextra}{FV@Numbers@right B}}
114
115 \xpatchcmd{\FV@Numbers@right}
116   {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
117   {\LWR@FV@linethensep}
118   {}
119   {\LWR@patcherror{fvextra}{FV@Numbers@right C}}
120
121 \xpatchcmd{\FV@Numbers@both}
122   {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
123   {\LWR@FV@linethensep}
124   {}
125   {\LWR@patcherror{fvextra}{FV@Numbers@both A}}
126
127 \xpatchcmd{\FV@Numbers@both}
128   {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
129   {\LWR@FV@linethensep}
130   {}
131   {\LWR@patcherror{fvextra}{FV@Numbers@both B}}
132
133 \xpatchcmd{\FV@Numbers@both}
134   {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
135   {\LWR@FV@linethensep}
136   {}
137   {\LWR@patcherror{fvextra}{FV@Numbers@both C}}
```

```

138
139 \xpatchcmd{\FV@Numbers@both}
140   {\hbox to\z@\{ \kern\FV@NumberSep\theFancyVerbLine\hss\}}
141   {\LWR@FV@septhenline}
142   {}
143   {\LWR@patcherror{fvextra}{FV@Numbers@both D}}
144
145 \xpatchcmd{\FV@Numbers@both}
146   {\hbox to\z@\{ \kern\FV@NumberSep\theFancyVerbLine\hss\}}
147   {\LWR@FV@septhenline}
148   {}
149   {\LWR@patcherror{fvextra}{FV@Numbers@both E}}
150
151 \xpatchcmd{\FV@Numbers@both}
152   {\hbox to\z@\{ \hss\theFancyVerbLine\kern\FV@NumberSep\}}
153   {\LWR@FV@linethensep}
154   {}
155   {\LWR@patcherror{fvextra}{FV@Numbers@both F}}

```

File 188 **l warp-fwlw.sty**

§ 294 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 189 **l warp-gensymb.sty**

§ 295 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{C}}}}
5 \CustomizeMathJax{\newcommand{\perthousand}{\text{\textnormal{P}}\%}}
6 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
7 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\mu}}}
8 \end{warpMathJax}

```

File 190 l warp-gentombow.sty**§ 296 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 191 l warp-geometry.sty**§ 297 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@allowanothergeomtry}{%
```

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\origgeometry\expandafter{\LWR@tempone}%
5 }{}% \LWR@allowanothergeomtry
```

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 192 **l warp-ghsystem.sty**

§ 298 Package **ghsystem**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg ghsystem ghsystem is patched for use by l warp.

⚠ \gspic 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 193 **l warp-gindex.sty**

§ 299 Package **gindex**

(Emulates or patches code by JAVIER BEZOS.)

Pkg gindex gindex is patched for use by l warp.

See section [8.6.15](#).

for HTML output: 1 \LWR@ProvidesPackagePass{gindex}[2019/10/07]

Set the index page and range separators. These are set \AtBeginDocument to allow the user to change them. They are then protected so that the l warp core looks for the tokens

instead of their expanded contents, since the *.ind files will contain \indexpagessep and \indexrangesep instead of their literal contents. Finally, 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 194 **lwarf-gloss.sty**

§ 300 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 195 **lwarp-glossaries.sty**

§ 301 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 `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.

```
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 }
```

`lwarp`'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 \ifdef\streq{\glossaryname}{\LWR@comp@glossaryname}{%
23   \translatelet{\LWR@translatetemp}{\translate{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@glosssymbolsgroupname}{\translate{Symbols (glossaries)}}
35
36 \ifdefstreq{\glosssymbolsgroupname}{\LWR@comp@glosssymbolsgroupname}{
37     \translatelet{\LWR@translatetemp}{Symbols (glossaries)}
38     \edef\glosssymbolsgroupname{\LWR@translatetemp}
39 }{}
40
41 \newcommand*{\LWR@comp@glossnumbersgroupname}{\translate{Numbers (glossaries)}}
42
43 \ifdefstreq{\glossnumbersgroupname}{\LWR@comp@glossnumbersgroupname}{
44     \translatelet{\LWR@translatetemp}{Numbers (glossaries)}
45     \edef\glossnumbersgroupname{\LWR@translatetemp}
46 }{}

```

File 196 **lwarf-gmeometric.sty**

§ 302 Package **gmeometric**

Pkg gmeometric gmeometric is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{gmeometric}[2008/11/22]
2 \RequirePackageWithOptions{geometry}

File 197 **lwarf-graphics.sty**

§ 303 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]

§ 303.1 **Graphics extensions**

\DeclareGraphicsExtensions {\langle list\rangle}

\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 `\textrimage`, 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

```

§ 303.2 Length conversions and graphics options

 **whitespace** A scaled image in L^AT_EX 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}%
39  {}% not ex
40  \IfEndWith{#1}{em}%
41  {\renewcommand*\LWR@igwidthstyle{width:#1}%
42  {}% not em
43  \IfEndWith{#1}{\%}%
44  {\renewcommand*\LWR@igwidthstyle{width:#1}%
45  {}% not percent
46  \IfEndWith{#1}{px}%
47  {\renewcommand*\LWR@igwidthstyle{width:#1}%
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}%
60 {}% not ex
61 \IfEndWith{#1}{em}%
62 {\renewcommand*\LWR@igheightstyle{height:#1}%
63 {}% not em
64 \IfEndWith{#1}{\%}%
65 {\renewcommand*\LWR@igheightstyle{height:#1}%
66 {}% not percent
67 \IfEndWith{#1}{px}%
68 {\renewcommand*\LWR@igheightstyle{height:#1}%
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}{%
 9  \ifthenelse{\equal{\#1}{1}}{}{%
 10    \PackageWarning{lwarp}{%
 11      It is recommended to use ‘‘[width=xx]\protect\linewidth’’\MessageBreak
 12      instead of ‘‘[scale=yy]’’,%
 13    }%
 14  }%
 15  \renewcommand*\LWR@igxscale{\#1}%
 16  \renewcommand*\LWR@igyscale{\#1}%
 17 }
```

Numerous ignored keys:

```
88 \define@key{igraph}{bb}{}%
89 \define@key{igraph}{bbllx}{}%
90 \define@key{igraph}{bbly}{}%
91 \define@key{igraph}{bburx}{}%
92 \define@key{igraph}{bbury}{}%
93 \define@key{igraph}{natwidth}{}%
94 \define@key{igraph}{nateheight}{}%
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}{}%
```

§ 303.3 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 }
```

§ 303.4 \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 \ifpackageloaded{epstopdf}{  
130 {  
131     \newcommand*{\LWR@replaceEPSSVG}{}  
132 }{  
133     \newcommand*{\LWR@replaceEPSSVG}{%  
134         \StrSubstitute{\LWR@tempone}{.eps}{.svg}[\LWR@tempone]  
135         \StrSubstitute{\LWR@tempone}{.EPS}{.SVG}[\LWR@tempone]  
136     }  
137 }%  
138 }
```

\LWR@ig@wpimagesizes * [*2: options*] [*3: options*] {*4: filename*}

If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```

139 \newcommand*{\LWR@ig@wpimagesizes}[4]{%
140     \ifbooleq{FormatWP}{%
141         \begingroup%
142         \LWR@restoreorigformatting%
143         \ifpdf{%
144             \appto{\LWR@restoreorigformatting}{%
145                 \DeclareGraphicsExtensions{%
146                     .pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
147                 }%
148             }%
149         \else% \ifpdf
150             \ifXeTeX{%
151                 \appto{\LWR@restoreorigformatting}{%
152                     \DeclareGraphicsExtensions{%
153                         .pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
154                     }%
155                 }%
156             \else%
157                 \appto{\LWR@restoreorigformatting}{%
158                     \DeclareGraphicsExtensions{%
159                         .eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
160                     }%
161                 }%
162             \fi%
163         \fi% \ifpdf
164         \define@key{Gin}{angle}{}{%
165             \IfBooleanTF{#1}{%
166                 \starred{%
167                     \IfValueTF{#3}{%
168                         \global\sbox{\LWR@imagesizebox}{%
169                             \LWR@originincludegraphics*[#2][#3]{#4}%
170                         }%
171                     }%
172                 }%
173             \starred{%
174                 \IfValueTF{#2}{%
175                     \global\sbox{\LWR@imagesizebox}{%
176                         \LWR@originincludegraphics*[#2]{#4}%
177                     }%
178                 }%
179             }%
180         }%
181     }%
182 }

```

```

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@htmltag 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 \ifthenelse{\NOT\equal{\LWR@igheightstyle}{}}
235   {\LWR@igheightstyle;\LWR@indentHTML}%
236 \ifthenelse{\NOT\equal{\LWR@igorigin}{}}
237   %
238   transform-origin: \LWR@originnames{\LWR@igorigin};%
239   \LWR@indentHTML%
240 }%
241 \ifthenelse{\NOT\equal{\LWR@igangle}{}}
242 {%
243   \LWR@rotstyle{-ms-}{\LWR@igangle}\LWR@indentHTML
244   \LWR@rotstyle{-webkit-}{\LWR@igangle}\LWR@indentHTML
245   \LWR@rotstyle{}{\LWR@igangle }\LWR@indentHTML
246 }%
247 \ifthenelse{%
248   \NOT\equal{\LWR@igxscale}{1}\OR%
249   \NOT\equal{\LWR@igyscale}{1}%
250 }%
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{\LWR@tempone}%
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}%
```

Remove doubled // in the directory path, from the 2020/10/01 L^AT_EX kernel change.

```
302 \StrSubstitute{\LWR@parsedfilename}{//}{/}[\LWR@parsedfilename]%
303 \LWR@traceinfo{\LWR@parsedfilename is \LWR@parsedfilename}%
```

If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```
304 \LWR@ig@wpimagesizes{#1}{#2}{#3}{#4}%
```

Create the HTML reference with the graphicspath, filename, extension, alt tag, style, and class:

```
305 \LWR@traceinfo{\LWR@includegraphicsb: about to create href}%
306 \LWR@href{\LWR@parsedfilename}%
307 {%
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@origin\includegraphics}{\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 }%
326 }%
327 \AtBeginDocument{%
```

§ 303.5 Boxes

\LWR@rotboxorigin Holds the origin key letters.

327 \newcommand*\{\LWR@rotboxorigin\}{}

\LWR@originname {⟨letter⟩}

Given one L^AT_EX 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^AT_EX 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` $\{\langle h\text{-}scale\rangle\} [\langle v\text{-}scale\rangle] \{\langle text\rangle\}$

```
370 \AtBeginDocument{
```

The `HTML` version:

```
371 \NewDocumentCommand{\LWR@HTML@scales}{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@orignewline  
380 }\LWR@orignewline%
```

Print the text to be scaled:

```
381 \begin{\LWR@nestspan}%  
382 #3%
```

Close the span:

```
383 \LWR@htmltagc{/span}%  
384 \end{\LWR@nestspan}%  
385 }
```

The high-level interface:

```
386 \LWR@formatted{scalebox}  
387  
388 }% AtBeginDocument
```

\reflectbox {⟨text⟩}

```
389 \AtBeginDocument{  
390  
391 \newcommand{\LWR@HTML@reflectbox}[1]{%  
392     \scalebox{-1}[1]{#1}%  
393 }% \reflectbox  
394  
395 \LWR@formatted{reflectbox}  
396  
397 }% AtBeginDocument
```

\resizebox {⟨h-length⟩} {⟨v-length⟩} {⟨text⟩}

Simply prints its text argument.

```
398 \AtBeginDocument{  
399  
400 \NewDocumentCommand{\LWR@HTML@resizebox}{s m m m}{%  
401     #4%  
402 }  
403  
404 \LWR@formatted{resizebox}  
405  
406 }% AtBeginDocument
```

File 198 l warp-graphicx.sty**§ 304 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 `\textrimage`, 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 199 l warp-grffile.sty**§ 305 Package grffile**

Pkg grffile **⚠ matching PDF and SVG** grffile is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

l warp-grffile now exists as a placeholder since grffile used to be emulated by l warp, and thus older versions of l warp-grffile may exist and should be overwritten by this newer version.

for HTML output: 1 \LWR@ProvidesPackagePass{grffile}[2017/06/30]

File 200 l warp-grid.sty**§ 306 Package grid**

Pkg grid grid is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{grid}[2009/06/16]
2 \newenvironment*{gridenv}{}{}

File 201 l warp-grid-system.sty**§ 307 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 202 l warp-gridset.sty

§ 308 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 203 l warp-hang.sty

§ 309 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 204 l warp-hanging.sty**§ 310 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 205 `lwarp-hepunits.sty`

§ 311 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{\inpb}{\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 206 **l warp-hhline.sty**

§ 312 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 207 l warp-hhtensor.sty**§ 313 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 208 l warp-hypbmsec.sty**§ 314 Package hypbmsec**

Pkg hypbmsec hypbmsec is emulated by the l warp core.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypbmsec}[2016/05/16]

File 209 **l warp-hypcap.sty**

§ 315 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 210 **l warp-hypdestopt.sty**

§ 316 Package **hypdestopt**

Pkg hypdestopt **hypdestopt** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypdestopt}[2016/05/21]

File 211 **l warp-hypernat.sty**

§ 317 Package **hypernat**

Pkg hypernat **hypernat** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypernat}[2001/07/09]

File 212 **l warp-hyperref.sty**

§ 318 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 except backref, pagebackref.\MessageBreak
6 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak
7 do not attempt to patch lwarp's version of 'hyperref'.)\MessageBreak}

```
8 \SetupKeyvalOptions{family=LWR@hyperref,prefix=LWR@hyperref@}
9
10 \newcommand{\hypersetup}[1]{\setkeys{LWR@hyperref}{#1}}
11
12 \define@key{LWR@hyperref}{a4paper}[]{}
13 \define@key{LWR@hyperref}{a5paper}[]{}
14 \define@key{LWR@hyperref}{b5paper}[]{}
15 \define@key{LWR@hyperref}{letterpaper}[]{}
16 \define@key{LWR@hyperref}{legalpaper}[]{}
17 \define@key{LWR@hyperref}{executivepaper}[]{}
18 \define@key{LWR@hyperref}{implicit}[]{}
19 \define@key{LWR@hyperref}{draft}[]{}
20 \define@key{LWR@hyperref}{final}[]{}
21 \define@key{LWR@hyperref}{setpagesize}[]{}
22 \define@key{LWR@hyperref}{debug}[]{}
23 \define@key{LWR@hyperref}{linktocpage}[]{}
24 \define@key{LWR@hyperref}{linktoc}[]{}
25 \define@key{LWR@hyperref}{extension}[]{}
26 \define@key{LWR@hyperref}{verbose}[]{}
27 \define@key{LWR@hyperref}{typexml}[]{}
28 \define@key{LWR@hyperref}{raiselinks}[]{}
29 \define@key{LWR@hyperref}{breaklinks}[]{}
30 \define@key{LWR@hyperref}{localanchorname}[]{}
31 \define@key{LWR@hyperref}{pageanchor}[]{}
32 \define@key{LWR@hyperref}{plainpages}[]{}
33 \define@key{LWR@hyperref}{naturalnames}[]{}
34 \define@key{LWR@hyperref}{hypertexnames}[]{}
35 \define@key{LWR@hyperref}{nesting}[]{}
36 \define@key{LWR@hyperref}{destlabel}[]{}
37 \define@key{LWR@hyperref}{unicode}[]{}
38 \define@key{LWR@hyperref}{pdfencoding}[]{}
39 \define@key{LWR@hyperref}{psdextra}[]{}
40 \define@key{LWR@hyperref}{pdfversion}[]{}
41 \define@key{LWR@hyperref}{dvipdfmx-outline-open}[]{}
42 \define@key{LWR@hyperref}{driverfallback}[]{}
43 \define@key{LWR@hyperref}{customdriver}[]{}
44 \define@key{LWR@hyperref}{hyperfigures}[]{}
45 \define@key{LWR@hyperref}{hyperfootnotes}[]{}
46 \define@key{LWR@hyperref}{hyperindex}[]{}
47 \define@key{LWR@hyperref}{encap}[]{}
48 \define@key{LWR@hyperref}{colorlinks}[]{}
49 \define@key{LWR@hyperref}{ocgcolorlinks}[]{}
50 \define@key{LWR@hyperref}{frenchlinks}[]{}
51 \define@key{LWR@hyperref}{bookmarks}[]{}
52 \define@key{LWR@hyperref}{bookmarksopen}[]{}
53 \define@key{LWR@hyperref}{bookmarksdepth}[]{}
54 \define@key{LWR@hyperref}{bookmarksopenlevel}[]{}
55 \define@key{LWR@hyperref}{bookmarkstype}[]{}
56 \define@key{LWR@hyperref}{bookmarksnumbered}[]{}
57 \define@key{LWR@hyperref}{CJKbookmarks}[]{}
58 \define@key{LWR@hyperref}{link}[]{}

---


```

```
59 \define@key{LWR@hyperref}{anchor}{}{}  
60 \define@key{LWR@hyperref}{cite}{}{}  
61 \define@key{LWR@hyperref}{file}{}{}  
62 \define@key{LWR@hyperref}{url}{}{}  
63 \define@key{LWR@hyperref}{menu}{}{}  
64 \define@key{LWR@hyperref}{run}{}{}  
65 \define@key{LWR@hyperref}{linkbordercolor}{}{}  
66 \define@key{LWR@hyperref}{anchorbordercolor}{}{}  
67 \define@key{LWR@hyperref}{citebordercolor}{}{}  
68 \define@key{LWR@hyperref}{filebordercolor}{}{}  
69 \define@key{LWR@hyperref}{urlbordercolor}{}{}  
70 \define@key{LWR@hyperref}{menubordercolor}{}{}  
71 \define@key{LWR@hyperref}{runbordercolor}{}{}  
72 \define@key{LWR@hyperref}{pagecolor}{}{}  
73 \define@key{LWR@hyperref}{baseurl}{}{}  
74 \define@key{LWR@hyperref}{linkfileprefix}{}{}  
75 \define@key{LWR@hyperref}{pdfpagetransition}{}{}  
76 \define@key{LWR@hyperref}{pdffpageduration}{}{}  
77 \define@key{LWR@hyperref}{pdffpagehidden}{}{}  
78 \define@key{LWR@hyperref}{pagebordercolor}{}{}  
79 \define@key{LWR@hyperref}{allbordercolors}{}{}  
80 \define@key{LWR@hyperref}{pdfhighlight}{}{}  
81 \define@key{LWR@hyperref}{pdfborder}{}{}  
82 \define@key{LWR@hyperref}{pdfborderstyle}{}{}  
83 \define@key{LWR@hyperref}{pdfprintpagerange}{}{}  
84 \define@key{LWR@hyperref}{pdfusetitle}{}{}  
85 \define@key{LWR@hyperref}{pdftitle}{}{}  
86 \define@key{LWR@hyperref}{pdfauthor}{}{}  
87 \define@key{LWR@hyperref}{pdfproducer}{}{}  
88 \define@key{LWR@hyperref}{pdfcreator}{}{}  
89 \define@key{LWR@hyperref}{addtopdfcreator}{}{}  
90 \define@key{LWR@hyperref}{pdfcreationdate}{}{}  
91 \define@key{LWR@hyperref}{pdfmoddate}{}{}  
92 \define@key{LWR@hyperref}{pdfsubject}{}{}  
93 \define@key{LWR@hyperref}{pdfkeywords}{}{}  
94 \define@key{LWR@hyperref}{pdftrapped}{}{}  
95 \define@key{LWR@hyperref}{pdfinfo}{}{}  
96 \define@key{LWR@hyperref}{pdfview}{}{}  
97 \define@key{LWR@hyperref}{pdflinkmargin}{}{}  
98 \define@key{LWR@hyperref}{pdfstartpage}{}{}  
99 \define@key{LWR@hyperref}{pdfstartview}{}{}  
100 \define@key{LWR@hyperref}{pdfremotestartview}{}{}  
101 \define@key{LWR@hyperref}{pdfpagescrop}{}{}  
102 \define@key{LWR@hyperref}{pdftoolbar}{}{}  
103 \define@key{LWR@hyperref}{pdfmenubar}{}{}  
104 \define@key{LWR@hyperref}{pdfwindowui}{}{}  
105 \define@key{LWR@hyperref}{pdffitwindow}{}{}  
106 \define@key{LWR@hyperref}{pdfcenterwindow}{}{}  
107 \define@key{LWR@hyperref}{pdfdisplaydoctitle}{}{}  
108 \define@key{LWR@hyperref}{pdfa}{}{}  
109 \define@key{LWR@hyperref}{pdfnewwindow}{}{}  
110 \define@key{LWR@hyperref}{pdflangs}{}{}  
111 \define@key{LWR@hyperref}{pdfpagelabels}{}{}  
112 \define@key{LWR@hyperref}{pdfescapeform}{}{}  
113 \define@key{LWR@hyperref}{english}{}{}
```

```
114 \define@key{LWR@hyperref}{UKenglish}{}{}  
115 \define@key{LWR@hyperref}{british}{}{}  
116 \define@key{LWR@hyperref}{USenglish}{}{}  
117 \define@key{LWR@hyperref}{american}{}{}  
118 \define@key{LWR@hyperref}{german}{}{}  
119 \define@key{LWR@hyperref}{austrian}{}{}  
120 \define@key{LWR@hyperref}{ngerman}{}{}  
121 \define@key{LWR@hyperref}{naustrian}{}{}  
122 \define@key{LWR@hyperref}{russian}{}{}  
123 \define@key{LWR@hyperref}{brazil}{}{}  
124 \define@key{LWR@hyperref}{brazilian}{}{}  
125 \define@key{LWR@hyperref}{portuguese}{}{}  
126 \define@key{LWR@hyperref}{spanish}{}{}  
127 \define@key{LWR@hyperref}{catalan}{}{}  
128 \define@key{LWR@hyperref}{afrikaans}{}{}  
129 \define@key{LWR@hyperref}{french}{}{}  
130 \define@key{LWR@hyperref}{frenchb}{}{}  
131 \define@key{LWR@hyperref}{francais}{}{}  
132 \define@key{LWR@hyperref}{acadian}{}{}  
133 \define@key{LWR@hyperref}{canadien}{}{}  
134 \define@key{LWR@hyperref}{italian}{}{}  
135 \define@key{LWR@hyperref}{magyar}{}{}  
136 \define@key{LWR@hyperref}{hungarian}{}{}  
137 \define@key{LWR@hyperref}{greek}{}{}  
138 \define@key{LWR@hyperref}{dutch}{}{}  
139 \define@key{LWR@hyperref}{tex4ht}{}{}  
140 \define@key{LWR@hyperref}{pdftex}{}{}  
141 \define@key{LWR@hyperref}{lualatex}{}{}  
142 \define@key{LWR@hyperref}{nativepdf}{}{}  
143 \define@key{LWR@hyperref}{dvipdfm}{}{}  
144 \define@key{LWR@hyperref}{dvipdfmx}{}{}  
145 \define@key{LWR@hyperref}{xetex}{}{}  
146 \define@key{LWR@hyperref}{pdfmark}{}{}  
147 \define@key{LWR@hyperref}{dvips}{}{}  
148 \define@key{LWR@hyperref}{hypertex}{}{}  
149 \define@key{LWR@hyperref}{vtx}{}{}  
150 \define@key{LWR@hyperref}{vtexpdfmark}{}{}  
151 \define@key{LWR@hyperref}{dviwindo}{}{}  
152 \define@key{LWR@hyperref}{dvipsone}{}{}  
153 \define@key{LWR@hyperref}{textures}{}{}  
154 \define@key{LWR@hyperref}{latex2html}{}{}  
155 \define@key{LWR@hyperref}{ps2pdf}{}{}  
156 \define@key{LWR@hyperref}{vietnamese}{}{}  
157 \define@key{LWR@hyperref}{vietnam}{}{}  
158 \define@key{LWR@hyperref}{arabic}{}{}  
159 \define@key{LWR@hyperref}{hidelinks}{}{}  
160 \define@key{LWR@hyperref}{draft}{}{}  
161 \define@key{LWR@hyperref}{nolinks}{}{}  
162 \define@key{LWR@hyperref}{final}{}{}  
163 \define@key{LWR@hyperref}{pdfa}{}{}  
164 \define@key{LWR@hyperref}{pdfversion}{}{}  
165 \define@key{LWR@hyperref}{typexml}{}{}  
166 \define@key{LWR@hyperref}{tex4ht}{}{}  
167 \define@key{LWR@hyperref}{pdftex}{}{}  
168 \define@key{LWR@hyperref}{nativepdf}{}{}
```

```
169 \define@key{LWR@hyperref}{dvipdfm}{}{}  
170 \define@key{LWR@hyperref}{dvipdfmx}{}{}  
171 \define@key{LWR@hyperref}{dvipdfmx-outline-open}{}{}  
172 \define@key{LWR@hyperref}{pdfmark}{}{}  
173 \define@key{LWR@hyperref}{dvips}{}{}  
174 \define@key{LWR@hyperref}{hypertex}{}{}  
175 \define@key{LWR@hyperref}{vtx}{}{}  
176 \define@key{LWR@hyperref}{vtexpdfmark}{}{}  
177 \define@key{LWR@hyperref}{dviwindo}{}{}  
178 \define@key{LWR@hyperref}{dvipsone}{}{}  
179 \define@key{LWR@hyperref}{textures}{}{}  
180 \define@key{LWR@hyperref}{latex2html}{}{}  
181 \define@key{LWR@hyperref}{ps2pdf}{}{}  
182 \define@key{LWR@hyperref}{xetex}{}{}  
183 \define@key{LWR@hyperref}{driverfallback}{}{}  
184 \define@key{LWR@hyperref}{customdriver}{}{}  
185 \define@key{LWR@hyperref}{pdfversion}{}{}  
186 \define@key{LWR@hyperref}{bookmarks}{}{}  
187 \define@key{LWR@hyperref}{ocgcolorlinks}{}{}  
188 \define@key{LWR@hyperref}{colorlinks}{}{}  
189 \define@key{LWR@hyperref}{frenchlinks}{}{}  
190 \define@key{LWR@hyperref}{backref}{}{}  
191 \define@key{LWR@hyperref}{pagebackref}{}{}  
192 \define@key{LWR@hyperref}{destlabel}{}{}  
193 \define@key{LWR@hyperref}{pdfframescrop}{}{}  
194 \define@key{LWR@hyperref}{pdffagemode}{}{}  
195 \define@key{LWR@hyperref}{pdfnonfullscreenpagemode}{}{}  
196 \define@key{LWR@hyperref}{pdfdirection}{}{}  
197 \define@key{LWR@hyperref}{pdfviewarea}{}{}  
198 \define@key{LWR@hyperref}{pdfviewclip}{}{}  
199 \define@key{LWR@hyperref}{pdfprintarea}{}{}  
200 \define@key{LWR@hyperref}{pdfprintclip}{}{}  
201 \define@key{LWR@hyperref}{pdfprintscaling}{}{}  
202 \define@key{LWR@hyperref}{pdfduplex}{}{}  
203 \define@key{LWR@hyperref}{pdfpicktraybypdfsize}{}{}  
204 \define@key{LWR@hyperref}{pdfprintpagerange}{}{}  
205 \define@key{LWR@hyperref}{pdfnumcopies}{}{}  
206 \define@key{LWR@hyperref}{pdfstartview}{}{}  
207 \define@key{LWR@hyperref}{pdfstartpage}{}{}  
208 \define@key{LWR@hyperref}{pdftoolbar}{}{}  
209 \define@key{LWR@hyperref}{pdfmenubar}{}{}  
210 \define@key{LWR@hyperref}{pdfwindowui}{}{}  
211 \define@key{LWR@hyperref}{pdffitwindow}{}{}  
212 \define@key{LWR@hyperref}{pdfcenterwindow}{}{}  
213 \define@key{LWR@hyperref}{pdfdisplaydoctitle}{}{}  
214 \define@key{LWR@hyperref}{pdfpagelayout}{}{}  
215 \define@key{LWR@hyperref}{pdflang}{}{}  
216 \define@key{LWR@hyperref}{baseurl}{}{}  
217 \define@key{LWR@hyperref}{pdfusetitle}{}{}  
218 \define@key{LWR@hyperref}{pdfpagelabels}{}{}  
219 \define@key{LWR@hyperref}{hyperfootnotes}{}{}  
220 \define@key{LWR@hyperref}{hyperfigures}{}{}  
221 \define@key{LWR@hyperref}{hyperindex}{}{}  
222 \define@key{LWR@hyperref}{encap}{}{}  
223 \define@key{LWR@hyperref}{linkcolor}{}{}
```

```

224 \define@key{LWR@hyperref}{anchorcolor}{}{}{}
225 \define@key{LWR@hyperref}{citecolor}{}{}{}
226 \define@key{LWR@hyperref}{filecolor}{}{}{}
227 \define@key{LWR@hyperref}{urlcolor}{}{}{}
228 \define@key{LWR@hyperref}{menucolor}{}{}{}
229 \define@key{LWR@hyperref}{runcolor}{}{}{}
230 \define@key{LWR@hyperref}{allcolors}{}{}{}
231
232 \DeclareStringOption[false]{backref}[section]
233
234 \DeclareBoolOption{pagebackref}
235
236 \DeclareDefaultOption{}
237
238 \ProcessKeyvalOptions*\relax

```

Maybe load `backref`:

```

239 \ifdefstring{\LWR@hyperref@backref}{section}
240   {\RequirePackage{backref}}
241   {}
242
243 \ifdefstring{\LWR@hyperref@backref}{slide}
244   {\RequirePackage{backref}}
245   {}
246
247 \ifdefstring{\LWR@hyperref@backref}{page}
248   {\RequirePackage{backref}}
249   {}
250
251 \ifLWR@hyperref@pagebackref
252   \RequirePackage{backref}
253 \fi

254 \LetLtxMacro{\href}{\LWR@href}
255 \LetLtxMacro{\nolinkurl}{\LWR@nolinkurl}
256 \LetLtxMacro{\url}{\LWR@url}
257 \LetLtxMacro{\phantomsection}{\LWR@phantomsection}

258 \newcommand*{\hyperbaseurl}[1]{}{}
```

`\hyperimage {⟨URL⟩} {⟨alt text⟩}`

Insert an image with alt text:

```

259 \NewDocumentCommand{\LWR@hyperimageb}{m +m}{%
260   \LWR@ensuredoingapar%
261   \def\LWR@templink{\#1}%
262   \onelevel@sanitize\LWR@templink%
263   \LWR@htmlltag{img src="\LWR@templink" alt="#2" class="hyperimage"}%
264   \LWR@ensuredoingapar%
265   \endgroup%
266 }
267
```

```

268 \newrobustcmd*{\hyperimage}{%
269   \begingroup%
270   \LWR@linkcatcodes%
271   \LWR@hyperimageb%
272 }
273

```

\hyperdef {<1: category>} {<2: name>} {<3: text>}

Creates an HTML anchor to category.name with the given text.

```

274 \NewDocumentCommand{\hyperdefb}{m m +m}{%
275   \LWR@ensuredoingapar%
276   \LWR@label@createtag{#1.#2}%
277   #3%
278   \endgroup%
279 }
280
281 \newcommand*{\hyperdef}{%
282   \begingroup%
283   \LWR@linkcatcodes%
284   \LWR@hyperdefb%
285 }
286

```

\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.

```

287 \newcommand{\hyperreffinish}[1]{%
288   \begingroup%
289   \RenewDocumentCommand{\ref}{s m}{\LWR@print@ref{##2}}%
290   #1%
291   \endgroup%
292   \LWR@htmlltag{/a}%
293 }
294
295 \newcommand*{\hyperrefbb}[3]{%
296   \LWR@htmlltag{%
297     a href="%"
298       \detokenize\expandafter{#1}\LWR@hashmark%
299       \detokenize\expandafter{#2}.\detokenize\expandafter{#3}%
300     "%"
301     \LWR@addlinktitle%
302   }%
303   \endgroup%
304   \LWR@hyperreffinish%
305 }
306
307 \newrobustcmd*{\hyperrefb}{%
308   \begingroup%
309   \LWR@linkcatcodes%
310   \LWR@hyperrefbb%
311 }

```

```
\LWR@hyperrefc  [\langle label\rangle] {\langle text\rangle}
```

Creates text as an HTML link to the L^AT_EX label.

```
312  
313 \NewDocumentCommand{\LWR@hyperrefcb}{O{label}}{  
314     \LWR@startref{#1}%  
315     \endgroup%  
316     \LWR@hyperreffinish%  
317 }  
318  
319 \newcommand*{\LWR@hyperrefc}{%  
320     \begingroup%  
321     \LWR@linkcatcodes%  
322     \LWR@hyperrefcb%  
323 }
```

```
\hyperref  {\langle 1: URL\rangle} {\langle 2: category\rangle} {\langle 3: name\rangle} {\langle 4: text\rangle} — or —  
[\langle 1: label\rangle] {\langle 2: text\rangle}
```

```
324 \DeclareRobustCommand*{\hyperref}{%  
325     \LWR@ensuredoingapar%  
326     \@ifnextchar[\LWR@hyperrefc\LWR@hyperrefb%  
327 }
```

```
\hypertarget  {\langle name\rangle} {\langle text\rangle}
```

Creates an anchor to name with the given text.

```
328 \NewDocumentCommand{\LWR@hypertargetb}{m +m}{%  
329     \label{LWR-ht-#1}%  
330     #2%  
331     \endgroup%  
332 }  
333  
334 \newcommand*{\hypertarget}{%  
335     \begingroup%  
336     \LWR@linkcatcodes%  
337     \LWR@hypertargetb%  
338 }
```

```
\hyperlink  {\langle name\rangle} {\langle text\rangle}
```

Creates a link to the anchor created by hypertarget, with the given link text.

Declared because also defined by memoir.

```
339 \DeclareDocumentCommand{\LWR@hyperlinkb}{m}{%  
340     \LWR@hyperrefcb[LWR-ht-#1]%  
341 }  
342  
343 \DeclareDocumentCommand{\hyperlink}{}{  
344     \LWR@ensuredoingapar%  
345     \begingroup%  
346     \LWR@linkcatcodes%  
347     \LWR@hyperlinkb%
```

348 }

\autoref * {*label*}

For HTML, \cleveref is used instead.

349 \NewDocumentCommand{\autoref}{s m}{%
350 \IfBooleanTF{#1}{\ref{#2}}{\cref{#2}}%
351 }

\autopageref {*label*}

For HTML, \cleveref is used instead.

352 \NewDocumentCommand{\autopageref}{s m}{%
353 \IfBooleanTF{#1}{\cpageref{#2}}{\cref{#2}}%
354 }

\pdfstringdef {*macroname*} {*TEXstring*}

355 \newcommand{\pdfstringdef}[2]{}

\pdfbookmark [⟨level⟩] {⟨text⟩} {⟨name⟩}

356 \newcommand{\pdfbookmark}[3][]{}

\currentpdfbookmark {⟨text⟩} {⟨name⟩}

357 \newcommand{\currentpdfbookmark}[2]{}

\subpdfbookmark {⟨text⟩} {⟨name⟩}

358 \newcommand{\subpdfbookmark}[2]{}

\belowpdfbookmark {⟨text⟩} {⟨name⟩}

359 \newcommand{\belowpdfbookmark}[2]{}

\texorpdfstring {⟨TEXstring⟩} {⟨PDFstring⟩}

360 \let\texorpdfstring\relax
361 \newcommand{\texorpdfstring}[2]{\#1}

{⟨commands⟩}

362 \newcommand{\pdfstringdefDisableCommands}[1]{}

\hypercalcbp {⟨dimen⟩} From hyperref.

363 \def\hypercalcbp#1{
364 \strip@pt\dimexpr 0.99626401\dimexpr(\#1)\relax\relax
365 }%

```
\Acrobatmenu  {\langle menuoption\rangle} {\langle text\rangle}
366 \newcommand{\Acrobatmenu}[2]{}

\TextField  [\langle parameters\rangle] {\langle label\rangle}
367 \ DeclareRobustCommand{\TextField}[2][]{}

\CheckBox  [\langle parameters\rangle] {\langle label\rangle}
368 \ DeclareRobustCommand{\CheckBox}[2][]{}

\ChoiceMenu  [\langle parameters\rangle] {\langle label\rangle} {\langle choices\rangle}
369 \ DeclareRobustCommand{\ChoiceMenu}[3][]{}

\PushButton  [\langle parameters\rangle] {\langle label\rangle}
370 \ DeclareRobustCommand{\PushButton}[2][]{}

\Submit  [\langle parameters\rangle] {\langle label\rangle}
371 \ DeclareRobustCommand{\Submit}[2][]{}

\Reset  [\langle parameters\rangle] {\langle label\rangle}
372 \ DeclareRobustCommand{\Reset}[2][]{}

\Gauge  [\langle parameters\rangle] {\langle label\rangle}
373 \ DeclareRobustCommand{\Gauge}[2][]{}

\LayoutTextField  {\langle label\rangle} {\langle field\rangle}
374 \newcommand*{\LayoutTextField}[2]{}

\LayoutChoiceField  {\langle label\rangle} {\langle field\rangle}
375 \newcommand*{\LayoutChoiceField}[2]{}

\LayoutCheckField  {\langle label\rangle} {\langle field\rangle}
376 \newcommand*{\LayoutCheckField}[2]{}

\MakeRadioField  {\langle width\rangle} {\langle height\rangle}
377 \newcommand*{\MakeRadioField}[2]{}

\MakeCheckField  {\langle width\rangle} {\langle height\rangle}
```

```
378 \newcommand*{\MakeCheckField}[2]{}

\MakeTextField  {\langle width\rangle} {\langle height\rangle}
379 \newcommand*{\MakeTextField}[2]{}

\MakeChoiceField {\langle width\rangle} {\langle height\rangle}
380 \newcommand*{\MakeChoiceField}[2]{}

\MakeFieldButton {\langle text\rangle}
381 \newcommand{\MakeFieldButton}[1]{}
```

File 213 l warp-hyperxmp.sty**§ 319 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 214 l warp-hyphenat.sty**§ 320 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}{\origdothyp{dothyp}}
8 \LetLtxMacro{\LWRHYNAT}{\origcolonhyp{colonhyp}}
9 \LetLtxMacro{\LWRHYNAT}{\orighyp{hyp}}
10
11 \LetLtxMacro{\textnhtt}{\texttt}
12 \LetLtxMacro{\nhttfamily}{\ttfamily}
13
14 \renewcommand{\nohyphens}[1]{#1}
15 \renewrobustcmd{\bshyp}{%
16   \ifmmode\backslash\else\textbackslash\fi%
17 }
```

```

18 \renewrobustcmd{\fshyp}{/}
19 \renewrobustcmd{\dothyp}{.}
20 \renewrobustcmd{\colonhyp}{:}
21 \renewrobustcmd{\hyp}{-}
22
23 \appto\LWR@restoreorigformatting{%
24 \LetLtxMacro{textnhtt}\LWRHYNAT@origtextnhtt%
25 \LetLtxMacro{nhttfamily}\LWRHYNAT@orignhttfamily%
26 \LetLtxMacro{nohyphens}\LWRHYNAT@orignohyphens%
27 \LetLtxMacro{bshyp}\LWRHYNAT@origbshyp%
28 \LetLtxMacro{fshyp}\LWRHYNAT@origfshyp%
29 \LetLtxMacro{dothyp}\LWRHYNAT@origdothyp%
30 \LetLtxMacro{colonhyp}\LWRHYNAT@origcolonhyp%
31 \LetLtxMacro{hyp}\LWRHYNAT@orighyp%
32 }

```

File 215 **l warp-idxlayout.sty**

§ 321 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 216 l warp-ifoddpage.sty**§ 322 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}{\oddpage=true\oddpageoroneside=false}
7
8 \def\oddpage@page{1}
9
10 \def\@ifoddpage{%
11     \expandafter\@firstoftwo
12 }
13
14 \def\@ifoddpageoroneside{%
15     \expandafter\@firstoftwo
16 }
```

File 217 l warp-imakeidx.sty**§ 323 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 \ifstreq{\#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   }%
51 }
```

```

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{\lwr@index-\arabic{\lwr@autoindex}}%
67 \expandafter\protected@write\csname\@idxfile\endcsname{%
68     {\string\indexentry{\#2}{\arabic{\lwr@autoindex}}}}%
69 }
70
71 \renewcommand\imki@wrindexentryunique[3]{%
72 \addtocounter{\lwr@autoindex}{1}%
73 \label{\lwr@index-\arabic{\lwr@autoindex}}%
74 \protected@write\@idxfile{%
75     {\string\indexentry[\#1]{\#2}{\arabic{\lwr@autoindex}}}}%
76 }
77
78 \def\imki@wrindexsplit#1#2{%
79 \imki@wrindexentrysplit{\#1}{\#2}{\thepage}%
80 \endgroup\imki@showidxentry{\#1}{\#2}%
81 \@esphack%
82 }
83
84 \def\imki@wrindexunique#1#2{%
85 \imki@wrindexentryunique{\#1}{\#2}{\thepage}%
86 \endgroup\imki@showidxentry{\#1}{\#2}%
87 \@esphack%
88 }
89

```

```
\LWR@imki@setxdydefopts
```

Sets the *xindy* HTML options, ignoring the user's settings.

```
90 \newcommand*{\LWR@imki@setxdydefopts}{%
91   \edef\imki@options{ \space %
92     -M \space \LWR@xindyStyle\space %
93     -L \space \LWR@xindyLanguage\space %
94     -C \space \LWR@xindyCodepage\space %
95   }%
96 }
```

```
\LWR@imki@setdefopts {<user options>}
```

Sets the HTML options, added to the user's settings, depending on whether *makeindex* or *xindy* are used.

For *makeindex*, the user's choice is ignored, and only the l warp version is used. (Only one style at a time is possible.)

For *xindy*, multiple modules may be specified, and the l warp version is appended.

```
97 \newcommand*{\LWR@imki@setdefopts}[1]{%
98 \ifblank{#1}{%
99   \edef\imki@options{\space -s \space \LWR@makeindexStyle \space}%
100  \ifdefstring{\imki@progdefault}{xindy}{\LWR@imki@setxdydefopts}{}}%
101  \ifdefstring{\imki@progdefault}{texindy}{\LWR@imki@setxdydefopts}{}}%
102  \ifdefstring{\imki@progdefault}{truedxindy}{\LWR@imki@setxdydefopts}{}}%
103 }{%
104   \edef\imki@options{\space #1 \space}%
105 }%
106 }
```

```
\imki@makeindex Use the new HTML options:
```

```
107 \xpatchcmd{\imki@makeindex}
108   {\let\imki@options\space}
109   {\LWR@imki@setdefopts{}}
110   {}
111   {\LWR@patcherror{imakeidx}{makeindex}}
```

Use the new HTML options.

```
112 \define@key{\imki}{options}{\LWR@imki@setdefopts{#1}}
```

```
\imki@resetdefaults Use the new HTML options:
```

```
113 \xpatchcmd{\imki@resetdefaults}
114   {\def\imki@options{ {}}
115   {\LWR@imki@setdefopts{}}
116   {}
117   {\LWR@patcherror{imakeidx}{resetdefaults}}}
```

theindex was already defined \AtBeginDocument by the l warp core, so it must be redefined here similarly, but patched for imakeidx:

```
Env theindex
```

```

118 \AtBeginDocument{
119 \renewenvironment*{theindex}{%
120   \imki@maybeaddtotoc
121   \imki@indexlevel{\indexname}
122   \let\item\LWR@indexitem%
123   \let\subitem\LWR@indexsubitem%
124   \let\subsubitem\LWR@indexsubsubitem%
125 }{}%
126 }% AtBeginDocument

```

Update to the new defaults:

```
127 \imki@resetdefaults
```

Update to the new patches:

\AtBeginDocument is because \@wrindex is previously defined as \AtBeginDocument in the **lwarf** core.

```

128 \ifimki@splitindex
129   \let\imki@startidx\imki@startidxunique
130   \AtBeginDocument{\let@\wrindex\imki@wrindexunique}
131   \let\imki@putindex\imki@putindexunique
132   \let\imki@wrindexentry\imki@wrindexentryunique
133   \let\imki@startidxsplit@\undefined
134   \let\imki@wrindexsplit@\undefined
135   \let\imki@putindexsplit@\undefined
136 \else
137   \let\imki@startidx\imki@startidxsplit
138   \AtBeginDocument{\let@\wrindex\imki@wrindexsplit}
139   \let\imki@putindex\imki@putindexsplit
140   \let\imki@wrindexentry\imki@wrindexentrysplit
141   \let\imki@startidxunique@\undefined
142   \let\imki@wrindexunique@\undefined
143   \let\imki@putindexunique@\undefined
144 \fi

```

File 218 **lwarf-index.sty**

§ 324 Package **index**

(Emulates or patches code by DAVID M. JONES.)

Pkg index **index** is patched for use by **lwarf**.

for HTML output: 1 \LWR@ProvidesPackagePass{index}[2004/01/20]

Use \theLWR@autoindex instead of \thepage. \@tempswattrue is used to force an immediate write to the index file instead of waiting until the end of the page.

```

2 \xpatchcmd{\newindex}
3   {\x@newindex[\thepage]}

```

```

4   {%
5     \@tempswatrue%
6     \x@newindex[theLWR@autoindex]%
7   }
8   {}
9   {\LWR@patcherror{index}{newindex}}
10
11 \xpatchcmd{\renewindex}
12   {\x@renewindex[thepage]}
13   {%
14     \@tempswatrue%
15     \x@renewindex[theLWR@autoindex]%
16   }
17   {}
18   {\LWR@patcherror{index}{renewindex}}

```

Patched to set a new autoindex:

```

19 \xpatchcmd{@wrindex}
20   {\begingroup}
21   {%
22     \addtocounter{LWR@autoindex}{1}%
23     \label{LWRindex-\arabic{LWR@autoindex}}%      lwarp
24     \begingroup%
25   }
26   {}
27   {\LWR@patcherror{index}{@wrindex}}

```

\AtBeginDocument **lwarp** 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 219 l warp-inputtrc.sty**§ 325 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     \IT@indent@unit}%
10    l warp
11    \IT@input#1%
12      l warp
13 \expandafter\IT@pop@indent\IT@indent \IT@pop@file \IT@filestack\IT@currfile\IT@input
14 \expandafter\IT@pop@file \IT@filestack\IT@currfile\IT@input
15 \IT@maybe@returnmessage% v0.2
16   l warp
17 }
```

File 220 l warp-intopdf.sty**§ 326 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 221 l warp-jurabib.sty

§ 327 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{\jbbrangle}{\textgreater}
5
6 \renewcommand*\jb@biblaw@item}{%
7   \hspace{0.5em}%
8   \$\triangleright%
9   \HTMLUnicode{25B7}{} l warp
10  \hspace{0.5em}%
11 }
12
13 \renewrobustcmd{\jbarchsig}[2]{%
14   \ifjbweareinbib
15     \settowidth{\jb@subarchitemwidth}{\jbsamesubarchindent+#1}%
16     \setlength{\jb@subarchentrywidth}{\textwidth-\jb@subarchitemwidth-4em}%
17   \begin{tabular}{@{}p{\jb@subarchitemwidth}@{}j@{}{\jb@subarchentrywidth}@{}}
18     #1\ifjb@dot\unskip\unskip\unskip.\fi
19     &
20     \quad\quad l warp
21     \ifthenelse{\equal{#2}{}}{\jbarchnamformat{#2}}%
22   \end{tabular}
23 }%
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 222 **lwarf-karnaugh-map.sty**

§ 328 Package **karnaugh-map**

(Emulates or patches code by MATTIAS JACOBSSON.)

Pkg karnaugh-map karnaugh-map is patched for use by lwarf.

for HTML output: 1 \LWR@ProvidesPackagePass{karnaugh-map}[2017/02/20]

This patch is needed only because lwarf 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 lwarf 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@mapsizez@}{#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@mapsizez@=221
23     \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
24         \&          0 \&          1 \& \phantom{0} \\
25         0 \& |(00000)| \phantom{0} \& |(00001)| \phantom{0} \&           \\
26         1 \& |(00010)| \phantom{0} \& |(00011)| \phantom{0} \&           \\
27         \phantom{0} \&           \&           \&           \\
28     }%
29   \fi
30 \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizez@=241
31   \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
32       \&          0 \&          1 \& \phantom{0} \\
33       00 \& |(00000)| \phantom{0} \& |(00001)| \phantom{0} \&           \\
34       01 \& |(00010)| \phantom{0} \& |(00011)| \phantom{0} \&           \\
35       11 \& |(000110)| \phantom{0} \& |(000111)| \phantom{0} \&           \\
36       10 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \&           \\
37       \phantom{0} \&           \&           \&           \\
38   }%
39   \fi
40 \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizez@=421
41   \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
42       \&          00 \&          01 \&          11 \&          10 \& \phantom{0} \\
43       0 \& |(00000)| \phantom{0} \& |(00001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000011) \\
44       1 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000111) \\
45       \phantom{00} \&           \&           \&           \&           \\
46   }%
47   \fi
48 \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizez@=441
49   \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
50       \&          00 \&          01 \&          11 \&          10 \& \phantom{0} \\
51       00 \& |(00000)| \phantom{0} \& |(00001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000011) \\
52       01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000111) \\
53       11 \& |(000110)| \phantom{0} \& |(000111)| \phantom{0} \& |(0001111)| \phantom{0} \& |(0001111) \\
54       10 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(0001011)| \phantom{0} \& |(0001011) \\
55       \phantom{00} \&           \&           \&           \&           \\
56   }%
57   \fi
58 \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizez@=442
59   \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
60       \&          00 \&          01 \&          11 \&          10 \& \phantom{0} \\
61       00 \& |(00000)| \phantom{0} \& |(00001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000011) \\
62       01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000111) \\
63       11 \& |(000110)| \phantom{0} \& |(000111)| \phantom{0} \& |(0001111)| \phantom{0} \& |(0001111) \\
64       10 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(0001011)| \phantom{0} \& |(0001011) \\
65       \phantom{00} \&           \&           \&           \&           \\
66   }%
67   \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
68   \fi
69 \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizez@=444
70   \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
71       \&          00 \&          01 \&          11 \&          10 \& \phantom{0} \\
72       00 \& |(00000)| \phantom{0} \& |(00001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000011) \\
73       01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000111) \\
74       11 \& |(000110)| \phantom{0} \& |(000111)| \phantom{0} \& |(0001111)| \phantom{0} \& |(0001111) \\

```

```

75      10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(0010
76      \phantom{00} \& \& \& \& \&
77      00 \& |(100000)| \phantom{0} \& |(100001)| \phantom{0} \& |(100011)| \phantom{0} \& |(1000
78      01 \& |(100100)| \phantom{0} \& |(100101)| \phantom{0} \& |(100111)| \phantom{0} \& |(1001
79      11 \& |(101100)| \phantom{0} \& |(101101)| \phantom{0} \& |(101111)| \phantom{0} \& |(1011
80      10 \& |(101000)| \phantom{0} \& |(101001)| \phantom{0} \& |(101011)| \phantom{0} \& |(1010
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}{% l warp
89      % ifnum0=\@karnaughmap@local@matrixtemplate@% original
90      % print error if no template could be found
91      \PackageError{l warp-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      }{}% l warp
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@matrixtemplate@%
140             \@karnaughmap@local@matrixtemplate@%
141     );
142 }{
143     \end{tikzpicture}
144 \endgroup
145 }

```

File 223 **lwarf-keyfloat.sty**

§ 329 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 lwar, 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{lwarf-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:

```

19          \setlength{\linewidth}{6in}%
20          \setlength{\textwidth}{6in}%
21          \setlength{\textheight}{9in}%
22      }{}%
23 }%
24 \normalcolor%
25 }

26 \LetLtxMacro\KFLT@LWR@hook@keysubfloats\KFLT@LWR@hook@boxouter
27
28 \let\KFLT@LWR@hook@keyfloatsminipage\relax
29 \endKFLT@LWR@hook@keyfloatsminipage\relax
30 \newenvironment*{\KFLT@LWR@hook@keyfloatsminipage}[1]{}{}

31 \LetLtxMacro\KFLT@LWR@hook@keyfloats\KFLT@LWR@hook@boxouter
32
33 \renewcommand*{\KFLT@maybeendfloatrow}{%
34     \ifnumless{\value{KFLT@thiscol}}{\value{KFLT@numcols}}{%
35         }% thiscol < numcols
36         {%
37             \defcounter{KFLT@thiscol}{0}%
38         }%
39 }%
40
41 \renewcommand{\KFLT@trackrows}{%
42 }%

```

If are nested inside a keyfloats or a subfloat:

```

43 \ifboolexpr{%
44     test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or%
45     bool{KFLT@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 }% not nested
57 }%

```

```

57 \RenewDocumentCommand{\KFLT@onefigureimage}{m}
58 {%
59 \LWR@traceinfo{KFLT@onefigureimage}%

```

```
60 % \begin{lrbox}{\KFLT@envbox}%
61 \ifthenelse{\NOT\equal{\KFLT@lw}{}}%
62 {%
63     \KFLT@frame{\includegraphics{%
64         [scale=\KFLT@s, width=\KFLT@imagewidth]{#1}}}
65 }%
66 {%
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@imagewidth, height=\KFLT@h]{#1}}}
74         }%
75         {%
76             \KFLT@frame{\includegraphics{%
77                 [scale=\KFLT@s, width=\KFLT@imagewidth]{#1}}}
78         }%
79     }%
80     {%
81         \ifthenelse{\dimtest{\KFLT@h}>}{0pt}%
82     }%
83     {%
84         \KFLT@frame{\includegraphics{%
85             [scale=\KFLT@s, height=\KFLT@h]{#1}}}
86     }%
87     {%
88         \KFLT@frame{\includegraphics{%
89             [scale=\KFLT@s]{#1}}}
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@stopars%
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     \ifcsempy{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   tocdata not loaded
158   \newcommand*{\LWR@KFLT@setnamealign}[1]{%
159     \def\LWR@KFLT@textalign{justify}%
160     \ifstrequal{#1}{\centering}%
161       {\def\LWR@KFLT@textalign{center}}%
162     {}%
163     \ifstrequal{#1}{\raggedleft}%
164       {\def\LWR@KFLT@textalign{right}}%
165     {}%
166     \ifstrequal{#1}{\raggedright}%
167       {\def\LWR@KFLT@textalign{left}}%
168     {}%
169   }
170
171   \renewcommand*{\KFLT@addartisttext}[3]{%
172

```

Add space and create the name inside a <div>:

```

173 %           \addvspace{\medskipamount}%
174 %           \begin{minipage}{\linewidth}%
175 %             \LWR@KFLT@setnamealign{#3}%
176 %             \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%
177

```

Text alignment is #3, and depends on artist or author:

```

178 %      #3%
179

```

#1 is empty or 'subgrp'
#2 is empty for artist, 'u' for author:

```

180           \footnotesize\textsc{%
181             \KFLT@optionalname{\csuse{KFLT@#1a#2p}}%
182             \KFLT@optionalname{\csuse{KFLT@#1a#2f}}%
183             \csuse{KFLT@#1a#2l}%
184             \csuse{KFLT@#1a#2s}%
185           }%
186 %           \end{minipage}%
187 %           \end{BlockClass}%
188 %           \par\addvspace{2ex}%
189   }
190
191 }% tocdata not loaded

```

```

Env KFLT@marginfloat [⟨offset⟩] {⟨type⟩}
192 \DeclareDocumentEnvironment{KFLT@marginfloat}{O{-1.2ex} m}

```

```
193 {%
194     \uselengthunit{PT}%
195     \LWR@BlockClassWP%
196         {float:right; width:2in; margin:10pt}%
197         {}%
198         {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 224 l warp-kpfonts.sty

§ 330 Package **kpfonts**

(Emulates or patches code by CHRISTOPHE CAIGNAERT.)

Pkg kpfonts kpfonts is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options `uprightRoman` for `\D` only, `classicReIm`, `frenchstyle` for Greek only, `upright` for Greek only, `uprightgreeks`, `slantedGreeks`, and `mathcalascript`.

The dedicated macros for Greek work correctly.

SVG math should appear the same as the printed output.

```

for HTML output: 1 \LWR@ProvidesPackagePass{kpfonts}[2010/08/20]
2
3 \LWR@infoprocessingmathjax{kpfonts}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpxtxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12   \CustomizeMathJax{\let\LRorigmathscr\mathscr}
13   \CustomizeMathJax{\let\LRorigmathcal\mathcal}
14   \CustomizeMathJax{\let\mathscr\LRorigmathcal}
15   \CustomizeMathJax{\let\mathcal\LRorigmathscr}
16 \fi
17
18 \ifkp@upgrk % lowercase
19   \LWR@mathjax@addgreek@l@up{}{}
20   \LWR@mathjax@addgreek@l@it{other}{}{}
21 \else
22   \LWR@mathjax@addgreek@l@up{other}{}{}
23 \fi
24
25 \ifkp@slGrk
26   \LWR@mathjax@addgreek@u@it*{}{}{}
27   \LWR@mathjax@addgreek@u@up*{other}{}{}
28   \LWR@mathjax@addgreek@u@up*{var}{}{}
29 \else
30   \LWR@mathjax@addgreek@u@it*{other}{}{}
31   \LWR@mathjax@addgreek@u@it*{var}{}{}
32 \fi
33
34 \LWR@mathjax@addgreek@u@up*{}{up}{}
35 \LWR@mathjax@addgreek@l@up{}{up}{}
36
37 \LWR@mathjax@addgreek@u@it*{}{sl}{}
38 \LWR@mathjax@addgreek@l@it{}{sl}{}
39
40 \CustomizeMathJax{\newcommand{\partialisl}{\mathord{\text{\scriptsize \texttt{\&#x1D715}}}}}
41 \CustomizeMathJax{\let\partialup\uppartial}% not upright
42
43 \ifkp@oldReIm
44 \else
45   \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
46   \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}

```

```

47 \fi
48
49 \ifkp@Dcommand
50   \ifkp@upRm%
51     \CustomizeMathJax{
52       \def\mathclose{\,\mathrm{#1}}
53     }
54   \else
55     \CustomizeMathJax{
56       \def\mathclose{\,\mathrm{#1}}
57     }
58 \fi
59 \fi
60
61 \CustomizeMathJax{\let\pounds\mathsterling}
62 \CustomizeMathJax{\let\kppounds\mathsterling}
63
64 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}% never sans
65 \CustomizeMathJax{\let\mathupright\mathup}
66
67 \end{warpMathJax}

```

File 225 **l warp-kpfonts-otf.sty**§ 331 Package **kpfonts-otf**

(Emulates or patches code by DANIEL FLIPO.)

Pkg kpfonts-otf kpfonts-otf is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **limitations** The MATHJAX emulation honors the options fancyReIm, mathcal, frenchstyle for Greek only, and mathcalscript.

Also see the options for **unicode-math**, which is loaded by **kpfonts-otf**.

The **unicode-math** dedicated macros for Greek work correctly.

⚠ **\mathversion** The MATHJAX emulation does not change with the use of **\mathversion**. Whatever emulation is established at the begin of the document will remain.

SVG math should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{kpfonts-otf}[2020/06/20]
2
3 \LWR@infoprocessingmathjax{kpfonts-otf}
4
5 \LWR@origRequirePackage{l warp-common-mathjax-nonunicode}
6
7 \LWR@origRequirePackage{l warp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr

```

```

12      \CustomizeMathJax{\let\mathscr\mathcal}
13 \else
14      \CustomizeMathJax{\let\mathcal\mathscr}
15 \fi
16
17 \ifkp@frenchstyle
18     \LWR@mathjax@addgreek@l@up{}{}
19     \LWR@mathjax@addgreek@u@up*{}{}{}
20 \fi
21
22 \ifkp@oldReIm
23     \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
24     \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
25 \else
26 \fi
27
28 \ifkp@Dcommand
29     \CustomizeMathJax{
30         \def\#1{\mathclose{,\mathrm{d}}\#1}
31     }
32 \fi
33
34 \CustomizeMathJax{\let\varint\int}
35 \CustomizeMathJax{\let\variint\iint}
36 \CustomizeMathJax{\let\variiint\iiint}
37 \CustomizeMathJax{\let\variiiint\iiiint}
38 \CustomizeMathJax{\let\varidotsint\idotsint}
39
40 \CustomizeMathJax{\newcommand{\varointctrcclockwise}{\mathop{\backslash\!unicode{x2939}\!\!\backslash\!unicode{x022E}}}}
41 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\backslash\!unicode{x0222F}\!\!\backslash\!unicode{x2938}}}}
42 \CustomizeMathJax{\newcommand{\ointctrcclockwise}{\mathop{\backslash\!unicode{x2939}\!\!\backslash\!unicode{x0222F}}}}
43 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\backslash\!unicode{x0222F}\!\!\backslash\!unicode{x2938}}}}
44 \CustomizeMathJax{\newcommand{\varointctrcclockwise}{\mathop{\backslash\!unicode{x2939}\!\!\backslash\!unicode{x0222F}}}}
45 \CustomizeMathJax{\newcommand{\oiintclockwise}{\mathop{\backslash\!unicode{x02230}\!\!\backslash\!unicode{x2938}}}}
46 \CustomizeMathJax{\newcommand{\oiintctrcclockwise}{\mathop{\backslash\!unicode{x2939}\!\!\backslash\!unicode{x02230}}}}
47 \CustomizeMathJax{\newcommand{\varoiintclockwise}{\mathop{\backslash\!unicode{x02230}\!\!\backslash\!unicode{x2938}}}}
48 \CustomizeMathJax{\newcommand{\varoiintctrcclockwise}{\mathop{\backslash\!unicode{x2939}\!\!\backslash\!unicode{x02230}}}}
49 \CustomizeMathJax{\newcommand{\sqoint}{\mathop{\backslash\!unicode{x2A16}\!\!\backslash\!unicode{x2A16}}}}
50 \CustomizeMathJax{\newcommand{\sqiint}{\mathop{\backslash\!unicode{x2A16}\!\!\backslash\!unicode{x2A16}\!\!\backslash\!unicode{x2A16}}}}
51
52 \CustomizeMathJax{\let\widearc\overparen}
53 \CustomizeMathJax{\let\widearcarrow\overrightarrow}
54 \CustomizeMathJax{\let\overrightarc\overrightarrow}
55
56 \end{warpMathJax}

```

File 226 **lwarp-layaureo.sty**

§ 332 Package **layaureo**

Pkg layaureo layaureo is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

File 227 **lwarp-layout.sty**

§ 333 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 228 **lwarp-layouts.sty**

§ 334 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   \listAsParatrue
12 \newif\ifRunInHead
13   \runInHeadfalse
14 \newif\ifPrintParameters
15   \printParameterstrue
16 \newif\ifDrawDimensions
17   \drawDimensionsfalse
18 \newif\ifPrintHeadings
19   \printHeadingstrue
20 \newcommand{\testDrawDimensions}{{}}
21 \newcommand{\testPrintParameters}{{}}
22 \newcommand{\setLabelFont}[1]{{}}
23 \newcommand{\setParameterTextFont}[1]{{}}
24 \newcommand{\setValuesTextSize}[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 229 l warp-leading.sty**§ 335 Package **leading****

Pkg **leading** **leading** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{leading}[2008/12/11]
2 \newcommand\leading[1]{}

File 230 l warp-leftidx.sty**§ 336 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}\overset{#1}{#2}}}{#3}}
4 \CustomizeMathJax{\newcommand{\ltrans}[1]{\leftidx{^{\mathsf{t}}}{#1}{}}}{}}
5 \end{warpMathJax}

File 231 l warp-letterspace.sty**§ 337 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 232 l warp-lettrine.sty

§ 338 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 of class **lettrine**, and the following text is in a 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 233 l warp-libertinust1math.sty

§ 339 Package **libertinust1math**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg libertinust1math libertinust1math is used as-is for svg math, and is emulated for MATHJAX.

The MATHJAX emulation honors frenchmath for Greek but not Latin characters, and slantedGreek, uprightGreek, and ISO also adjust Greek characters. MATHJAX cannot yet honor options for adjusting Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly. Some of the symbol font macros such as \mathsf{bf} work for Latin but not for Greek letters.

SVG math should appear the same as the printed output.

for HTML output:

```
1 \LWR@ProvidesPackagePass{libertinust1math}[2020/06/10]
2
3 \LWR@infoprocessingmathjax{libertinust1math}

4 \LWR@origRequirePackage{l warp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \ifibus@slantedG
9     \LWR@mathjax@addgreek@u@it*{}{}
10 \else
11     \LWR@mathjax@addgreek@u@up*{}{}
12 \fi
13
14 \LWR@mathjax@addgreek@u@it*{}{it}
15 \LWR@mathjax@addgreek@u@up*{}{up}
16 \LWR@mathjax@addgreek@u@up*{}{up}
17
18 \ifibus@frenchm
19     \LWR@mathjax@addgreek@l@up*{}{}
20 \else
21     \LWR@mathjax@addgreek@l@it*{}{}
22 \fi
23
24 \LWR@mathjax@addgreek@l@it*{}{it}
25 \LWR@mathjax@addgreek@l@up*{}{up}
26 \LWR@mathjax@addgreek@l@up*{}{up}
27
28 \CustomizeMathJax{\let\uppartial\partial}% not upright
29
30 \CustomizeMathJax{\newcommand{\mathsf{bf}}[1]{%
31     \mmlToken{mi}[mathvariant="bold-sans-serif"]#1}% not greek
32 }% not sans
33 \CustomizeMathJax{\newcommand{\mathsf{bf}fit}[1]{%
34     \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]#1}% not greek
35 }%
36 \CustomizeMathJax{\newcommand{\mathbf{fit}}[1]{\boldsymbol{#1}}}
37 \CustomizeMathJax{\newcommand{\mathsf{fit}}[1]{%
38     \mmlToken{mi}[mathvariant="sans-serif-italic"]#1}% not greek
39 }%
40 \CustomizeMathJax{\let\vectorssym\mathbf{fit}}
41 \CustomizeMathJax{\let\matrixsym\mathbf{fit}}
42 \CustomizeMathJax{\let\tensorsym\mathsf{bf}}
43 \CustomizeMathJax{\let\mathboldsans\mathsf{bf}}
```

```
44 \CustomizeMathJax{\let\mathbold\mathbf{it}}
```

lwarp_mathjax.txt adds \left/\right support for delimiters.

```
45 \CustomizeMathJax{\let\dlb\lBrack}
46 \CustomizeMathJax{\let\drb\rBrack}
47
48 \CustomizeMathJax{\let\sqrtsign\sqrt}
49
50 \CustomizeMathJax{\let\smallintsl\smallint}
51 \CustomizeMathJax{\newcommand{\smallintsl}{\mathop{\backslash\!unicode{x222C}\!}\limits}}
52 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\backslash\!unicode{x222D}\!}\limits}}
53 \CustomizeMathJax{\newcommand{\smalliiiintsl}{\mathop{\backslash\!unicode{x2A0C}\!}\limits}}
54 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\backslash\!unicode{x222E}\!}\limits}}
55 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\backslash\!unicode{x222F}\!}\limits}}
56
57 \CustomizeMathJax{\let\smallintup\smallint}
58 \CustomizeMathJax{\newcommand{\smallintup}{\mathop{\backslash\!unicode{x222C}\!}\limits}}
59 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\backslash\!unicode{x222D}\!}\limits}}
60 \CustomizeMathJax{\newcommand{\smalliiiintup}{\mathop{\backslash\!unicode{x2A0C}\!}\limits}}
61 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\backslash\!unicode{x222E}\!}\limits}}
62 \CustomizeMathJax{\newcommand{\smalloiintup}{\mathop{\backslash\!unicode{x222F}\!}\limits}}
63
64 \CustomizeMathJax{\let\intslop\int}
65 \CustomizeMathJax{\newcommand{\intslop}{\mathop{\backslash\!unicode{x222C}\!}\limits}}
66 \CustomizeMathJax{\newcommand{\iiintslop}{\mathop{\backslash\!unicode{x222D}\!}\limits}}
67 \CustomizeMathJax{\newcommand{\iiiintslop}{\mathop{\backslash\!unicode{x2A0C}\!}\limits}}
68 \CustomizeMathJax{\let\ointsl\oint}
69 \CustomizeMathJax{\newcommand{\ointsl}{\mathop{\backslash\!unicode{x222F}\!}\limits}}
70 \CustomizeMathJax{\newcommand{\oiintslop}{\mathop{\backslash\!unicode{x2230}\!}\limits}}
71
72 \CustomizeMathJax{\let\intupop\int}
73 \CustomizeMathJax{\newcommand{\intupop}{\mathop{\backslash\!unicode{x222C}\!}\limits}}
74 \CustomizeMathJax{\newcommand{\iiintupop}{\mathop{\backslash\!unicode{x222D}\!}\limits}}
75 \CustomizeMathJax{\newcommand{\iiiintupop}{\mathop{\backslash\!unicode{x2A0C}\!}\limits}}
76 \CustomizeMathJax{\let\ointupop\oint}
77 \CustomizeMathJax{\newcommand{\ointupop}{\mathop{\backslash\!unicode{x222F}\!}\limits}}
78 \CustomizeMathJax{\newcommand{\oiintupop}{\mathop{\backslash\!unicode{x2230}\!}\limits}}
79
80 \CustomizeMathJax{\newcommand{\smallint}{\mathop{\backslash\!unicode{x222C}\!}\limits}}
81 \CustomizeMathJax{\newcommand{\smalliiint}{\mathop{\backslash\!unicode{x222D}\!}\limits}}
82 \CustomizeMathJax{\newcommand{\smalliiiint}{\mathop{\backslash\!unicode{x2A0C}\!}\limits}}
83 \CustomizeMathJax{\newcommand{\smalloint}{\mathop{\backslash\!unicode{x222E}\!}\limits}}
84 \CustomizeMathJax{\newcommand{\smalloiint}{\mathop{\backslash\!unicode{x222F}\!}\limits}}
85
86 \CustomizeMathJax{\let\inttop\int}
87 \CustomizeMathJax{\newcommand{\inttop}{\mathop{\backslash\!unicode{x222C}\!}\limits}}
88 \CustomizeMathJax{\newcommand{\iiinttop}{\mathop{\backslash\!unicode{x222D}\!}\limits}}
89 \CustomizeMathJax{\newcommand{\iiiinttop}{\mathop{\backslash\!unicode{x2A0C}\!}\limits}}
90 \CustomizeMathJax{\let\ointtop\oint}
91 \CustomizeMathJax{\newcommand{\ointtop}{\mathop{\backslash\!unicode{x222F}\!}\limits}}
92 \CustomizeMathJax{\newcommand{\oiinttop}{\mathop{\backslash\!unicode{x2230}\!}\limits}}
93
94 \CustomizeMathJax{\newcommand{\oint}{\mathop{\backslash\!unicode{x222F}\!}\limits}}
95
```

```
96 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\backslash unicode{x2A03}}}}
97 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\backslash unicode{x2A05}}}}
98 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\backslash unicode{x29F8}}}}
99 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\backslash unicode{x29F9}}}}
100 \CustomizeMathJax{\let\prodop\prod}
101 \CustomizeMathJax{\let\coprodop\coprod}
102 \CustomizeMathJax{\let\sumop\sum}
103 \CustomizeMathJax{\let\bigwedgeop\bigwedge}
104 \CustomizeMathJax{\let\bigveeop\bigvee}
105 \CustomizeMathJax{\let\bigcapop\bigcap}
106 \CustomizeMathJax{\let\bigcupop\bigcup}
107 \CustomizeMathJax{\let\xsolop\xsol}
108 \CustomizeMathJax{\let\xbsolop\xbsol}
109 \CustomizeMathJax{\let\bigodotop\bigodot}
110 \CustomizeMathJax{\let\bigoplusop\bigoplus}
111 \CustomizeMathJax{\let\bigotimesop\bigotimes}
112 \CustomizeMathJax{\let\bigcupdotop\bigcupdot}
113 \CustomizeMathJax{\let\biguplusop\biguplus}
114 \CustomizeMathJax{\let\bigsqcapop\bigsqcap}
115 \CustomizeMathJax{\let\bigsqcupop\bigsqcup}
116
117 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{\#1\backslash unicode{x00309}}}}
118 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{\#1\backslash unicode{x00310}}}}
119 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{\#1\backslash unicode{x00312}}}}
120 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{\#1\backslash unicode{x00315}}}}
121 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{\#1\backslash unicode{x0031A}}}}
122 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{\#1\backslash unicode{x020D0}}}}
123 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{\#1\backslash unicode{x020D1}}}}
124 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{\#1\backslash unicode{x020D0}}}}
125 \CustomizeMathJax{\let\rightarrowaccent\vec}
126
127 \CustomizeMathJax{\newcommand{\leftrightarrowaccent}[1]{\mathord{\#1\backslash unicode{x020E1}}}}
128 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{\#1\backslash unicode{x020E7}}}}
129 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{\#1\backslash unicode{x020E9}}}}
130 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{\#1\backslash unicode{x020F0}}}}
131
132 % neutralized:
133 \CustomizeMathJax{\newcommand{\braceld}{}}
134 \CustomizeMathJax{\newcommand{\bracerd}{}}
135 \CustomizeMathJax{\newcommand{\bracelu}{}}
136 \CustomizeMathJax{\newcommand{\braceru}{}}
137 \CustomizeMathJax{\newcommand{\braceex}{}}
138 \CustomizeMathJax{\newcommand{\braceemu}{}}
139 \CustomizeMathJax{\newcommand{\bracemd}{}}
140 \CustomizeMathJax{\newcommand{\parenld}{}}
141 \CustomizeMathJax{\newcommand{\parenrd}{}}
142 \CustomizeMathJax{\newcommand{\parenlu}{}}
143 \CustomizeMathJax{\newcommand{\parenru}{}}
144 \CustomizeMathJax{\newcommand{\bracketld}{}}
145 \CustomizeMathJax{\newcommand{\bracketrd}{}}
146 \CustomizeMathJax{\newcommand{\bracketlu}{}}
147 \CustomizeMathJax{\newcommand{\bracketru}{}}
148 \CustomizeMathJax{\newcommand{\bracketex}{}}
149 \CustomizeMathJax{\newcommand{\parenex}{}}
150
```

```
151 \CustomizeMathJax{\newcommand{\lhook}{\sim}}
152 \CustomizeMathJax{\newcommand{\rhook}{\sim}}
153 \CustomizeMathJax{\newcommand{\relbar}{-}}
154 \CustomizeMathJax{\newcommand{\Relbar}{=}}
155
156 \CustomizeMathJax{\newcommand{\mapstochar}{\mathrel{\text{\scriptsize{\texttt{unicode}}}\{x21A6\}}}}
157
158 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x0001B5\}}}}
159 \CustomizeMathJax{\newcommand{\notchar}{\mathrel{\text{\scriptsize{\texttt{unicode}}}\{x00AC\}}}}
160 \CustomizeMathJax{\newcommand{\upbackepsilon}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x03F6\}}}}
161 \CustomizeMathJax{\newcommand{\smbblkcircle}{\mathbin{\text{\scriptsize{\texttt{unicode}}}\{x02022\}}}}
162 \CustomizeMathJax{\newcommand{\enleadertwodots}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x02025\}}}}
163 \CustomizeMathJax{\newcommand{\unicodeellipsis}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x02026\}}}}
164 \CustomizeMathJax{\newcommand{\mathellipsis}{\mathinner{\text{\scriptsize{\texttt{unicode}}}\{x02026\}}}}
165 \CustomizeMathJax{\newcommand{\dprime}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x02033\}}}}
166 \CustomizeMathJax{\newcommand{\trprime}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x02034\}}}}
167 \CustomizeMathJax{\newcommand{\backdprime}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x02036\}}}}
168 \CustomizeMathJax{\newcommand{\backtrprime}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x02037\}}}}
169 \CustomizeMathJax{\newcommand{\caretinsert}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x02038\}}}}
170 \CustomizeMathJax{\newcommand{\Exclam}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x0203C\}}}}
171
172 \CustomizeMathJax{\newcommand{\hyphenbullet}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x02043\}}}}
173 \CustomizeMathJax{\newcommand{\fracslash}{\mathbin{\text{\scriptsize{\texttt{unicode}}}\{x02044\}}}}
174 \CustomizeMathJax{\newcommand{\Question}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x02047\}}}}
175 \CustomizeMathJax{\newcommand{\closure}{\mathrel{\text{\scriptsize{\texttt{unicode}}}\{x02050\}}}}
176 \CustomizeMathJax{\newcommand{\qprime}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x02057\}}}}
177 \CustomizeMathJax{\newcommand{\vertoverlay}{\mathrel{\text{\scriptsize{\texttt{unicode}}}\{x020D2\}}}}
178 \CustomizeMathJax{\newcommand{\enclosecircle}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x020DD\}}}}
179 \CustomizeMathJax{\newcommand{\enclosesquare}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x020DE\}}}}
180 \CustomizeMathJax{\newcommand{\enclosetriangle}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x020E4\}}}}
181 \CustomizeMathJax{\newcommand{\Eulerconst}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x02107\}}}}
182 \CustomizeMathJax{\newcommand{\turnediota}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x02129\}}}}
183 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x0212B\}}}}
184
185 \CustomizeMathJax{\newcommand{\sansLturned}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x02142\}}}}
186 \CustomizeMathJax{\newcommand{\sansLmirrored}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x02143\}}}}
187 \CustomizeMathJax{\newcommand{\Yup}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x02144\}}}}
188 \CustomizeMathJax{\newcommand{\upand}{\mathbin{\text{\scriptsize{\texttt{unicode}}}\{x0214B\}}}}
189 \CustomizeMathJax{\newcommand{\increment}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x02206\}}}}
190 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\text{\scriptsize{\texttt{unicode}}}\{x0220A\}}}}
191 \CustomizeMathJax{\newcommand{\nni}{\mathrel{\text{\scriptsize{\texttt{unicode}}}\{x0220C\}}}}
192
193 \CustomizeMathJax{\newcommand{\smallni}{\mathrel{\text{\scriptsize{\texttt{unicode}}}\{x0220D\}}}}
194 \CustomizeMathJax{\newcommand{\QED}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x0220E\}}}}
195 \CustomizeMathJax{\newcommand{\vysmwhtcircle}{\mathbin{\text{\scriptsize{\texttt{unicode}}}\{x02218\}}}}
196 \CustomizeMathJax{\newcommand{\vysmblkcircle}{\mathbin{\text{\scriptsize{\texttt{unicode}}}\{x02219\}}}}
197 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\text{\scriptsize{\texttt{unicode}}}\{x0221F\}}}}
198
199 \CustomizeMathJax{\newcommand{\Colon}{\mathrel{\text{\scriptsize{\texttt{unicode}}}\{x02237\}}}}
200 \CustomizeMathJax{\newcommand{\dotminus}{\mathbin{\text{\scriptsize{\texttt{unicode}}}\{x02238\}}}}
201 \CustomizeMathJax{\newcommand{\dashcolon}{\mathrel{\text{\scriptsize{\texttt{unicode}}}\{x02239\}}}}
202 \CustomizeMathJax{\newcommand{\dotsminusdots}{\mathrel{\text{\scriptsize{\texttt{unicode}}}\{x0223A\}}}}
203 \CustomizeMathJax{\newcommand{\kernelcontraction}{\mathrel{\text{\scriptsize{\texttt{unicode}}}\{x0223B\}}}}
204 \CustomizeMathJax{\newcommand{\invlazys}{\mathbin{\text{\scriptsize{\texttt{unicode}}}\{x0223E\}}}}
205
```

```
206 \CustomizeMathJax{\newcommand{\sinewave}{\mathord{\unicode{x0223F}}}}
207 \CustomizeMathJax{\newcommand{\nsime}{\mathrel{\unicode{x02244}}}}
208 \CustomizeMathJax{\newcommand{\simneqq}{\mathrel{\unicode{x02246}}}}
209 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x02249}}}}
210 \CustomizeMathJax{\newcommand{\approxident}{\mathrel{\unicode{x0224B}}}}
211 \CustomizeMathJax{\newcommand{\backcong}{\mathrel{\unicode{x0224C}}}}
212
213 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x0226D}}}}
214 \CustomizeMathJax{\newcommand{\lesssim}{\mathrel{\unicode{x02274}}}}
215 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicode{x02275}}}}
216 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x02278}}}}
217 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
218
219 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
220 \CustomizeMathJax{\newcommand{\nupset}{\mathrel{\unicode{x02285}}}}
221
222 \CustomizeMathJax{\newcommand{\cupleftarrow}{\mathbin{\unicode{x0228C}}}}
223 \CustomizeMathJax{\newcommand{\cupdot}{\mathbin{\unicode{x0228D}}}}
224 \CustomizeMathJax{\newcommand{\circledequal}{\mathbin{\unicode{x0229C}}}}
225
226 \CustomizeMathJax{\newcommand{\assert}{\mathrel{\unicode{x022A6}}}}
227 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x022AB}}}}
228 \CustomizeMathJax{\newcommand{\prurel}{\mathrel{\unicode{x022B0}}}}
229
230 \CustomizeMathJax{\newcommand{\origof}{\mathrel{\unicode{x022B6}}}}
231 \CustomizeMathJax{\newcommand{\smallprod}{\mathop{\unicode{x0220F}}}}% not small
232 \CustomizeMathJax{\newcommand{\smallcoprod}{\mathop{\unicode{x02210}}}}% not small
233 \CustomizeMathJax{\newcommand{\smallsum}{\mathop{\unicode{x02211}}}}% not small
234 \CustomizeMathJax{\newcommand{\Hfraktur}{\mathord{\unicode{xD525}}}}
235 \CustomizeMathJax{\newcommand{\dsol}{\mathbin{\unicode{x029F6}}}}
236 \CustomizeMathJax{\newcommand{\rsolbar}{\mathbin{\unicode{x029F7}}}}
237
238 \CustomizeMathJax{\newcommand{\eqless}{\mathrel{\unicode{x022DC}}}}
239 \CustomizeMathJax{\newcommand{\egtr}{\mathrel{\unicode{x022DD}}}}
240 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\unicode{x022E0}}}}
241 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\unicode{x022E1}}}}
242 \CustomizeMathJax{\newcommand{\nsqsubseteq}{\mathrel{\unicode{x022E2}}}}
243 \CustomizeMathJax{\newcommand{\nsqsupseteq}{\mathrel{\unicode{x022E3}}}}
244 \CustomizeMathJax{\newcommand{\sqsubsetneq}{\mathrel{\unicode{x022E4}}}}
245 \CustomizeMathJax{\newcommand{\sqsupsetneq}{\mathrel{\unicode{x022E5}}}}
246 \CustomizeMathJax{\newcommand{\nvartriangleleft}{\mathrel{\unicode{x022EA}}}}
247 \CustomizeMathJax{\newcommand{\nvartriangleright}{\mathrel{\unicode{x022EB}}}}
248
249 \CustomizeMathJax{\newcommand{\vdotsmath}{\mathrel{\unicode{x022EE}}}}
250 \CustomizeMathJax{\newcommand{\unicodeddots}{\mathord{\unicode{x022EF}}}}
251 \CustomizeMathJax{\newcommand{\adots}{\mathrel{\unicode{x022F0}}}}
252 \CustomizeMathJax{\newcommand{\succneq}{\mathrel{\unicode{x02AB2}}}}
253 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\unicode{x02AB3}}}}
254 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\unicode{x02AB4}}}}
255 \CustomizeMathJax{\newcommand{\precneq}{\mathrel{\unicode{x02AB1}}}}
256
257 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
258
259 \CustomizeMathJax{\newcommand{\longmapsfrom}{\mathrel{\unicode{x027FB}}}}
260
```

```

261 \CustomizeMathJax{\newcommand{\diameter}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
262 \CustomizeMathJax{\newcommand{\colononeq}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
263 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
264 \CustomizeMathJax{\newcommand{\arceq}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
265 \CustomizeMathJax{\newcommand{\wedgeq}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
266 \CustomizeMathJax{\newcommand{\veeeq}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
267
268 \CustomizeMathJax{\newcommand{\stareq}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
269 \CustomizeMathJax{\newcommand{\eqdef}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
270 \CustomizeMathJax{\newcommand{\measeq}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
271 \CustomizeMathJax{\newcommand{\questeq}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
272 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
273 \CustomizeMathJax{\newcommand{\Equiv}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
274
275 \CustomizeMathJax{\newcommand{\house}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
276
277 \CustomizeMathJax{\newcommand{\musicalnote}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
278 \CustomizeMathJax{\newcommand{\degree}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
279 \CustomizeMathJax{\newcommand{\mathsection}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
280 \CustomizeMathJax{\newcommand{\mathparagraph}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
281 \CustomizeMathJax{\newcommand{\checkmarkmath}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
282 \CustomizeMathJax{\newcommand{\invnot}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
283
284 \CustomizeMathJax{\newcommand{\mathvisiblespace}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
285 \CustomizeMathJax{\newcommand{\mdlblksquare}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
286 \CustomizeMathJax{\newcommand{\mdlgwtsquare}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
287
288 \CustomizeMathJax{\newcommand{\bigblacktriangleup}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
289 \CustomizeMathJax{\newcommand{\varbigtriangleup}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
290
291 \CustomizeMathJax{\newcommand{\bigblacktriangledown}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
292 \CustomizeMathJax{\newcommand{\varbigtriangledown}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
293 \CustomizeMathJax{\newcommand{\Longmapsfrom}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
294
295 % bug in print font:
296 \CustomizeMathJax{\newcommand{\mdlblkdiamond}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
297
298 \CustomizeMathJax{\newcommand{\mdlgwtdiamond}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
299 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
300 \CustomizeMathJax{\newcommand{\fisheye}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
301 \CustomizeMathJax{\newcommand{\mdlgwhtlozenge}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
302 \CustomizeMathJax{\newcommand{\mdlgwhtcircle}{\mathbin{\text{\kern-0.1em\text{\textcircled{}}}}}}
303 \CustomizeMathJax{\newcommand{\bulleseye}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
304 \CustomizeMathJax{\newcommand{\mdlblkcircle}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
305
306 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
307 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
308 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
309 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\text{\kern-0.1em\text{\textcircled{}}}}}}
310
311 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
312 \CustomizeMathJax{\newcommand{\smwhtcircle}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
313 \CustomizeMathJax{\newcommand{\smwhtdiamond}{\mathbin{\text{\kern-0.1em\text{\textcircled{}}}}}}
314 \CustomizeMathJax{\newcommand{\Mapsto}{\mathord{\text{\kern-0.1em\text{\textcircled{}}}}}}
315

```

```
316 \CustomizeMathJax{\let\ngets\nleftarrow}
317 \CustomizeMathJax{\let\nsimeq\nsimeq}
318 \CustomizeMathJax{\let\nle\nleq}
319 \CustomizeMathJax{\let\nge\ngeq}
320
321 \end{warpMathJax}
```

File 234 lwarp-lineno.sty

§ 340 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\endlinenums{\par}
15 \let\endrunninglinenums\endlinenums
16 \let\endpagewiselinenums\endlinenums
17 \expandafter\let\csname endlinenums*\endcsname\endlinenums
18 \expandafter\let\csname endrunninglinenums*\endcsname\endlinenums
19 \let\endnolinenums\endlinenums
20
21 \def\pagewiselinenums{\linenums\setpagewiselinenums}
22
23 \def\runninglinenums{\setrunninglinenums\linenums}
24
25 \def\setpagewiselinenums{}
26
27 \def\setrunninglinenums{}
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\switchlinenums{\@ifstar{}{}}
37 \def\setmakelinenums#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*\linenoplacementholder[1]{% redefine per language
63     (line number reference for \detokenize\expandafter{\#1})
64 }
65
66 \newcommand*\lineref[2][]{\linenoplacementholder{\#2}}
67 \newcommand*\linerefpl[2][]{\linenoplacementholder{\#2}}
68 \newcommand*\linerefpr[2][]{\linenoplacementholder{\#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} {\begin{quote}}{\end{quote}}  
98 \newenvironment{numquotation} {\begin{quotation}}{\end{quotation}}  
99 \newenvironment{numquote*} {\begin{quote}}{\end{quote}}  
100 \newenvironment{numquotation*} {\begin{quotation}}{\end{quotation}}  
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 235 l warp-lips.sty

§ 341 Package **lips**

(Emulates or patches code by MATT SWIFT.)

Pkg lips lips is emulated.

```
1 \% \LWR@ProvidesPackageDrop{lips}  
2 \PackageInfo{l warp}{Using the l warp version of package ‘lips’.%}  
3 \ProvidesPackage{l warp-lips}[2001/08/31]  
4  
5 \NewDocumentCommand{\Lips}{}{\textellipsis}  
6  
7 \NewDocumentCommand{\BracketedLips}{}{[\textellipsis]}  
8  
9 \let\lips\Lips  
10 \let\olips\lips  
11  
12 \DeclareOption*{}  
13 \DeclareOption{mla}{  
14 \let\lips\BracketedLips  
15 }  
16 \ProcessOptions\relax  
17  
18 \newcommand \LPNobreakList {}
```

File 236 **l warp-listings.sty**

§ 342 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.

1 \LWR@ProvidesPackagePass{listings}[2018/09/02]

Force flexible columns. Fixed columns inserts spaces in the PDF output.

2 \lst@column@flexible

Patches to embed listings inside pre tags:

3 \let\LWR@origlst@Init\lst@Init
4 \let\LWR@origlst@DeInit\lst@DeInit
5
6 \let\LWR@origlst@EveryPar\lst@EveryPar
7
8 \renewcommand{\l@lstlisting}[2]{\hypertocfloat{1}{\lstlisting}{\l@lstlisting}{#1}{#2}}

\lstset {⟨options⟩}

Use the **listings** literate option to replace HTML entities:

9 \def\lstset@#1{\endgroup%
10 % \ifx\@empty#1%
11 % \else\@empty%
12 % \else%
13 % \setkeys{lst}{%
14 % #1%
15 % ,literate=%
16 % {<}{\HTMLentity{lt}}{4}%
17 % {>}{\HTMLentity{gt}}{4}%
18 % {'}{\HTMLentity{apos}}{6}%
19 % {'}{\HTMLentity{grave}}{7}%

The ampersand is not treated here, as the result is inconsistent spacing. It is nevertheless converted to & elsewhere. Sanitizing the double quote interferes with **listings'** conversion of visible spaces inside strings.

20 }%
21 % \fi%
22 }

\lst@Init {⟨backslash-processing⟩} Done at the start of a listing.

23 \renewcommand{\lst@Init}[1]{%

Perform the `listings` initialization:

```

24 \LWR@traceinfo{lst@Init}%
\LWR@forcenewpage is moved to the start to avoid a spurious bug with paragraph
handling and conditionals.

25 \lst@ifdisplaystyle%
26     \LWR@forcenewpage%
27 \fi%
28 \renewcommand*{\@capttype}{lstlisting}%
29 \let\lst@aboveskip\z@\let\lst@belowskip\z@%
30 \gdef\lst@boxpos{t}%
31 \let\lst@frame\@empty
32     \let\lst@frametshape\@empty
33     \let\lst@framershape\@empty
34     \let\lst@framebshape\@empty
35     \let\lst@framelshape\@empty
36 \lstframe@\lst@frameround ffff\relax%
37 \lst@multicols\@empty%
38 \LWR@origlst@Init{#1}\relax%

```

Avoids extra horizontal space:

```

39 \def\lst@framelr{}%
40 \LWR@traceinfo{finished origlst@Init}%
41 \lst@ifdisplaystyle%

```

Creating a display.

Disable line numbers, produce the `<pre>`, then reenable line numbers.

```

42     \LWR@traceinfo{About to create verbatim.}%
43     \let\lst@thk@EveryPar\relax%
44     \LWR@atbeginverbatim{programlisting}%
45
46     \let\lst@thk@EveryPar\LWR@origlst@thk@EveryPar%
47 \else%

```

Inline, so open a ``:

```

48     \ifbool{\LWR@verbtags}{\LWR@htmltag{span class="inlineprogramlisting"}\{}{}%
49 \fi%
50 \LWR@traceinfo{lst@Init done}%
51 }
52

```

`\lst@DeInit` Done at the end of a listing.

```

53 \renewcommand*{\lst@DeInit}{%
54 \lst@ifdisplaystyle%

```

Creating a display.

Disable line numbers, produce the `</pre>`, then reenable line numbers:

```

55     \let\lst@thk@EveryPar\relax%
56     \LWR@afterendverbatim%
57     \let\lst@thk@EveryPar\LWR@origlst@thk@EveryPar%
58 \else%

```

Inline, so create the closing :

```
59 \ifbooleq{\LWR@verbtags}{\noindent\LWR@htmltag{/span}}{}%
60 \fi%
```

Final `listings` deinit:

```
61 \LWR@origlst@DeInit%
62 }
```

`\lst@MakeCaption` {*t/b*}

This is called BOTH at the top and at the bottom of each listing.

Patched for `lwarp`.

```
63
64 \def\lst@MakeCaption#1{%
65 \LWR@traceinfo{MAKING CAPTION at #1}%
66 \lst@ifdisplaystyle
67 \LWR@traceinfo{making a listings display caption}%
68 \ifx#1t%
69 \ifx\lst@caption\empty\expandafter\lst@HRefStepCounter \else
70 \expandafter\refstepcounter
71 \fi {\lstlisting}%
72 \LWR@traceinfo{About to assign label: !\lst@label!}%
73 % \ifx\lst@label\empty\else
74 % \label{\lst@label}\fi
75 \LWR@traceinfo{Finished assigning the label.}%
76 \let\lst@arg\lst@intname \lst@ReplaceIn\lst@arg\lst@filenamerpl
77 \global\let\lst@name\lst@arg \global\let\lstname\lst@name
78 \lst@ifnolol\else
79 \ifx\lst@caption\empty
80 \ifx\lst@caption\empty
81 \ifx\lst@intname\empty
82 \else
83 \def\lst@temp{ }%
84 \ifx\lst@intname\lst@temp \else
```

This code places a contents entry for a non-float. This would have to be modified for `lwarp`:

```
85 \LWR@traceinfo{addcontents lst@name: -\lst@name-}%
86 % \addcontentsline{lol}{\lstlisting}{\lst@name}
87 \fi
88 \fi
89 \fi
90 \else
```

This would have to be modified for `lwarp`:

```
91 \LWR@traceinfo{addcontents lst@@caption: -\lst@@caption-}%
92 % \addcontentsline{lol}{\lstlisting}{\the\lstlisting}%
93 {\protect\numberline{\the\lstlisting}%
94 {\protect\ignorespaces \LWR@isolate{\lst@@caption} \protect\relax}%
95 \fi
96 \fi
97 \fi
98 \ifx\lst@caption\empty\else
```

```

99 \LWR@traceinfo{lst@caption not empty-}%
100      \lst@ifsubstring #1\lst@captionpos
101          {\begingroup
102 \LWR@traceinfo{at the selected position}%

```

These space and box commands are not needed for HTML output:

```

103 %           \let\@vskip\vskip
104 %           \def\vskip{\afterassignment\lst@vskip \tempskipa}%
105 %           \def\lst@vskip{\nobreak\@vskip\tempskipa\nobreak}%
106 %           \par@parboxrestore\normalsize\normalfont % \noindent (AS)
107 %           \ifx #1\allowbreak \fi
108           \ifx\lst@title\empty

```

New lwarp code to create a caption:

```

109           \LWR@stopars%
110           \lst@makecaption\fnum@lstlisting{\ignorespaces \lst@caption}%
111       \else

```

New lwarp code to create a title:

```

112 %           \lst@maketitle\lst@title % (AS)
113 \LWR@traceinfo{Making title: \lst@title}%
114 \begin{BlockClass}{lstlistingtitle}%
115 \lst@maketitle\lst@title%           lwarp
116 \end{BlockClass}%                 lwarp
117           \fi
118 \LWR@traceinfo{About to assign label: !\lst@label!}%
119           \ifx\lst@label\empty\else
120 \leavevmode% gets rid of bad space factor error
121 \GetTitleStringExpand{\lst@caption}%
122 \edef\LWR@lntemp{\GetTitleStringResult}%
123 \edef@\currentlabelname{\detokenize\expandafter{\LWR@lntemp}}%
124 \label{\lst@label}\fi
125 \LWR@traceinfo{Finished assigning the label.}%

```

Not needed for lwarp:

```

126 %           \ifx #1b\allowbreak \fi
127           \endgroup}{}%
128           \fi
129 \LWR@traceinfo{end of making a listings display caption}%
130 \else
131 \LWR@traceinfo{INLINE}%
132 \fi
133 \LWR@traceinfo{DONE WITH CAPTION at #1}%
134 }
135 \renewcommand{\lst@maketitle}[1]{%
136     \LWR@isolate{#1}%
138 }%
139

```

line numbers Patched to keep left line numbers outside of the left margin, and place right line numbers in a field \VerbatimHTMLWidth wide.

```

140 \lst@Key{numbers}{none}{%
141     \let\lst@PlaceNumber\empty

```

```

142      \lstKV@SwitchCases{#1}%
143      {none:\%
144       left:\def\lst@PlaceNumber{%

```

For now, `lwarp` places left line numbers inline. Ideally the entire line would be moved to the right, but conflicts with list indenting occurs.

```

145 %          \LWR@origllap{%
146          \LWR@orignormalfont%
147          \lst@numberstyle{\thelstnumber}\kern\lst@numbersep%
148 %        }
149 }\\%
150 right:\def\lst@PlaceNumber{\LWR@origrlap{\LWR@orignormalfont%
151           \kern 6in \kern\lst@numbersep%
152           \lst@numberstyle{\thelstnumber}}}{%
153 }{\PackageError{lwarp-listings}{Numbers #1 unknown}@ehc}}

```

File 237 **lwarp-listliketab.sty**

§ 343 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 238 **lwarp-lltjext.sty**

§ 344 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{\rensucci}{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 239 l warp-longtable.sty

§ 345 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 `\warprprintonly` 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` * [*<horizontal alignment>*] {*<colspec>*} Emulates the `longtable` environment.

Per the `caption` package, the starred version steps the counter per caption. The unstarred version steps the counter once at the beginning, but not at each caption.

Options [c], [l], and [r] are ignored.

```
4 \newenvironment{longtable*}[2][]{}%
5     \LWR@floatbegin{table}%
6     \ifdef{\setcaptiontype}{% caption package:
7         \setcaptiontype{\LTcaptype}%
8         \caption@setoptions{longtable}%
9         \caption@setoptions{@longtable}%
10        \caption@LT@setup%
11    }{% w/o caption package:
12        \renewcommand*{\@captype}{\LTcaptype}%
13    }%
14    \booltrue{LWR@starredlongtable}%
15    \boolfalse{LWR@longtable@havehead}%
```

```

16   \let\captionlistentry\LWR@LTcaptionlistentry%
17   \tabular{#2}%
18 }
19 {\endtabular\LWR@floatend}
20
21 \newenvironment{longtable}[2][]{%
22   \LWR@floatbegin{table}%
23   \ifdef{\setcaptiontype}{% caption package:
24     \setcaptiontype{\LTcaptype}%
25     \caption@setoptions{longtable}%
26     \caption@setoptions{@longtable}%
27     \caption@LT@setup%
28   }{% w/o caption package:
29     \renewcommand*{\@captype}{\LTcaptype}%
30   }%
31   \refstepcounter{\LTcaptype}%
32   \boolfalse{\LWR@longtable@havehead}%
33   \let\captionlistentry\LWR@LTcaptionlistentry%
34   \tabular{#2}%
35 }
36 {\endtabular\LWR@floatend}

```

Provided for compatibility, but ignored:

```
37 \newcounter{LTchunksize}
```

Error for heads which should have been in \warpprintonly:

```

38 \newcommand*{\LWR@Longtable@headerror}{%
39   \PackageError{lwarp-longtable}%
40   {For longtable:\MessageBreak
41   1: Keep either one of an \protect\endhead\space or
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 threeparttablex}%
60 {See the Lwarp documentation regarding 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@headererror}%
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 240 l warp-lscape.sty

§ 346 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 241 lwarp-ltablex.sty

§ 347 Package **ltablex**

(Emulates or patches code by ANIL K. GOEL.)

Pkg **ltablex** **ltablex** is emulated by **lwarp**.
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 242 lwarp-ltcaption.sty

§ 348 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 **lwarp**.

longtable* is already defined by **lwarp-longtable**.

```
2 \newlength{\LTcapskip}
3 \newlength{\LTcapleft}
4 \newlength{\LTcapright}
5 \newcommand*{\LTcapmarginsfalse}{}

---


```

File 243 l warp-ltxgrid.sty**§ 349 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 244 l warp-ltxtable.sty**§ 350 Package ltxtable**

Pkg ltxtable ltxtable is emulated.

⚠ table numbering The print version does not seem to honor longtable* from the caption package, while l warp does.

for HTML output: 1 \RequirePackage{tabularx, longtable}
2 \LWR@ProvidesPackageDrop{ltxtable}[1995/12/11]

```
\LTXtable {\langle width\rangle} {\langle file\rangle}
3 \newcommand*\{\\LTXtable}[2]{%
4   \input{\#2}%
5 }
```

File 245 l warp-lua-check-hyphen.sty**§ 351 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 246 **l warp-lua-visual-debug.sty**

§ 352 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 247 **l warp-luacolor.sty**

§ 353 Package **luacolor**

Pkg luacolor luacolor is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{luacolor}[2016/05/16]

2 \newcommand{\luacolorProcessBox}[1]{}

File 248 **l warp-luamplib.sty**

§ 354 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{lateximage}[-mplibcode-\PackageDiagramAltText] %
4 }
5 \AfterEndEnvironment{mplibcode}{\end{lateximage}}

File 249 **l warp-luatexko.sty**

§ 355 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 %     \uline{#1}%
4     \InlineClass{text-emphasis-style: dot}{dotemph}{#1}%
5 }
6 \LWR@formatted{dotemph}
7
8 \newcommand{\LWR@HTML@ruby}[2]{%
9     \LWR@htmlltagc{ruby}%
10    \LWR@htmlltagc{rb}\#1\LWR@htmlltagc{/rb}%
11    \LWR@htmlltagc{rp}(\LWR@htmlltagc{/rp}%
12    \LWR@htmlltagc{rt}\#2\LWR@htmlltagc{/rt}%
13    \LWR@htmlltagc{rp})\LWR@htmlltagc{/rp}%
14    \LWR@htmlltagc{/ruby}%
15 }
16 \LWR@formatted{ruby}
```

The following is modified from `lwarp-ulem`:

```

17 \NewDocumentCommand{\LWR@HTML@uline}{+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@dashunderline}{+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     {dashunderline}{\LWR@isolate{#1}}%
84 }
85 \LWR@formatted{dashunderline}
86
87 \NewDocumentCommand{\LWR@HTML@dotunderline}{+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     {dotunderline}{\LWR@isolate{#1}}%
99 }
100 \LWR@formatted{dotunderline}
```

File 250 **l warp-luatodonotes.sty**

§ 356 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}{\textcolor{red}{#1}}
7
8 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\textcolor{red}{#1}}{\textcolor{red}{#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 \marginpar{\@todonotes@drawMarginNote}
23 }
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         \atodonotes@currentbordercolor}%
44         \atodonotes@currentbackgroundcolor}%
45     {%
46         \atodonotes@sizecommand%
47         \atodonotes@text %
48     }%
49 }%
50
51 \renewcommand{\missingfigure}[2][]{%
52 \setkeys{todonotes}{#1}%
53 \addcontentsline{tdo}{todo}{\atodonotes@MissingFigureText: #2}%
54 \fcolorboxBlock{%
55     \atodonotes@currentbordercolor}%
56     \atodonotes@currentfigcolor}%
57     {%
58         \setlength{\fboxrule}{4pt}%
59         \fcolorbox{red}{white}{Missing figure} \quad #2%
60     }%
61 }%
62
63 \LetLtxMacro{\LWR@TODONOTES@orig}{\todocommon}%
64
65 \RenewDocumentCommand{\todocommon}{m m}{%
66 \begingroup%
67 \renewcommand*{\phantomsection}{}%
68 \LWR@TODONOTES@orig{\todocommon{#1}{#2}}%
69 \endgroup%
70 }%
71
72 \renewcommand{\todoarea}[3][]{%
73     \atodonotes@areaselectedtrue%
74     \atodocommon{#1}{#2}%
75     \atodonotes@textmark@highlight{#3}%
76     \zref@label{\atodonotes@\arabic{@todonotes@numberoftodonotes}@end}%
77 }%
78
79
80 \DeclareDocumentCommand{\todonotes@textmark@highlight}{m}{%
81 \InlineClass[background:\LWR@orig!#B3FFB3]{highlight}{#1}%
82 }%
83
84 \fi% \if@todonotes@disabled
```

File 251 **l warp-lyluatex.sty**

§ 357 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 l images** 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 `` of class `lyluatex`, which defaults to `display: inline-block`.

 **insert=fullpage** The option `insert=fullpage` results in a single image per page of printed output. Each music “fullpage” image is placed inside a `<div>` of class `lyluatex`. To match the number of measures per line with the printed version, use the `geometry` package to select the page geometry, or use the `lyluatex` options for page and staff sizes.

 **options** To use `\linewidth` or `\textwidth` inside the package options for `lyluatex`, use the `kvoptions-patch` package first:

```
\usepackage{kvoptions-patch}
\usepackage[...,line-width-0.8\linewidth,...]{lyluatex}
```

 **raw-pdf** If using `raw-pdf`, the resulting PDF images must be converted to SVG:

```
Enter ⇒ l warpmk 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 *lyluatek.lua* to insert the *Lilypond* score if `insert=systems` is used. This is now placed inside a `lateximage`, which itself is placed inside a `` of class *lyluatek*.

`\LWR@addbaselinemarker` preserves the left margins.

```
12  \renewcommand{\includegraphics}[2][]{%
13    \InLineClass{lyluatek}{%
14      \begin{lateximage}[\LyluatekImageAltText]%
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}{lyluatek}]]}
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 252 **lwarp-magaz.sty**

§ 358 Package **magaz**

Pkg **magaz** **magaz** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{magaz}[2011/11/24]

```

2 \newcommand\FirstLine[1]{%
3   \begingroup%
4   \FirstLineFont{%
5     \LWR@textcurrentcolor{%
6       \LWR@textcurrentfont{%
7         #1%
8       }%
9     }%
10   }%
11   \endgroup%
12 }
13
14 \providecommand\FirstLineFont{\scshape}

```

File 253 **lwarp-makeidx.sty**

§ 359 Package **makeidx**

(Emulates or patches code by LATEX PROJECT TEAM.)

Pkg **makeidx** **makeidx** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{makeidx}[2014/09/29]

\@wrindex is redefined \AtBeginDocument by the **lwarp** core.

\printindex

```

2 \preto\printindex{%
3   \LWR@maybe@orignewpage%
4   \LWR@startpars%
5 }

```

File 254 **l warp-manyfoot.sty**

§ 360 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{nccfoot}
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}{}{\% not "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     }%
28   }%
29 }
```

```

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 255 **l warp-marginal.sty**

§ 361 Package **marginal**

Pkg **marginal** **marginal** is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{marginal}

2 \newcommand*{\showlostmarginals}{}%
3 \newcommand*{\enlargefreelist}{}%
4 \newcommand*{\onesidemarginals}{}%
```

File 256 **l warp-marginfit.sty**

§ 362 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 257 **l warp-marginfix.sty**

§ 363 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 258 **l warp-marginnote.sty**

§ 364 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*\marginnoteleftadjust{}
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][]{}}
16 \CustomizeMathJax{\newcommand{\marginnote}[2][]{\quad{\small\textrm{#2}}}\LWRmarginnote}
17 \end{warpMathJax}
```

File 259 **l warp-marvosym.sty**

§ 365 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 260 **lwarp-mathalpha.sty**

§ 366 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 261 **lwarp-mathcomp.sty**

§ 367 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
3 \begin{warpMathJax}
4 \CustomizeMathJax{\newcommand{\tcohm}{\mathrm{\Omega}}}
5 \CustomizeMathJax{\newcommand{\tcelsius}{\mathrm{\times2103}}}
6 \CustomizeMathJax{\newcommand{\tcmu}{\mathrm{x00B5}}}
7 \CustomizeMathJax{\newcommand{\tcpertousand}{\mathrm{x2030}}}
8 \CustomizeMathJax{\newcommand{\tcpertenthousand}{\mathrm{x2031}}}
9 \CustomizeMathJax{\newcommand{\tcdegree}{\mathrm{\circ}}}
10 \CustomizeMathJax{\newcommand{\tcdigitoldstyle}[1]{\mathrm{\oldstyle{#1}}}}
11 \end{warpMathJax}

```

File 262 **l warp-mathdesign.sty**

§ 368 Package **mathdesign**

(Emulates or patches code by PAUL PICHAREAU.)

Pkg **mathdesign** **mathdesign** is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **limitations** The MATHJAX emulation ignores all package options except greekuppercase and greeklowercase. The dedicated macros for upright and italic greek letters work correctly, although the user may wish to swap the definitions for epsilon and phi.

SVG math should appear the same as the printed output.

for HTML output: 1 \LWR@ProvidesPackagePass{mathdesign}[2013/08/29]

For MATHJAX:

```
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \LWR@origRequirePackage{l warp-common-mathjax-overlaysymbols}
5
6 \begin{warpMathJax}
7 \LWR@infoprocessingmathjax{mathdesign}
```

Default greek upright or italicized:

```
8 \if@MD@grupright
9 \LWR@mathjax@addgreek@l@up{}{}
10 \fi
11
12 \if@MD@GRupright
13 \else
14 \LWR@mathjax@addgreek@u@it*{}{}
15 \fi
```

Upright:

```
16 \LWR@mathjax@addgreek@l@up{}{up}
17 \LWR@mathjax@addgreek@u@up*{}{up}
```

Italicized:

```
18 \LWR@mathjax@addgreek@l@it{}{it}
19 \LWR@mathjax@addgreek@u@it*{}{it}
```

Adapt to **mathdesign** inconsistency:

```
20 \CustomizeMathJax{\let\digammaup\Digammaup}
21 \CustomizeMathJax{\renewcommand{\digammait}{\mathit{\digammaup}}}}
```

Extra symbols:

```
22 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicodex{220A}}}}
23 \CustomizeMathJax{\newcommand{\smallowns}{\mathrel{\unicodex{220D}}}}
24 \CustomizeMathJax{\newcommand{\notsmallin}{\mathrel{\LWRoverlaysymbols{/}}{\unicodex{220A}}}}
25 \CustomizeMathJax{\newcommand{\notsmallowns}{\mathrel{\LWRoverlaysymbols{/}}{\unicodex{220D}}}}
26 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicodex{221F}}}}
```

Integrals:

```
27 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicodex{2231}}\limits}}
28 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicodex{2232}}\limits}}
29 \CustomizeMathJax{\newcommand{\ointctrlclockwise}{\mathop{\unicodex{2233}}\limits}}
30 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicodex{222F}}\limits}}
31 \CustomizeMathJax{\newcommand{\oioint}{\mathop{\unicodex{2230}}\limits}}
```

Math and text mode:

```
32 \CustomizeMathJax{\newcommand{\ddag}{\unicodex{2021}}}
33 \CustomizeMathJax{\newcommand{\P}{\unicodex{00B6}}}
34 \CustomizeMathJax{\newcommand{\copyright}{\unicodex{00A9}}}
35 \CustomizeMathJax{\newcommand{\dag}{\unicodex{2020}}}
36 \CustomizeMathJax{\newcommand{\pounds}{\unicodex{00A3}}}
```

Extra symbols:

```
37 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicodex{22F0}}}}
38 \CustomizeMathJax{\newcommand{\utimes}{\mathbin{\overline{\times}}}}
39 \CustomizeMathJax{\newcommand{\dtimes}{\mathbin{\underline{\times}}}}
40 \CustomizeMathJax{\newcommand{\udtimes}{\mathbin{\overline{\underline{\times}}}}}
41 \CustomizeMathJax{\newcommand{\leftwave}{\left\langle}}
42 \CustomizeMathJax{\newcommand{\rightwave}{\right\rangle}}
43
44 \end{warpMathJax}
```

File 263 lwarp-mathdots.sty

§ 369 Package **mathdots**

(Emulates or patches code by DAN LUECKING.)

Pkg **mathdots** **mathdots** is used as-is for SVG math, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{mathdots}[2014/06/11]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicodex{22F0}}}}
4 \CustomizeMathJax{\let\fixedddots\ddots}
5 \CustomizeMathJax{\let\fixedvdots\vdots}
6 \CustomizeMathJax{\let\fixediddots\iddots}
7 \CustomizeMathJax{\let\originalddots\ddots}
8 \CustomizeMathJax{\let\originalvdots\vdots}
```

```
9 \CustomizeMathJax{\let\originaliddots\iddots}
10 \CustomizeMathJax{\let\originalddot\ddot}
11 \CustomizeMathJax{\let\originaldddot\dddot}
12 \end{warpMathJax}
```

File 264 l warp-mathfixs.sty**§ 370 Package mathfixs**

(Emulates or patches code by NIKLAS BEISERT.)

Pkg mathfixs mathfixs is used as-is for SVG math, and is emulated for MATHJAX.

 Greek letters are unchanged.

for HTML output: 1 \LWR@ProvidesPackagePass{mathfixs}[2018/12/30]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\rfrac}[2]{\tfrac{\#1}{\#2}}}
4 \CustomizeMathJax{\newcommand{\vfrac}[2]{\mathinner{\{}^{\#1}\!\!/\!\!\{\}_{\#2}}}}
5 \CustomizeMathJax{\newcommand{\ProvideMathFix}[1]{}}
6 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{\#1}}}
7 \CustomizeMathJax{\newcommand{\.}{\,,}}
8 \end{warpMathJax}
```

File 265 l warp-mathpazo.sty**§ 371 Package mathpazo**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg mathpazo mathpazo is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

for HTML output: 1 \LWR@ProvidesPackagePass{mathpazo}[2020/03/25]

For MATHJAX:

```
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathpazo}
6
7 \ifpazo@slGreek
8 \LWR@mathjax@addgreek@u@it*{\}{}}
```

```

9 \fi
10
11 \LWR@mathjax@addgreek@u@up*{up}{}
12
13 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
14 \end{warpMathJax}
```

File 266 **l warp-mathptmx.sty**

§ 372 Package **mathptmx**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg **mathptmx** **mathptmx** is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

for HTML output: 1 \LWR@ProvidesPackagePass{mathptmx}[2020/03/25]

For MATHJAX:

```

2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathptmx}
6
7 \@ifpackagewith{mathptmx}{slantedGreek}
8   {\LWR@mathjax@addgreek@u@it*{}{}}
9   {}
10
11 \LWR@mathjax@addgreek@u@up*{up}{}
12 \end{warpMathJax}
```

File 267 **l warp-mathtools.sty**

§ 373 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 ...\\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]{%
56   \mathinner{\underset{\#3}{\underline{\llcorner\#1\urcorner}}}}%
57 }
58 \CustomizeMathJax{\newcommand{\LWRunderbrace}[2][]{\LWRdounderbrace{\#2}}}
59 \CustomizeMathJax{\newcommand{\underbrace}[1][]{\LWRunderbrace{}}}
60 \CustomizeMathJax{\newcommand{\LWRdooverbrace}[3]{%
61   \mathinner{\overset{\#3}{\overline{\ulcorner\#1\urcorner}}}}%
62 }
63 \CustomizeMathJax{\newcommand{\LWRoverbrace}[2][]{\LWRdooverbrace{\#2}}}
64 \CustomizeMathJax{\newcommand{\overbrace}[1][]{\LWRoverbrace{}}}
65
66 \CustomizeMathJax{\newcommand{\LaTeXunderbrace}[1]{\underbrace{}}}
67 \CustomizeMathJax{\newcommand{\LaTeXoverbrace}[1]{\overbrace{}}}
```

```

69 \CustomizeMathJax{\newenvironment{matrix*}[1][]{\begin{matrix}}{\end{matrix}}}
70 \CustomizeMathJax{\newenvironment{pmatrix*}[1][]{\begin{pmatrix}}{\end{pmatrix}}}
71 \CustomizeMathJax{\newenvironment{bmatrix*}[1][]{\begin{bmatrix}}{\end{bmatrix}}}
72 \CustomizeMathJax{\newenvironment{Bmatrix*}[1][]{\begin{Bmatrix}}{\end{Bmatrix}}}
73 \CustomizeMathJax{\newenvironment{vmatrix*}[1][]{\begin{vmatrix}}{\end{vmatrix}}}
74 \CustomizeMathJax{\newenvironment{Vmatrix*}[1][]{\begin{Vmatrix}}{\end{Vmatrix}}}
75 \CustomizeMathJax{\newenvironment{smallmatrix*}[1][]{\begin{matrix}}{\end{matrix}}}
76 \CustomizeMathJax{\newenvironment{psmallmatrix*}[1][]{\begin{pmatrix}}{\end{pmatrix}}}
77 \CustomizeMathJax{\newenvironment{bsmallmatrix*}[1][]{\begin{bmatrix}}{\end{bmatrix}}}
78 \CustomizeMathJax{\newenvironment{Bsmallmatrix*}[1][]{\begin{Bmatrix}}{\end{Bmatrix}}}
79 \CustomizeMathJax{\newenvironment{vsmallmatrix*}[1][]{\begin{vmatrix}}{\end{vmatrix}}}
80 \CustomizeMathJax{\newenvironment{Vsmallmatrix*}[1][]{\begin{Vmatrix}}{\end{Vmatrix}}}
81 \CustomizeMathJax{\newenvironment{psmallmatrix}[1][]{\begin{pmatrix}}{\end{pmatrix}}}
82 \CustomizeMathJax{\newenvironment{bsmallmatrix}[1][]{\begin{bmatrix}}{\end{bmatrix}}}
83 \CustomizeMathJax{\newenvironment{Bsmallmatrix}[1][]{\begin{Bmatrix}}{\end{Bmatrix}}}
84 \CustomizeMathJax{\newenvironment{vsmallmatrix}[1][]{\begin{vmatrix}}{\end{vmatrix}}}
85 \CustomizeMathJax{\newenvironment{Vsmallmatrix}[1][]{\begin{Vmatrix}}{\end{Vmatrix}}}
86
87
88 \CustomizeMathJax{\newcommand{\LWRmultlined}[1][]{\begin{multline*}}}
89 \CustomizeMathJax{\newenvironment{multlined}[1][]{\LWRmultlined}{\end{multline*}}}
90
91 \CustomizeMathJax{\let\LWRorigshoveleft\shoveleft}
92 \CustomizeMathJax{\renewcommand{\shoveleft}[1][]{\LWRorigshoveleft}}
93 \CustomizeMathJax{\let\LWRorigshoveright\shoveright}
94 \CustomizeMathJax{\renewcommand{\shoveright}[1][]{\LWRorigshoveright}}
95
96 \CustomizeMathJax{\newenvironment{dcases}{\begin{cases}}{\end{cases}}}
97 \CustomizeMathJax{\newenvironment{dcases*}{\begin{cases}}{\end{cases}}}
98 \CustomizeMathJax{\newenvironment{rcases}{\begin{cases}}{\end{cases}}}
99 \CustomizeMathJax{\newenvironment{rcases*}{\begin{cases}}{\end{cases}}}
100 \CustomizeMathJax{\newenvironment{drcases}{\begin{cases}}{\end{cases}}}
101 \CustomizeMathJax{\newenvironment{drcases*}{\begin{cases}}{\end{cases}}}
102 \CustomizeMathJax{\newenvironment{cases*}{\begin{cases}}{\end{cases}}}
103
104 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1][]{}}
105
106 \CustomizeMathJax{\% special parsing to handle '&' in argument
107     \def\LWRAbboxed{\!\!\!#1\!\!&\!\!#2\!\!\!} \def\!\!\!\fbox{\!\!(\!\!#1\!\!)}\!\!\!&\!\!\!\fbox{\!\!(\!\!#2\!\!)}\!\!\!
108     \newcommand{\Aboxed}[1]{\LWRAbboxed{\ifstar\!\!\!#1\!\!\!}{\LWRAbboxed{\!\!\!#1\!\!&\!\!#1\!\!\!}}}
109 }

110 \CustomizeMathJax{
111     \newcommand{\LWRABLlines}[1][\Updownarrow]{#1 \notag \\ \% star/nostar the same
112     \newcommand{\ArrowBetweenLines}{\ifstar\!\!\!\LWRABLlines\!\!\!}{\LWRABLlines}
113 }

114 \CustomizeMathJax{\newcommand{\shortintertext}[1]{\text{\#1}\notag \\}}
115
116 \CustomizeMathJax{\newcommand{\vdotswithin}[1]{\hspace{.5em}\vdots}}
```

```
120      \newcommand{\shortvdotswithin}{%
121          {\ifstar{\LWRshortvdotswithinstar}{\LWRshortvdotswithinnostar}}%
122      }
123
124 \CustomizeMathJax{\newcommand{\MTFlushSpaceAbove}{}}
125 \CustomizeMathJax{\newcommand{\MTFlushSpaceBelow}{\\}}
126
127 \LetLtxMacro{\LWR@mathtools@orig}{\DeclarePairedDelimiter{\DeclarePairedDelimiter}}
128 \renewcommand{\DeclarePairedDelimiter}[3]{%
129     \LWR@mathtools@orig{\DeclarePairedDelimiter{#1}{#2}{#3}}
130 % starred:
131     \appto{\LWR@customizedMathJax}{\LWRbackslash{}}
132     \appto{\LWR@customizedMathJax}{%
133         \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}\LWRsubstar}\%}
134     }%
135     \appto{\LWR@customizedMathJax}{[2][]}\%
136     \appto{\LWR@customizedMathJax}{\{\{\}\%}
137     \LWR@subcustomizedmathjax{\#1\left#2##\#1\right#3}\%
138     \appto{\LWR@customizedMathJax}{\{\}\}}\%
139     \appto{\LWR@customizedMathJax}{\LWRbackslash)\par}\%
140 % not starred:
141     \appto{\LWR@customizedMathJax}{\LWRbackslash{}}
142     \appto{\LWR@customizedMathJax}{%
143         \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}\LWRsubnostar}\%}
144     }%
145     \appto{\LWR@customizedMathJax}{[2][]}\%
146     \appto{\LWR@customizedMathJax}{\{\{\}\%}
147     \LWR@subcustomizedmathjax{\#1#2##\#1#3}\%
148     \appto{\LWR@customizedMathJax}{\{\}\}}\%
149     \appto{\LWR@customizedMathJax}{\LWRbackslash)\par}\%
150 % user macro:
151     \appto{\LWR@customizedMathJax}{\LWRbackslash{}}
152     \appto{\LWR@customizedMathJax}{%
153         \LWRbackslash{}newcommand{\LWRbackslash{}\macrotocname{#1}\}}\%
154         \{\LWRbackslash{}ifstar\%
155             \LWRbackslash{}\macrotocname{#1}\LWRsubstar\%
156             \LWRbackslash{}\macrotocname{#1}\LWRsubnostar\%
157         }\%
158     }%
159     \appto{\LWR@customizedMathJax}{\LWRbackslash)\par}\%
160 }
161 \onlypreamble{\DeclarePairedDelimiter}
162
163 % (DeclarePairedDelimiterX is already defined to use \DeclarePairedDelimiterXPP.)
164
165 \LetLtxMacro{\LWR@mathtools@orig}{\DeclarePairedDelimiterXPP{\DeclarePairedDelimiterXPP}}
166 \DeclareDocumentCommand{\DeclarePairedDelimiterXPP}{m O{1} m m m m m}{%
167     \LWR@mathtools@orig{\DeclarePairedDelimiterXPP{#1}{#2}{#3}{#4}{#5}{#6}{#7}}
168 % subsubstar, second opt arg
169     \appto{\LWR@customizedMathJax}{\LWRbackslash{}}
170     \appto{\LWR@customizedMathJax}{%
171         \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}\LWRsubsubstar}\%}
172     }%
173     \appto{\LWR@customizedMathJax}{[#2]}\%
174     \appto{\LWR@customizedMathJax}{\{\{\LWRbackslash{}left}\%}
```

```
175 \LWR@subcustomizedmathjax{#3#4#7}%
176 \appto{\LWR@customizedMathJax{\LWRbackslash{}right}}%
177 \LWR@subcustomizedmathjax{#5#6}%
178 \appto{\LWR@customizedMathJax{\}}{}}%
179 \appto{\LWR@customizedMathJax{\LWRbackslash}\par}{}}%
180 % substar, first opt arg
181 \appto{\LWR@customizedMathJax{\LWRbackslash}{}}%
182 \appto{\LWR@customizedMathJax{%
183 \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}}{\LWRsubstar}}}{}}%
184 }%
185 \appto{\LWR@customizedMathJax{%
186 \{%
187 \LWRbackslash{}def{\LWRbackslash{}delimsize{\#1}}{%
188 \LWRbackslash\macrotocname{#1}}{\LWRsubsubstar}}%
189 \}}}{}}%
190 }%
191 \appto{\LWR@customizedMathJax{\LWRbackslash}\par}{}}%
192 % subsubstar, second opt arg
193 \appto{\LWR@customizedMathJax{\LWRbackslash}{}}%
194 \appto{\LWR@customizedMathJax{%
195 \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}}{\LWRsubsubstar}}}{}}%
196 }%
197 \appto{\LWR@customizedMathJax{[#2]}{}}%
198 \appto{\LWR@customizedMathJax{\{\{\LWRbackslash{}delimsize}{}}{%
199 \LWR@subcustomizedmathjax{#3#4#7}}{}}%
200 \appto{\LWR@customizedMathJax{\LWRbackslash{}delimsize}{}}{%
201 \LWR@subcustomizedmathjax{#5#6}}{}}%
202 \appto{\LWR@customizedMathJax{\}}{}}{}}%
203 \appto{\LWR@customizedMathJax{\LWRbackslash}\par}{}}%
204 % subnostar, first opt arg
205 \appto{\LWR@customizedMathJax{\LWRbackslash}{}}%
206 \appto{\LWR@customizedMathJax{%
207 \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}}{\LWRsubnostar}}}{}}%
208 }%
209 \appto{\LWR@customizedMathJax{%
210 \{%
211 \LWRbackslash{}def{\LWRbackslash{}delimsize{\#1}}{%
212 \LWRbackslash\macrotocname{#1}}{\LWRsubsubstar}}%
213 \}}}{}}%
214 }%
215 \appto{\LWR@customizedMathJax{\LWRbackslash}\par}{}}%
216 % user macro:
217 \appto{\LWR@customizedMathJax{\LWRbackslash}{}}%
218 \appto{\LWR@customizedMathJax{%
219 \LWRbackslash{}newcommand{\%}{%
220 \LWRbackslash{}\macrotocname{#1}}{}}{}}%
221 \}}{}}%
222 \{\LWRbackslash{}ifstar{%
223 \LWRbackslash{}\macrotocname{#1}}{\LWRsubstar}{%
224 \LWRbackslash{}\macrotocname{#1}}{\LWRsubnostar}}{}}%
225 \}}{}}%
226 }%
227 \appto{\LWR@customizedMathJax{\LWRbackslash}\par}{}}%
228 }%
229 \onlypreamble\DeclareParedDelimiterXPP
```

```
230 \@onlypreamble\DeclareParedDelimiterX
231
232 \CustomizeMathJax{\newcommand{\lparen}{()}
233 \CustomizeMathJax{\newcommand{\rparen}{()}}
234 \CustomizeMathJax{\newcommand{\ordinarycolon}{::}}
235 \CustomizeMathJax{\newcommand{\vcentcolon}{\mathrel{\unicode{x2236}}}}
236
237 \CustomizeMathJax{\newcommand{\dblcolon}{\mathrel{\unicode{x2237}}}}
238 \CustomizeMathJax{\newcommand{\coloneqq}{\mathrel{\unicode{x2236}\!=\!}}}
239 \CustomizeMathJax{\newcommand{\Coloneqq}{\mathrel{\unicode{x2237}\!=\!}}}
240 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x2236}\!=\!}}}
241 \CustomizeMathJax{\newcommand{\Coloneq}{\mathrel{\unicode{x2237}\!=\!}}}
242
243 \CustomizeMathJax{\newcommand{\eqqcolon}{\mathrel{=\!=\!\!\!\mathrel{\unicode{x2236}}}}}
244 \CustomizeMathJax{\newcommand{\Eqqcolon}{\mathrel{=\!=\!\!\!\mathrel{\unicode{x2237}}}}}
245 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{=\mathrel{\!\!\!\mathrel{\unicode{x2236}}}}}}
246 \CustomizeMathJax{\newcommand{\Eqcolon}{\mathrel{=\mathrel{\!\!\!\mathrel{\unicode{x2237}}}}}}
247
248 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{\!\!\!\mathrel{\unicode{x2236}}\!\!\!\mathrel{\!\!\!\mathrel{\approx}}}}}
249 \CustomizeMathJax{\newcommand{\Colonapprox}{\mathrel{\!\!\!\mathrel{\unicode{x2237}}\!\!\!\mathrel{\!\!\!\mathrel{\approx}}}}}
250 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{\!\!\!\mathrel{\unicode{x2236}}\!\!\!\mathrel{\!\!\!\mathrel{\sim}}}}}
251 \CustomizeMathJax{\newcommand{\Colonsim}{\mathrel{\!\!\!\mathrel{\unicode{x2237}}\!\!\!\mathrel{\!\!\!\mathrel{\sim}}}}}
252
253 \CustomizeMathJax{\newcommand{\nuparrow}{\mathrel{\cancel{\uparrow}}}}
254 \CustomizeMathJax{\newcommand{\ndownarrow}{\mathrel{\cancel{\downarrow}}}}
255 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\Large\times}\limits}}
256
257 \CustomizeMathJax{\newcommand{\prescript}[3]{\{}{\}^{\#1}\}_{\#2}\#3}}
258
259
260 \CustomizeMathJax{\newenvironment{lgathered}{\begin{gathered}}{\end{gathered}}}
261 \CustomizeMathJax{\newenvironment{rgathered}{\begin{gathered}}{\end{gathered}}}
262
263 \LetLtxMacro{\LWR@mathtools@orig}{\newgathered\newgathered}
264 \renewcommand{\newgathered}[4]{%
265   \LWR@mathtools@orig{\newgathered{\#1}{\#2}{\#3}{\#4}}%
266   \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
267     \LWR@subcustomizedmathjax{%
268       \newenvironment{\#1}{\begin{gathered}}{\end{gathered}}%
269     }%
270     \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
271   }%
272 \newgathered
273
274 \CustomizeMathJax{\newcommand{\splitfrac}[2]{\{}{\}^{\#1}\}_{\#2}}}
275 \CustomizeMathJax{\let\splitfrac\splitfrac}
276 \end{warpMathJax}}
```

File 268 **l warp-mcaption.sty**

§ 374 Package **mcaption**

(Emulates or patches code by STEPHAN HENNIG.)

Pkg mcaption mcaption is ignored.

for HTML output: Discard all options for l warp-mcaption:

```
1 \LWR@ProvidesPackageDrop{mcaption}[2009/03/13]
```

```
2 \newenvironment{margincap}{}{}  
3 \newcommand*{\margincapalign}{}  
4 \newlength{\margincapsep}
```

File 269 **l warp-mdframed.sty**

§ 375 Package **mdframed**

(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)

Pkg mdframed mdframed is loaded with options forced to framemethod=none.

§ 375.1 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.

§ 375.2 Package loading

for HTML output:

```

1 \RequirePackage{xcolor}%
2   for \convertcolorspec
3 \LWR@ProvidesPackageDrop{mdframed}[2013/07/01]
```

Do not require Tikz or pstricks:

```
4 \LWR@origRequirePackage[framemethod=none]{mdframed}
```

§ 375.3 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  \nmbrrlistfalse%
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
```

§ 375.4 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 }
```

§ 375.5 Color and length HTML conversion

`\LWR@mdfprintcolor` $\{\langle mdfcolorkey \rangle\}$

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` $\{\langle mdflengthkey \rangle\}$

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 }
```

§ 375.6 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 ``:

```
48 \LWR@spanwarninvalid{mdframe}%
```

Turn off paragraph handling during the generation of the encapsulating tags:

```
49 \LWR@stoppars%
```

Open a `<div>` and with custom `class` and custom `style`. A `BlockClass` environment is not used because this `<div>` is created by the `mdframed` `startcode` and `endcode` settings, which do not properly nest the `<div>` inside the `mdframed` environment.

```
50 \LWR@htmllagc{div class="%"
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*{\LWR@mdframedend}{%
77 \LWR@traceinfo{\LWR@mdframedend start}}%
```

Close the custom `<div>`:

```
78 \LWR@htmldivclassend{\LWR@mdthisenv}
```

Reset future custom class to the default:

```
79 \gdef\LWR@mdthisenv{mdframed}
```

Resume paragraph handling:

```
80 \LWR@startpars%
81 \LWR@traceinfo{\LWR@mdframedend done}%
82 }
```

§ 375.7 Mdframed environment

```

83 \renewenvironment{mdframed}[1][]{
84   \color@begingroup%
85   \mdfsetup{userdefinedwidth=\linewidth,#1}%
86   \mdf@startcode%
87   \mdf@preenvsetting%
88   \ifdefempty{\mdf@firstframetitle}{}
89     {\let\mdf@frametitlesave\mdf@frametitle%
90      \let\mdf@frametitle\mdf@firstframetitle%
91    }%
92   \ifvmode\nointerlineskip\fi%
93   \ifdefempty{\mdf@frametitle}{}
94     {\mdfframedtitleenv{\mdf@frametitle}%
95      \mdf@frametitle@use%
96    }%
97   \mdf@trivlist{\mdf@skipabove@length}%
98   \mdf@settings%
99 %   \mdf@lrbox{\mdf@splitbox@one}%
100 %   \mdf@startinnercode%
101 }%
102 {%
103 %   \mdf@ignorelastdescenders%
104   \par%
105 %   \unskip\ifvmode\nointerlineskip\hrule \@height\z@ \@width\hsize\fi%
106   \ifmdf@footnoteinside%
107     \def\mdf@reserved@%
108     \mdf@footnoteoutput%
109 %     \mdf@endinnercode%
110 %     \endmdf@lrbox%
111 %     \ifdefempty{\mdf@frametitle}{}
112 %       {\mdfframedtitleenv{\mdf@frametitle}\mdf@frametitle@use}%
113 %       \detected@mdf@put@frame%
114     }%
115   \else%
116     \def\mdf@reserved@%
117 %     \mdf@endinnercode%
118 %     \endmdf@lrbox%
119 %     \ifdefempty{\mdf@frametitle}{}
120 %       {\mdfframedtitleenv{\mdf@frametitle}\mdf@frametitle@use}%
121 %       \detected@mdf@put@frame%
122     \mdf@footnoteoutput%
123   }%
124   \fi%
125   \mdf@reserved@%
126   \aftergroup\endmdf@trivlist%
127   \color@endgroup%
128   \mdf@endcode%
129 }

\mdf@footnoteoutput
130 \renewrobustcmd*\mdf@footnoteoutput{%
131   \LWR@printpendingmpfootnotes%
132 }

```

§ 375.8 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@mdframedtitleenv 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 % the following empty line is required
155
156 \LWR@traceinfo{\LWR@mdframedsubtitlecommon start}%
```

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
```

§ 375.9 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 {\mdf@PackageWarning{Environment #2 already exists\MessageBreak}}%
209 {%
210 \IfNoValueTF{#3}%
211 {##3 not given -- number relationship
212 \IfNoValueTF{#5}%
213 {##3+##5 not given
214 \@definecounter{#2}%
215 \expandafter\xdef\csname the#2\endcsname{@thmcounter{#2}}%
216 \newenvironment{#2}[1][]{%
217 \refstepcounter{#2}%
218 \ifstrempty{##1}%
219 {\let\@temptitle\relax}%
220 {%
221 \def\@temptitle{\mdf@theoremseparator%
222 \mdf@theoremspace%
223 \mdf@theoremtitlefont%
224 \LWR@textcurrentfont{##1}}% l warp
225 \mdf@thm@caption{#2}{##4}{\csname the#2\endcsname{##1}}%
226 }%
227 \begin{mdframed}[#1,frametitle={\strut#4\ csname the#2\endcsname%}}
```

```
228                                     \@temptitle}]}%
229         {\end{mdframed}}%
230         \newenvironment{#2*}[1][]{{%
231             \ifstrempty{##1}{\let\@temptitle\relax}{\def\@temptitle{:\ \ ##1}}%
232             \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]}%
233             {\end{mdframed}}%
234         }%
235         {##5 given -- reset counter
236         \definecounter{#2}\@newctr{#2}[#5]%
237         \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
238         \expandafter\xdef\csname the#2\endcsname{%
239             \expandafter\noexpand\csname the#5\endcsname \@thmcountersep%
240             \@thmcounter{#2}}%
241         \newenvironment{#2}[1][]{{%
242             \refstepcounter{#2}%
243             \ifstrempty{##1}{%
244                 {\let\@temptitle\relax}%
245                 {%
246                     \def\@temptitle{\mdf@theoremseparator%
247                         \mdf@theoremspace%
248                         \mdf@theoremtitlefont%
249                         \LWR@textcurrentfont{##1}}% lwarp
250                     \mdf@thm@caption{#2}{##4}{\csname the#2\endcsname}{##1}}%
251                 }
252             \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
253                                         \@temptitle}]}%
254             {\end{mdframed}}%
255         \newenvironment{#2*}[1][]{{%
256             \ifstrempty{##1}{%
257                 {\let\@temptitle\relax}%
258                 {%
259                     \def\@temptitle{\mdf@theoremseparator%
260                         \mdf@theoremspace%
261                         \mdf@theoremtitlefont%
262                         \LWR@textcurrentfont{##1}}% lwarp
263                     \mdf@thm@caption{#2}{##4}{\csname the#2\endcsname}{##1}}%
264                 }
265             \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]}%
266             {\end{mdframed}}%
267         }%
268     }%
269     {##3 given -- number relationship
270     \global\@namedef{the#2}{\@nameuse{the#3}}%
271     \newenvironment{#2}[1][]{{%
272         \refstepcounter{#3}%
273         \ifstrempty{##1}{%
274             {\let\@temptitle\relax}%
275             {%
276                 \def\@temptitle{\mdf@theoremseparator%
277                     \mdf@theoremspace%
278                     \mdf@theoremtitlefont%
279                     \LWR@textcurrentfont{##1}}% lwarp
280                 \mdf@thm@caption{#2}{##4}{\csname the#2\endcsname}{##1}}%
281             }
282         \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
```

```

283                                     \atemptitle}]}%
284         {\end{mdframed}}%
285         \newenvironment{#2*}[1][]{%
286             \ifstrempty{##1}{\let\atemptitle\relax}{\def\atemptitle{:\ \ ##1}}%
287             \begin{mdframed}[#1,frametitle={\strut#4\atemptitle}]}%
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 270 **l warp-media9.sty**

§ 376 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 \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/...**

⚠ & in a URL Many special characters are converted to regular catcode 12 characters for use inside a URL. **&** is used in the flash variables fields, which are split with **xparse \SplitList**, which does not seem to work with a catcode 12 divider token, so **&** is not converted to catcode 12, and will not work in a URL with **media9**. Using **&** in a URL in a **flashvars** field may also cause parsing problems with print output, as well.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{media9}[2019/02/21]  
2 \LWR@origRequirePackage{lwarp-common-multimedia}  
3  
4 \RequirePackage{xkeyval}
```

\addmediapath {<path>}

Supported.

```
5 \newcommand*{\LWR@medianine@path}{}  
6  
7 \newcommand*{\addmediapath}[1]{\appto{\LWR@medianine@path}{#1}}
```

The options and poster text are reused in several places.

```
8 \newcommand*{\LWR@medianine@postertext}{}  
9 \newcommand*{\LWR@medianine@options}{}  
10 \define@key{LWR@medianine}{addrresource}{%
```

```
11     \expandafter\expandafter\expandafter[\LWR@medianine@options]  
12         {\LWR@medianine@postertext}  
13         {#1}  
14 }
```

Each **addrresource** can generate a multimedia object.

```
10 \define@key{LWR@medianine}{addrresource}{%  
11     \expandafter\expandafter\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 271 l warp-memhfixc.sty**§ 377 Package memhfixc**

Pkg memhfixc memhfixc is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{memhfixc}[2013/05/30]

File 272 l warp-metalogo.sty**§ 378 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 273 l warp-metalogox.sty**§ 379 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 274 **l warp-mhchem.sty**

§ 380 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{ . . . } ] . . .
\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:

$\text{\ce{NaOH(aq,$\infty)}}$$	% old
$\text{\ce{NaOH(aq,\infty)}}$$	% new
$\text{\ce{Fe(CN)_{\frac{6}{2}}}}$$	% old
$\text{\ce{Fe(CN)_{\frac{6}{2}}}}$$	% new
$\text{\ce{NO_{x}}} $$	% old
$\text{\ce{NO_x}} $$	% new
$\text{\ce{NO_{x}}}$$	% old
$\text{\ce{NO_{x}}}$$	% new
$\text{\ce{$\text{cis}$[-][PtCl2(NH3)2]}}$$	% old
$\text{\ce{$\text{mathit{cis}}$[-][PtCl2(NH3)2]}}$$	% 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 \teximage uses a hashed filename for the svg image. The alt tag is set to the mhchem expression.

```
3 \newcommand{\LWR@mhchem@HTML@ce}[1]{%
4 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
5 \ifbool{\LWR@xfakebold}{%
6   {\def{\LWR@tempone{Y}}{%
7   {\def{\LWR@tempone{N}}{%
8 \begin{teximage}*[{\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{teximage}%
20 \endgroup%
21 \addtocounter{\LWR@mhchem@cedepth}{-1}%
22 }
```

Only set math shift if outer depth:

```
23 \newcounter{\LWR@mhchem@cedepth}
24 \setcounter{\LWR@mhchem@cedepth}{0}
```

The new \ce. Sets math shift then continues.

```
25 \renewcommand{\ce}{%
26 \begingroup%
27 \ifnumequal{\value{\LWR@mhchem@cedepth}}{0}{%
28   \catcode`\$=3% math shift
29 }{}%
30 \addtocounter{\LWR@mhchem@cedepth}{1}%
31 \LWR@mhchem@HTML@ce%
32 }
```

The original definition of \cesplit:

```
33 \LetLtxMacro{\LWR@mhchem@origcesplit}{\cesplit}
```

The new definition, called from the new \cesplit after math shift is set. The starred `\teximage` uses a hashed filename for the svg image. The alt tag is set to the `mhchem` expression.

```

34 \newcommand*{\LWR@mhchem@HTML@cesplit}[2]
35 {%
36 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
37 \ifbool{\LWR@xfakebold}{%
38   {\def\LWR@tempone{Y}}{%
39   {\def\LWR@tempone{N}}{%
40 \begin{teximage}*[\\textbackslash cesplit\{\LWR@HTMLsanitize{#2}\}]*{%
41   [%
42     FM\!\LWR@f@family%
43     SR\!\LWR@f@series%
44     SH\!\LWR@f@shape%
45     SHC\!\LWR@f@shapecaps%
46     CL\!\LWR@tempcolor%
47     FB\!\LWR@tempone% xfakebold
48   ]%
49 \LWR@setcurrentfont%
50 \LWR@mhchem@origcesplit{#1}{#2}%
51 \end{teximage}%
52 \endgroup%
53 }}}
```

Only set math shift if outer depth:

```

54 \newcounter{LWR@mhchem@cesplitdepth}
55 \setcounter{LWR@mhchem@cesplitdepth}{0}
```

The new \cesplit. Sets math shift then continues.

```

56 \renewcommand{\cesplit}{%
57 \begingroup%
58 \ifnumequal{\value{LWR@mhchem@cesplitdepth}}{0}{%
59   \catcode`\$=3% math shift
60 }{%
61 \addtocounter{LWR@mhchem@cesplitdepth}{1}%
62 \LWR@mhchem@HTML@cesplit%
63 }}
```

Resore originals inside a `\teximage`:

```

64 \appto{\LWR@restoreorigformatting}{%
65 \LetLtxMacro{\ce}{\LWR@mhchem@origce}%
66 \LetLtxMacro{\cesplit}{\LWR@mhchem@origcesplit}%
67 }%
68
69 \begin{warpMathJax}
70 \CustomizeMathJax{\require{mhchem}}
71 \end{warpMathJax}
```

File 275 l warp-microtype.sty**§ 381 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 m} {}
13 \DeclareDocumentCommand{\DeclareMicrotypeAlias}{m m} {}
14 \DeclareDocumentCommand{\LoadMicrotypefile}{m m} {}
15 \DeclareDocumentCommand{\DeclareMicrotypeBabelHook}{m m} {}
16 \DeclareDocumentCommand{\microtypsetup}{m m} {}
17 \DeclareDocumentCommand{\microtypecontext}{m 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 276 l warp-midfloat.sty**§ 382 Package midfloat**

(Emulates or patches code by SIGITAS TOLUŠIS.)

Pkg midfloat midfloat is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{midfloat}[2012/05/29]

```
2 \newenvironment{strip}[1][]{\{}{\}}
3 \newskip\stripsep
```

File 277 **l warp-midpage.sty**

§ 383 Package **midpage**

Pkg midpage midpage is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{midpage}[2009/09/03]

```
2 \newenvironment{midpage}
3 {\begin{BlockClass}[%
4   \LWR@print@mbox{margin-top:6ex} ; \LWR@print@mbox{margin-bottom:6ex}%
5 ]{midpage}}
6 {\end{BlockClass}}
```

File 278 **l warp-minibox.sty**

§ 384 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 279 **l warp-minitoc.sty**

§ 385 Package **minitoc**

Pkg **minitoc** **minitoc** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop[minitoc][2018/07/12]

mtcoff disables **minitoc**.

2 \usepackage{mtcoff}

File 280 **l warp-minted.sty**

§ 386 Package **minted**

(Emulates or patches code by GEOFFREY M. POORE.)

Pkg **minted** **minted** is patched for use by **l warp**.

⚠ limitations **mathescape** and **highlightlines** don't work. Line numbers on the right will not be aligned. Due to **pdftotext**, extra spaces may appear in broken lines if other formatting is included.

for HTML output: 1 \LWR@ProvidesPackagePass[minted][2017/07/19]

```

2 \xpatchcmd{\minted}
3   {\setkeys{minted@opt@cmd}{#1}}
4   {%
5       \setkeys{minted@opt@cmd}{%
6           #1,%
7           mathescape=false,breaklines,texcomments=false,highlightlines={}}%
8   }%
```

```

9      }
10     {}
11     {\LWR@patcherror{minted}{minted}}
12
13 \xpatchcmd{\mintinline}
14   {\setkeys{minted@opt@cmd}{#1}}
15   {\setkeys{minted@opt@cmd}{%
16     #1,%
17     mathescape=false,breaklines,texcomments=false,highlightlines={}}%
18   }%
19   {}
20   {}
21   {\LWR@patcherror{minted}{mintinline}}
22
23 \xpatchcmd{\mint}
24   {\setkeys{minted@opt@cmd}{#1}}
25   {%
26     \setkeys{minted@opt@cmd}{%
27       #1,%
28       mathescape=false,breaklines,texcomments=false,highlightlines={}}%
29   }%
30   {}
31   {}
32   {\LWR@patcherror{minted}{mint}}
33
34 \xpatchcmd{\inputminted}
35   {\setkeys{minted@opt@cmd}{#1}}
36   {\setkeys{minted@opt@cmd}{%
37     #1,%
38     mathescape=false,breaklines,texcomments=false,highlightlines={}}%
39   }%
40   {}
41   {}
42   {\LWR@patcherror{minted}{inputminted}}

```

File 281 **l warp-mismath.sty**

§ 387 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{lateximage}
12     \begin{math}
13     \begin{aligned}\displaystyle
14   }{
15     \end{aligned}%
16     \end{math}
17     \end{lateximage}
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{\e}{\mathrm{e}}}
29 \CustomizeMathJax{\newcommand{\i}{\mathrm{i}}}
30 \CustomizeMathJax{\newcommand{\j}{\mathrm{j}}}
31
32 \CustomizeMathJax{\newcommand{\boldvect}{}}
33 \CustomizeMathJax{\newcommand{\arrowvect}{}}
34 \CustomizeMathJax{\newcommand{\pinumber}[1][]{\phantom{#1}}}
35 \CustomizeMathJax{\newcommand{\hvect}[1]{\vec{\vphantom{h}}{#1}}}
36 \CustomizeMathJax{\newcommand{\hvec}[1]{\vec{\vphantom{t}}{#1}}}
37 \CustomizeMathJax{%
38   \newcommand{\norm}[1]{\left\| #1 \right\|}}
39 }
40 \CustomizeMathJax{\newcommand{\di}{\mathop{}\!\mathsf{d}}}
41
42 \CustomizeMathJax{\newcommand{\P}{\operatorname{\!probastyle\!}{P}}}
```

```

43 \CustomizeMathJax{\newcommand{\E}{\operatorname{\text{\texttt{probastyle}}}{E}}}
44 \CustomizeMathJax{\newcommand{\V}{\operatorname{\text{\texttt{probastyle}}}{V}}}
45 \CustomizeMathJax{\newcommand{\Par}{\text{\texttt{\text{\texttt{unicode}}}{x00B6}}}}
46
47 \CustomizeMathJax{\DeclareMathOperator{\adj}{adj}}
48 \CustomizeMathJax{\DeclareMathOperator{\Aut}{Aut}}
49 \CustomizeMathJax{\DeclareMathOperator{\Conv}{Conv}}
50 \CustomizeMathJax{\DeclareMathOperator{\cov}{cov}}
51 \CustomizeMathJax{\DeclareMathOperator{\Cov}{Cov}}
52 \CustomizeMathJax{\newcommand{\curl}{\operatorname{\text{\texttt{vect}}}{\mathit{curl}}}}}
53 \CustomizeMathJax{\DeclareMathOperator{\divg}{div}}
54 \CustomizeMathJax{\DeclareMathOperator{\End}{End}}
55
56 \CustomizeMathJax{\DeclareMathOperator{\erf}{erf}}
57 \CustomizeMathJax{\newcommand{\grad}{\operatorname{\text{\texttt{vect}}}{\mathit{grad}}}}}
58 \CustomizeMathJax{\DeclareMathOperator{\id}{id}}
59 \CustomizeMathJax{\DeclareMathOperator{\Id}{Id}}
60 \CustomizeMathJax{\DeclareMathOperator{\im}{im}}
61 \CustomizeMathJax{\let\oldIm\Im}
62 \CustomizeMathJax{\renewcommand{\Im}{\operatorname{\text{\texttt{Im}}}{}}}
63 \CustomizeMathJax{\DeclareMathOperator{\lb}{lb}}
64 \CustomizeMathJax{\DeclareMathOperator{\lcm}{lcm}}
65
66 \CustomizeMathJax{\DeclareMathOperator{\rank}{rank}}
67 \CustomizeMathJax{\let\oldRe\Re}
68 \CustomizeMathJax{\renewcommand{\Re}{\operatorname{\text{\texttt{Re}}}{}}}
69 \CustomizeMathJax{\newcommand{\rot}{\operatorname{\text{\texttt{vect}}}{\mathit{rot}}}}}
70 \CustomizeMathJax{\DeclareMathOperator{\sgn}{sgn}}
71 \CustomizeMathJax{\DeclareMathOperator{\spa}{span}}
72 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
73 \CustomizeMathJax{\DeclareMathOperator{\Var}{Var}}
74 \CustomizeMathJax{\DeclareMathOperator{\Zu}{Z}}
75
76 \CustomizeMathJax{\DeclareMathOperator{\arccot}{arccot}}
77 \CustomizeMathJax{\DeclareMathOperator{\sech}{sech}}
78 \CustomizeMathJax{\DeclareMathOperator{\csch}{csch}}
79 \CustomizeMathJax{\DeclareMathOperator{\arsinh}{arsinh}}
80 \CustomizeMathJax{\DeclareMathOperator{\arcosh}{arcosh}}
81 \CustomizeMathJax{\DeclareMathOperator{\artanh}{artanh}}
82 \CustomizeMathJax{\DeclareMathOperator{\arcoth}{arcoth}}
83 \CustomizeMathJax{\DeclareMathOperator{\arsech}{arsech}}
84 \CustomizeMathJax{\DeclareMathOperator{\arcsch}{arcsch}}
85
86 \CustomizeMathJax{\DeclareMathOperator{\bigO}{\mathcal{O}}}
87 \CustomizeMathJax{\DeclareMathOperator{\bigo}{O}}
88 \CustomizeMathJax{\DeclareMathOperator{\lito}{o}}
89
90 \CustomizeMathJax{\newcommand{\R}{\mathset{R}}}
91 \CustomizeMathJax{\newcommand{\C}{\mathset{C}}}
92 \CustomizeMathJax{\newcommand{\N}{\mathset{N}}}
93 \CustomizeMathJax{\newcommand{\Z}{\mathset{Z}}}
94 \CustomizeMathJax{\newcommand{\Q}{\mathset{Q}}}
95 \CustomizeMathJax{\newcommand{\F}{\mathset{F}}}
96 \CustomizeMathJax{\newcommand{\K}{\mathset{K}}}

```

```

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{\hbar}[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 \mathrel{\Longrightarrow} \mathrel{\mbox{} } } }
112 \CustomizeMathJax{\newcommand{\txt}[1]{\quad\text{#1}\quad}}
113 \CustomizeMathJax{\newcommand{\paren}[1]{\mathopen{\left(\#1\right)}}}
114 \CustomizeMathJax{\newcommand{\pow}[2]{\left( #1 \right)^{\! \! \#2}}}
115 \CustomizeMathJax{\newcommand{\abs}[1]{\left| #1 \right|}}
116 \CustomizeMathJax{\newcommand{\lfrac}[2]{\frac{\#1}{\#2}}}
117
118 \CustomizeMathJax{\newenvironment{system}[1][l]%
119   {\left\{\begin{array}{@{.15em}\#1@{}}\right.}%
120   {\end{array}\right.}%
121 }
122
123 \CustomizeMathJax{\newenvironment{spmatrix}%
124   {\left(\begin{smallmatrix}}%
125   {\end{smallmatrix}\right)}%
126 }
127
128 \CustomizeMathJax{%
129   \newenvironment{mathcols}%
130     {\begin{aligned}\displaystyle}%
131     {\end{aligned}}%
132 }
133 \CustomizeMathJax{\newcommand{\changecol}{\end{aligned}\qquad\begin{aligned}}}

```

User-adjustable settings, detected if in the preamble.

```

134 \AtBeginDocument{
135 \ifdef{\itpi}{%
136   \CustomizeMathJax{\let\itpi\pi}
137 }{%
138 \ifdefstring{\boldvectcommand}{\mathbf}{%
139   \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\mathbf{#1}}}}
140 }{%
141   \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\boldsymbol{#1}}}}
142 }
143 \ifbool{arrowvect}{%
144   \CustomizeMathJax{\newcommand{\vect}[1]{\overrightarrow{#1}}}}
145 }{%
146   \CustomizeMathJax{\newcommand{\vect}[1]{\boldsymbol{\boldsymbol{#1}}}}}
147 }
148 \ifdefstring{\probastyle}{\mathbb}{%
149   \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathbb{#1}}}}

```

```
150 }{
151     \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathrm{#1}}}
152 }
153 \ifdefstring{\mathset}{\mathbb}{
154     \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbb{#1}}}
155 }{
156     \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbf{#1}}}
157 }
158 }
159 \end{warpMathJax}
```

File 282 l warp-mleftright.sty**§ 388 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 283 l warp-morefloats.sty**§ 389 Package morefloats**

Pkg morefloats morefloats is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{morefloats}[2015/07/22]

File 284 l warp-moreverb.sty**§ 390 Package moreverb**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

Pkg moreverb moreverb is supported with some patches.

1 \LWR@ProvidesPackagePass{moreverb}[2008/06/03]

```
2 \BeforeBeginEnvironment{verbatimtab}{%
3 \LWR@forcenewpage
4 \LWR@atbeginverbatim{Verbatim}%
5 }
6 \AfterEndEnvironment{verbatimtab}{%
7 \LWR@afterendverbatim%
8 }
9
10
11 \LetLtxMacro{\LWRMV@orig@verbatimtabinput}{\verbatimtabinput}
12
13 \renewcommand{\@verbatimtabinput}[2][]{%
14 \LWR@forcenewpage
15 \LWR@atbeginverbatim{Verbatim}%
16 \LWRMV@orig@verbatimtabinput[#1]{#2}%
17 \LWR@afterendverbatim%
18 }
19
20 \BeforeBeginEnvironment{listing}{%
21 \LWR@forcenewpage
22 \LWR@atbeginverbatim{programlisting}%
23 }
24
25 \AfterEndEnvironment{listing}{%
26 \LWR@afterendverbatim%
27 }
28
29 \BeforeBeginEnvironment{listingcont}{%
30 \LWR@forcenewpage
31 \LWR@atbeginverbatim{programlisting}%
32 }
33
34 \AfterEndEnvironment{listingcont}{%
35 \LWR@afterendverbatim%
36 }

37 \LetLtxMacro{\LWRMV@@listinginput}{\listinginput}
38
39 \renewcommand{\@listinginput}[3][]{
40 \LWR@forcenewpage
41 \LWR@atbeginverbatim{programlisting}%
42 \LWRMV@@listinginput[#1]{#2}{#3}%
43 \LWR@afterendverbatim%
44 }
45
46
47 \renewenvironment*{boxedverbatim}{%
48 {
49 \LWR@forcenewpage
50 \LWR@atbeginverbatim{boxedverbatim}%
51 \verbatim%
52 }
53 {
54 \endverbatim%
55 \LWR@afterendverbatim%
```

56 }

File 285 **l warp-movie15.sty**

§ 391 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 `\addmediopath` is supported. It is assumed that the same path structure will exist for the **HTML** document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

media9 slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a **YOUTUBE™** video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

for HTML output: 1 `\LWR@ProvidesPackageDrop{movie15}[2012/05/16]`

2 `\LWR@origRequirePackage{l warp-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@linkmediacat{codes}%
19     \LWR@includemovieb%
20 }
21
22
23 \newcommand*{\movieref}[3][]{}
24
25 \LetLtxMacro{\movie}{\LWR@multimedia}
26 % \LetLtxMacro{\sound}{\LWR@multimedia} not in media15
27
28 \newcommand{\hyperlinkmovie}[3][]{}

```

File 286 **l warp-mparhack.sty**

§ 392 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 287 **l warp-multibib.sty**

§ 393 Package **multibib**

(Emulates or patches code by THORSTEN HANSEN.)

Pkg **multibib** **multibib** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{multibib}[2008/12/10]

```

2 \xpatchcmd{\newcites}
3   {{\@suffix}}
4   {{\@suffix_html}}
5   {}
6   {\LWR@patcherror{multibib}{newcites}}

```

File 288 **l warp-multicap.sty**

§ 394 Package **multicap**

Pkg **multicap** **multicap** is emulated.

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 289 **l warp-multicol.sty**

§ 395 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 `multicol`.

Env **multicol** * {`<numcols>`} [`<heading>`]
2 \NewDocumentEnvironment{multicol}{s m o}
HTML <div> class to contain everything:

```
3 {
4     \LWR@forcenewpage
5     \BlockClass{multicol}
```

Optional HTML <div> class for the heading:

```
6     \IfValueT{#3}{\begin{BlockClass}{multicolshading}#3\end{BlockClass}}%
```

Change `\ linewidth` to compensate for expected size:

```
7     \setlength{\linewidth}{\linewidth/#2}
```

Locally force any minipages to be fullwidth:

```
8     \booltrue{LWR@forceminipagefullwidth}
9 }
```

When done with the environment, close the <div>:

```
10 {\endBlockClass}
```

Emulated null functions which are not used in HTML:

```
11 \newcommand*{\columnbreak}(){}
12 \newcommand*{\RLmulticolcolumns}){}
13 \newcommand*{\LRmulticolcolumns}){}
14
15 \newlength{\premulticols}
16 \newlength{\postmulticols}
17 \newlength{\multicolsep}
18 \newlength{\multicolbaselineskip}
19 \newlength{\multicoltolerance}
20 \newlength{\multicolpretolerance}
21 \newcommand*{\columnseprulecolor}{\normalcolor}
22 \newcounter{columnbadness}
23 \newcounter{finalcolumnbadness}
24 \newcounter{collectmore}
25 \newcounter{unbalance}
26 \newlength{\multicolovershoot}
27 \newlength{\multicolundershoot}

28 \NewDocumentCommand{\docolaction}{s o m m}{%
29     \IfValueTF{#2}{#2}{#3}{%
30 }}
```

File 290 **l warp-multicolrule.sty**

§ 396 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 291 **l warp-multimedia.sty**

§ 397 Package **multimedia**

Pkg **multimedia** **multimedia** is emulated.

The packages `multimedia`, `movie15`, and `media9` are supported.

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

`HTML5` `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by `HTML5`.)

For `media9`, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each `HTML` multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The `HTML` object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediopath` is supported. It is assumed that the same path structure will exist for the `HTML` document.

`HTML5` media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlink{movie}`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

for HTML output:

```
1 \LWR@ProvidesPackageDrop{multimedia}[2012/05/02]

2 \LWR@origRequirePackage{lwarf-common-multimedia}
3
4 \LetLtxMacro\movie\LWR@multimedia
5 \LetLtxMacro\sound\LWR@multimedia
6
7 \newcommand{\hyperlink{movie}}[3][]{}
```

File 292 **lwarf-multiobjective.sty**

§ 398 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}{\mathord{\prec}\!\!\!\prec\mathord{\prec}}}
8 \CustomizeMathJax{\newcommand{\negstrictdom}{\mathord{\not\prec}\!\!\!\not\prec\mathord{\prec}}}
9 \CustomizeMathJax{\newcommand{\multepsilondom}{\preccurlyeq_{\epsilon\cdot\epsilon}}}
10 \CustomizeMathJax{\newcommand{\addiepsilondom}{\preccurlyeq_{\epsilon+\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}}\nolimits,\max}}
28 \CustomizeMathJax{\def\argmin{\mathop{\mathrm{arg}}\nolimits,\min}}
29 }%
30 \end{warpMathJax}
```

File 293 **l warp-multirow.sty**

§ 399 Package **multirow**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

Pkg multirow multirow is emulated during HTML output, and used as-is while inside a `\textrimage`.

vposn

- Note that recent versions of multirow include a new optional vposn argument.

multirow cells

- For multirow, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```

. . . & \multirow{2}{.5in}{text} & . . .
. . . & \mrowcell & . . .
```

colored cells

- The `multirow` documentation regarding colored cells recommends using a negative number of rows. This will not work with `l warp`, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

with `\multicolumn`

 `\multicolumn` & `\multirow`

- See section 399.2 for `\multicolumnrow`.

`l warp` does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}{c}{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

```
... & \multicolumnrow{2}{c}{c}{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

MathJax

- MATHJAX does not support `multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or SVG math.

In a `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}{}%
```

§ 399.1 Multirow

`\multirow` [$\langle vpos \rangle$] { $\langle numrows \rangle$ } [$\langle bigstruts \rangle$] { $\langle width \rangle$ } [$\langle fixup \rangle$] { $\langle text \rangle$ }

```
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@htmlltag{td rowspan="#2" %
```

A class adds the column spec and the rule:

```
11 class="td%
```

Append this column's spec:

```
12 \LWR@getexparray{\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\print@mbox{vertical-align:middle}}{}%
19 \ifstrequal{#1}{b}{\LWR@tdaddstyle\print@mbox{vertical-align:bottom}}{}%
20 \ifstrequal{#1}{t}{\LWR@tdaddstyle\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}

```

§ 399.2 Combined multicolumn and multirow

\multicolumnrow {<1:cols>} {<2:halign>} [<3:vpos>] {<4:numrows>} [<5:bigstruts>] {<6:width>} [<7:fixup>] {<8:text>}

\@ifpackageloaded{multirow} determines if v2.0 or later of `multirow` was used, which included the \ProvidesPackage macro.

The HTML version follows.

\AtBeginDocument because the print version had to see if `multirow` was loaded before determining how to define \LWR@print@multicolumnrow.

```

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^AT_EX 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}{\LWRsubmultirow}}
59 \CustomizeMathJax{\newcommand{\LWRmultirow}{\LWRmultirow}}
60 \CustomizeMathJax{\newcommand{\multirow}{\LWRmultirow}}
61 %
62 \CustomizeMathJax{\newcommand{\mrowcell}{\phantom{X}}}
63 \CustomizeMathJax{\newcommand{\mcolrowcell}{\phantom{X}}}
64 \CustomizeMathJax{\newcommand{\STneed}{\phantom{X}}}
65 \end{warpMathJax}

```

File 294 **lwarf-multitoc.sty**

§ 400 Package **multitoc**

Pkg `multitoc` `multitoc` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{multitoc}[1999/06/08]

```

2 \newcommand{\multicolumnmtoc}{2}
3 \newcommand{\multicolumnlot}{2}
4 \newcommand{\multicolumnlof}{2}
5 \newcommand*{\immediateaddtocontents}{2}{}

```

File 295 **lwarf-musicography.sty**

§ 401 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@meter0}{}{\HTMLunicode{25EF}}
76
77 \LWR@formatted{meter0}
78
79 \newcommand{\LWR@null@noFig}[1][]{}%
80
81 \NewDocumentCommand{\LWR@HTML@musFig}{ m }{%
82 \begin{lateximage}*[%}
83     { % ALT text for copy/paste
84         \LetLtxMacro{\noFig}{\LWR@null@noFig}
85         \LetLtxMacro{\musSharp}{\LWR@HTML@musSharp}
86         \LetLtxMacro{\musDoubleSharp}{\LWR@HTML@musDoubleSharp}
87         \LetLtxMacro{\musFlat}{\LWR@HTML@musFlat}
88         \LetLtxMacro{\musDoubleFlat}{\LWR@HTML@musDoubleFlat}
89         \LetLtxMacro{\musNatural}{\LWR@HTML@musNatural}
90         {#1} braces here because \noFig uses []
91     }%
92 ]*%
93     \musStack[\musFigFont]{#1}%
94 \end{lateximage}%
95 }
96
97 \LWR@formatted{musFig}
98
99 \NewDocumentCommand{\LWR@HTML@musFlat}{}{\HTMLunicode{266D}}
100 \NewDocumentCommand{\LWR@HTML@musDoubleFlat}{}{\HTMLunicode{1D12B}}
101 \NewDocumentCommand{\LWR@HTML@musSharp}{}{\HTMLunicode{266F}}
102 \NewDocumentCommand{\LWR@HTML@musDoubleSharp}{}{\HTMLunicode{1D12A}}
103 \NewDocumentCommand{\LWR@HTML@musNatural}{}{\HTMLunicode{266E}}
104
105 \LWR@formatted{musFlat}
106 \LWR@formatted{musDoubleFlat}
107 \LWR@formatted{musSharp}
108 \LWR@formatted{musDoubleSharp}
109 \LWR@formatted{musNatural}
110
111 \NewDocumentCommand{\LWR@HTML@musWhole}{}{\HTMLunicode{1D15D}}
112 \NewDocumentCommand{\LWR@HTML@musHalf}{}{\HTMLunicode{1D15E}}
113 \NewDocumentCommand{\LWR@HTML@musQuarter}{}{\HTMLunicode{1D15F}}
114 \NewDocumentCommand{\LWR@HTML@musEighth}{}{\HTMLunicode{1D160}}
115 \NewDocumentCommand{\LWR@HTML@musSixteenth}{}{\HTMLunicode{1D161}}
116 \NewDocumentCommand{\LWR@HTML@musThirtySecond}{}{\HTMLunicode{1D162}}
117 \NewDocumentCommand{\LWR@HTML@musSixtyFourth}{}{\HTMLunicode{1D163}}
118
119 \LWR@formatted{musWhole}
```

```

120 \LWR@formatted{musHalf}
121 \LWR@formatted{musQuarter}
122 \LWR@formatted{musEighth}
123 \LWR@formatted{musSixteenth}
124 \LWR@formatted{musThirtySecond}
125 \LWR@formatted{musSixtyFourth}
126
127 \NewDocumentCommand{\LWR@HTML@musWholeDotted}{}
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 296 **l warp-nameauth.sty**

§ 402 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}}% lwarp
19              }\egroup%
20      \else
21          \bgroup\MainNameHook{%
22              \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
23          }\egroup%
24      \fi
25  \else
26      \if@nameauth@FirstFormat
27          \bgroup\FrontNamesFormat{%
28              \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
29          }\egroup%
30  \else
31      \bgroup\FrontNameHook{%
32          \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
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}}% lwarp
44             }\egroup%
45     \else
46         \bgroup\MainNameHook{%
47             \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
48         }\egroup%
49     \fi
50   \else
51     \if@nameauth@FirstFormat
52         \bgroup\FrontNamesFormat{%
53             \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
54         }\egroup%
55   \else
56     \bgroup\FrontNameHook{%
57         \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
58     }\egroup%
59   \fi
60   \fi
61 \fi
62 \@nameauth@FirstFormatfalse%
63 \@nameauth@InHookfalse%
64 \fi
65 }
```

File 297 l warp-nameref.sty**§ 403 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 298 l warp-natbib.sty**§ 404 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 \ifdefstrelqual{\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 299 **lwarp-nccfancyhdr.sty**

§ 405 Package **nccfancyhdr**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg nccfancyhdr nccfancyhdr is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nccfancyhdr}[2004/12/07]

```

2 \newcommand*\headrulewidth(){}
3 \newcommand*\footrulewidth(){}
4 \newcommand*\headstrutheight(){}
5 \newcommand*\footstrutheight){}
6 \newcommand*\headrule(){}
7 \newcommand*\footrule){}
8
9 \newdimen\headwidth
10 \newcommand*\extendedheaders(){}
11 \newcommand*\normalheaders(){}
12
13 \newcommand*\fancyhead}[2][]{}
14 \newcommand*\fancyfoot}[2][]{}
15 \newcommand*\fancyhf}[2][]{}
16 \newcommand*\fancypagestyle}[2]({})
17 \newcommand*\lhead}[2][]{}
18 \newcommand*\chead}[2][]{}
19 \newcommand*\rhead}[2][]{}
20 \newcommand*\lfoot}[2][]{}
21 \newcommand*\cfoot}[2][]{}
22 \newcommand*\rfoot}[2][]{}
23
24 \newcommand{\nouppercase}[1]{#1}
25
26 \NewDocumentCommand{\fancycenter}{o o m m m}(){}
27
28 \NewDocumentCommand{\newpagestyle}{m o m}(){}
29
30 \newcommand*\iffloatpage}[2]{#2}
31 \newcommand*\ifftopfloat}[2]{#2}
32 \newcommand*\iffbotfloat}[2]{#2}

```

File 300 l warp-nccfoots.sty**§ 406 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}{1}{{}^{\mathrm{\footnotesize{#1}}}}}
4 \CustomizeMathJax{\newcommand{\Footnote}{2}{\Footnotemark{#1}}}
5 \end{warpMathJax}
```

File 301 l warp-nccmath.sty**§ 407 Package nccmath**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg nccmath nccmath is patched for use by l warp, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{nccmath}[2006/01/20]

```
2 \let\LWR@origeqnarray\eqnarray
3 \let\LWR@origendeqnarray\endeqnarray
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][]{\ceqn}}
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{\LWRnrnstar}[1][0.5ex]{\vphantom{\#1}}}
40 \CustomizeMathJax{\newcommand{\nr}{\ifstar\LWRnrnstar\LWRnrnstar}}
41
42 \CustomizeMathJax{\newcommand{\mrel}[1]{\begin{aligned}#1\end{aligned}}}
43 \CustomizeMathJax{\newcommand{\underrel}[2]{\underset{\#2}{\#1}}}
44 \CustomizeMathJax{\newcommand{\medmath}[1]{#1}}
45 \CustomizeMathJax{\newcommand{\medop}[1]{#1}}
46 \CustomizeMathJax{\newcommand{\medint}[1]{#1}}
47 \CustomizeMathJax{\newcommand{\medintcorr}[1]{#1}}
48 \CustomizeMathJax{\newcommand{\mfrac}[2]{\frac{\#1}{\#2}}}
49 \CustomizeMathJax{\newcommand{\mbinom}[2]{\binom{\#1}{\#2}}}
50 \CustomizeMathJax{\newenvironment{mmatrix}{\begin{matrix}}{\end{matrix}}}
```

51 \CustomizeMathJax{\newcommand{\displaybreak}[1]{}{}}

$\backslash eq$, $\backslash eqs$, $\backslash eqalign$ are created by L^AT_EX, not MATHJAX.

52 \end{warpMathJax}

File 302 l warp-needspace.sty

§ 408 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 303 **l warp-newpxmath.sty**

§ 409 Package **newpxmath**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg newpxmath newpxmath is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **limitations** The MATHJAX emulation ignores all package options, except slantedGreek is honored. The dedicated macros for upright and italic Greek do work correctly.

SVG math should appear the same as the printed output.

for HTML output The MATHJAX code from newtxmath is used:

```

1 \LWR@ProvidesPackagePass{newpxmath}[2020/01/09]
2
3 \LWR@infoprocessingmathjax{newpxmath}
4
5 \LWR@origRequirePackage{l warp-common-mathjax-newpxmath}
6
7 \LWR@origRequirePackage{l warp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 %   * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}{}
14 \LWR@mathjax@addgreek@l@up{up}{}
15 \LWR@mathjax@addgreek@l@up{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}

```

Optional slanted Greek:

```

18 \ifpx@slantedG
19     \LWR@mathjax@addgreek@u@it*{}{it}
20 \fi
21
22 \end{warpMathJax}

```

File 304 **l warp-newtxmath.sty**

§ 410 Package **newtxmath**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg newtxmath newtxmath is used as-is for SVG math, and is emulated for MATHJAX.

-  **limitations** The MATHJAX emulation ignores all package options, except slantedGreek is honored, and except that bold italic Latin letters are not defined for MATHJAX if the option is not selected.

The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{newtxmath}[2020/08/04]
2
3 \LWR@infoprocessingmathjax{newtxmath}
4
5 \LWR@origRequirePackage{l warp-common-mathjax-newpxmath}
6
7 \LWR@origRequirePackage{l warp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 %   * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}{}
14 \LWR@mathjax@addgreek@l@up{up}{}
15 \LWR@mathjax@addgreek@l@up{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{}{it}{}
21 \LWR@mathjax@addgreek@l@it{}{it}{}
22
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{}
25     \iftx@BI
26         \LWR@mathjax@addlatin@u@bfit{BI}
27         \LWR@mathjax@addlatin@l@bfit{BI}
28     \fi
29 }{}
```

Optional slanted Greek:

```

30 \iftx@slantedG
31     \LWR@mathjax@addgreek@u@it*{}{it}{}
32 \fi
33
34 \end{warpMathJax}
```

File 305 l warp-newtxsf.sty

§ 411 Package **newtxsf**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg newtxsf newtxsf is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **limitations** The MATHJAX emulation ignores all package options, except slantedGreek is honored. The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

for HTML output:

```
1 \LWR@ProvidesPackagePass{newtxsf}[2020/05/02]
2
3 \LWR@infoprocessingmathjax{newtxsf}
4
5 \LWR@origRequirePackage{l warp-common-mathjax-newpxmath}
6
7 \LWR@origRequirePackage{l warp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 %   * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}{}
14 \LWR@mathjax@addgreek@l@up{up}{}
15 \LWR@mathjax@addgreek@l@up*{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it*{}{it}
18
19 % only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{}{it}{}
21 \LWR@mathjax@addgreek@l@it*{}{it}{}
22 %
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{%
25   \iftx@BI
26     \LWR@mathjax@addlatin@u@bfit{BI}
27     \LWR@mathjax@addlatin@l@bfit{BI}
28   \fi
29 }{}
```

Optional slanted Greek:

```
30 \iftx@slantedG
31   \LWR@mathjax@addgreek@u@it*{}{it}{}
32 \fi
33
34 \end{warpMathJax}
```

File 306 **l warp-nextpage.sty**

§ 412 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 307 **lwarf-nfssext-cfr.sty**

§ 413 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{texttri}
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 308 **lwarf-nicefrac.sty**

§ 414 Package **nicefrac**

(Emulates or patches code by AXEL REICHERT.)

Pkg nicefrac nicefrac is patched for use by l warp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{nicefrac}[1998/08/04]

2 \DeclareRobustCommand*\LWR@HTML@@UnitsNiceFrac[3][]{%
3   %% localize font selection
4   #1{%
5     \LWR@textcurrentfont{%
6       \InlineClass{numerator}{#2}%
7       /%
8       \InlineClass{denominator}{#3}%
9     }%
10    }%
11  }%
12 }%
13
14 \LWR@formatted{@UnitsNiceFrac}
15
16 \DeclareRobustCommand*\LWR@HTML@@UnitsUglyFrac[3][]{%
17   %% localize font selection
18   #1{\LWR@textcurrentfont{#2/#3}}%
19 }%
20 }
21
22 \LWR@formatted{@UnitsUglyFrac}

```

For Mathjax:

```

23 \begin{warpMathJax}
24 \CustomizeMathJax{\newcommand{\nicefrac}[3][]{\mathinner{{}^{\kern-1.6pt{#2}}\!\kern-.1em/\kern-.1em{}_{\kern-1.6pt{#3}}}}}
25 \end{warpMathJax}

```

File 309 l warp-niceframe.sty

§ 415 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 310 **lwarp-noitcrl.sty**

§ 416 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 311 **lwarp-nolbreaks.sty**

§ 417 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 312 **lwarp-nomencl.sty**

§ 418 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 313 **l warp-nonfloat.sty**

§ 419 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 314 **l warp-nonumonpart.sty**

§ 420 Package **nonumonpart**

Pkg nonumonpart nonumonpart is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nonumonpart}[2011/04/15]

File 315 **l warp-nopageno.sty**

§ 421 Package **nopageno**

Pkg nopageno nopageno is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nopageno}[1989/01/01]

File 316 l warp-notes.sty**§ 422 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 %
12 \LWR@notes@onenote{importantnote}{!}%
13 %
14 \LWR@notes@onenote{warningnote}{--}%
15 %
16 \LWR@notes@onenote{informationnote}{i}
```

File 317 l warp-notespages.sty**§ 423 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 318 l warp-nowidow.sty**§ 424 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 319 l warp-ntheorem.sty**§ 425 Package ntheorem**

(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)

Pkg ntheorem ntheorem is patched for use by l warp.

Table 18: Ntheorem package — css styling of theorems and proofs

Theorem: <div> of class theorembody<theoremstyle>

Theorem Header: of class theoremheader<style>

where <theoremstyle> is plain, break, etc.

§ 425.1 Limitations

- ⚠ **Font control** This conversion is not total. Font control is via css, and the custom L^AT_EX 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`.¹⁹ 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.

§ 425.2 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 }
```

¹⁹ `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]

```

§ 425.3 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]#3{%
159   \@ifundefined{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 }

```

§ 425.4 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 }

```

§ 425.5 \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 }

```

§ 425.6 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}

§ 425.7 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
```

§ 425.8 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

```

§ 425.9 **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
```

§ 425.10 Ending a theorem

Patched for css:

```

446 \let\LWR@origendtheorem@\endtheorem
447 \renewcommand{\endtheorem}{%
448 \ifbool{\LWR@ntheoremarks}{%
449   \ifsetendmark{%
450     \InLineClass{theoremendmark}{\csname\InTheoType Symbol\endcsname}{%
451       \setendmarkfalse{%
452         \fi{%
453       }}}{%
454 \LWR@origendtheorem% also does \endtrivlist
455 \ifbool{\LWR@ntheoremarks}{\global\setendmarktrue}{%
456 \endBlockClass{%
457 }

```

§ 425.11 \NoEndMark

```
458 \gdef\NoEndMark{\global\setendmarkfalse}
```

§ 425.12 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 `lwarf`:

```
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 }

```

§ 425.13 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

```

§ 425.14 Cross-referencing

```
\thref {\langle label \rangle}

494 \newcommand*{\thref}[1]{\cref{#1}}%
```

File 320 **l warp-octave.sty**

§ 426 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 321 **l warp-overpic.sty**

§ 427 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 322 **l warp-pagegrid.sty**

§ 428 Package **pagegrid**

Pkg `pagegrid` `pagegrid` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pagegrid}[2016/05/16]

```
2 \newcommand*{\pagegridsetup}[1]{}
```

File 323 **l warp-pagenote.sty**

§ 429 Package **pagenote**

Pkg `pagenote` `pagenote` works as-is, but the `page` option is disabled.

 **labels** Note that labels in page notes do not appear as expected, even in the print version.

for HTML output: 1 \DeclareOption{page}{}
2 \LWR@ProvidesPackagePass{pagenote}[2009/09/03]

For MATHJAX:

```
3 \begin{warpMathJax}
4 \appto\LWR@syncnotenumbers{\LWR@synconenotenumber{\LWRpagenote}{\thepagenote}}
5 \CustomizeMathJax{\def\LWRpagenote{1}}
6 \CustomizeMathJax{\newcommand{\pagenote}[2][\LWRpagenote]{{}^{\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 324 **l warp-pagesel.sty**

§ 430 Package **pagesel**

Pkg pagesel pagesel is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pagesel}[2016/05/16]

File 325 **l warp-paralist.sty**

§ 431 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 326 l warp-parallel.sty

§ 432 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.

for **HTML output**: Discard all options for **l warp-parallel**:

```
1 \LWR@ProvidesPackageDrop{parallel}[2003/04/13]

2 \newcounter{\LWR@parallel@Lwidth}
3 \newcounter{\LWR@parallel@Rwidth}
4 \newcommand*\{\LWR@parallel@border\}
5
6 \newenvironment*{Parallel}[3][]{%
7   {%
8     \LWR@printpendingfootnotes%
9     \setlength{\linewidth}{\LWR@userstextwidth}%
10    \setlength{\textwidth}{\LWR@userstextwidth}%
11    \renewcommand*\{\LWR@parallel@border\}{}%
12    \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      {} #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             }% {x}{}
42             {% {x}{x}
43                 \setcounter{LWR@parallel@Lwidth}{%
44                     90*\ratio{#2}{\linewidth}%
45                 }%
46                 \setcounter{LWR@parallel@Rwidth}{%
47                     90*\ratio{#3}{\linewidth}%
48                 }%
49                 }% {x}{x}
50             }% #2 non-blank
51         }
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 327 **lwarp-parcolumns.sty**

§ 433 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     }%
85     \setcounter{LWR@parcolumns@thiscol}{1}%
85 }

```

File 328 **lwarf-parnotes.sty**

§ 434 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            \l warp
12            [parnotemark][\arabic{parnotemark}][]\theparnotemark%
13        }%
14    }%
15    \g@addto@macro\PN@text{%
16        \LWR@textcurrentfont{%
17            \l warp
18            \parnotemark{#1}\nolinebreak\thinspace#2%
19        }%
20    }%
21 \def\PN@parnotes@real{%
22     % We call \par later, so this avoids recursion with \PN@parnotes@auto
23     \PN@inparnotestrue
24     \unless\ifvmode\par\fi
25     % Avoid page breaks between a paragraph and its parnotes
26     \nopagebreak\addvspace{\parnotevskip}%
27     \LWR@forcenewpage{%
28         \begin{BlockClass}{footnotes}{\l warp
29             {\parnotefmt{\PN@text}\par}%
30         \end{BlockClass}{\l warp
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 329 **l warp-parskip.sty**

§ 435 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 330 **l warp-pbox.sty**

§ 436 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 \setminwidth{#2}{#3}%
9 }%
10 %
11 \newcommand{\widthofpbox}[1]{%
12 \widthof{#1}%
13 }
```

File 331 **l warp-pdfcol.sty**

§ 437 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 332 **l warp-pdfcolfoot.sty**

§ 438 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 333 **l warp-pdfcolmk.sty**

§ 439 Package **pdfcolmk**

Pkg pdfcolmk pdfcolmk is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcolmk}[2016/05/16]

File 334 **l warp-pdfcolparallel.sty**

§ 440 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 335 **l warp-pdfcolparcolumns.sty**

§ 441 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 336 **l warp-pdfcomment.sty**

§ 442 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 337 **lwarf-pdfcrypt.sty**

§ 443 Package **pdfcrypt**

Pkg pdfcrypt pdfcrypt is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcrypt}[2016/05/16]

```
2 \newcommand*{\pdfcryptsetup}[1]{}{}
```

File 338 **lwarf-pdflandscape.sty**

§ 444 Package **pdflandscape**

Pkg pdflandscape pdflandscape is ignored.

for HTML output: Discard all options for lwarf-pdflandscape:

```
1 \LWR@ProvidesPackageDrop{pdflandscape}[2016/05/14]
```

File 339 **l warp-pdfmarginpar.sty**

§ 445 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 340 **l warp-pdfpages.sty**

§ 446 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 341 lwarf-pdfprivacy.sty

§ 447 Package **pdfprivacy**

Pkg pdfprivacy pdfprivacy is ignored.

for HTML output 1 \LWR@ProvidesPackageDrop{pdfprivacy}[2017/12/03]

File 342 **l warp-pdfrender.sty**

§ 448 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 343 **l warp-pdfsync.sty**

§ 449 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 344 **l warp-pdftricks.sty**

§ 450 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 345 **l warp-pd_fx.sty**

§ 451 Package **pd_fx**

Pkg pd_fx pd_fx is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pd_fx}[2017/05/18]

File 346 **l warp-perpage.sty**

§ 452 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 %
20 \AddAbsoluteCounter{page}
21 \def\theabspage{1}
22 %
23 \newcommand*\MakePerPage[2][1]{%
24     \ifltxcounter{#2Reset}{%
25         \setcounter{#2Reset}{#1}%
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 347 **lwarf-pfnote.sty**

§ 453 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 348 **l warp-phfqit.sty**

§ 454 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 349 **l warp-physics.sty**

§ 455 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 350 **l warp-physunits.sty**

§ 456 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 351 lwarf-pifont.sty

§ 457 Package **pifont**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg pifont pifont is patched for use by lwarf.

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 352 **l warp-placeins.sty**

§ 458 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 353 **l warp-plarydshln.sty**

§ 459 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 354 **l warp-plex.sty**

§ 460 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 355 **lwarp-plexarydshln.sty**

§ 461 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 356 **l warp-plextcolortbl.sty**

§ 462 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 357 **l warp-prelim2e.sty**

§ 463 Package **prelim2e**

(Emulates or patches code by MARTIN SCHRÖDER.)

Pkg prelim2e prelim2e is ignored.

for HTML output: Discard all options for l warp-prelim2e:

1 \LWR@ProvidesPackageDrop{prelim2e}[2009/05/29]
2 \newcommand{\PrelimText}{}
3 \newcommand{\PrelimTextStyle}{}
4 \newcommand{\PrelimWords}{}

File 358 **l warp-prettyref.sty**

§ 464 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 \newrefformat{fig}{Figure \ref{#1}}
3 \newrefformat{tab}{Table \ref{#1}}

File 359 **l warp-preview.sty**

§ 465 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 360 l warp-psfrag.sty

§ 466 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 361 l warp-psfragx.sty

§ 467 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 362 **l warp-pst-eps.sty**

§ 468 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 363 **l warp-pstool.sty**

§ 469 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 `\teximage` to capture the results of `psfrag`.

```
2 \renewcommand{\pstool@alwaysprocess}[3][]{%
3   \begin{teximage}[-pstool-\~\PackageDiagramAltText]{%
4     \includegraphics{#2.pdf}}%
5   \end{teximage}%
6 }
7 \LetLtxMacro{\pstool@neverprocess}{\pstool@alwaysprocess}
8 \LetLtxMacro{\pstool@maybeprocess}{\pstool@alwaysprocess}
9
10 \renewcommand{\pstool@@psfragfig}[4]{%
11   \begin{teximage}[-pstool-\~\PackageDiagramAltText]{%
12     \includegraphics{#2.pdf}}%
13   \end{teximage}%
14 }
```

File 364 **l warp-pstricks.sty**

§ 470 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{teximage}[pspicture]{%
4   }%
5 \AfterEndEnvironment{pspicture}{\end{teximage}}}
```

File 365 **l warp-pxatbegshi.sty**

§ 471 Package **pxatbegshi**

Pkg **pxatbegshi** `pxatbegshi` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxatbegshi}[2017/11/04]

```
2 \LWR@origRequirePackage{l warp-atbegshi}
```

File 366 **l warp-pxeveryshi.sty**

§ 472 Package **pxeveryshi**

Pkg **pxeveryshi** `pxeveryshi` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxeveryshi}[2012/05/19]
2 \LWR@origRequirePackage{l warp-everyshi}

File 367 **l warp-pxfonts.sty**

§ 473 Package **pxfonts**

(Emulates or patches code by YOUNG RYU.)

Pkg pxfonts pxfonts is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{pxfonts}[2008/01/22]

For MATHJAX:

```
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{pxfonts}
6
7 \LWR@mathjax@addgreek@l@up{}{up}
8 \end{warpMathJax}
```

File 368 **l warp-pxftnright.sty**

§ 474 Package **pxftnright**

Pkg pxftnright pxftnright is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxftnright}[2017/02/28]
2 \LWR@origRequirePackage{l warp-ftnright}

File 369 **l warp-pxjahyper.sty**

§ 475 Package **pxjahyper**

Pkg pxjahyper pxjahyper is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxjahyper}[2018/07/15]

File 370 **l warp-quotchap.sty**

§ 476 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 371 **l warp-quoting.sty**

§ 477 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 372 **l warp-ragged2e.sty**

§ 478 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 373 **lwarp-realscripts.sty**

§ 479 Package **realscripts**

(Emulates or patches code by WILL ROBERTSON.)

Pkg **realscripts** **realscripts** is emulated. See **lwarp.css** for the of class **supsubscript**.

for HTML output: 1 \LWR@ProvidesPackagePass{realscripts}[2016/02/13]

The following are copied verbatim from the original, but given new names, since **xparse** definitions should not be **\let**.

```

2 \ExplSyntaxOn
3
4 \DeclareDocumentCommand \LWR@print@realsubscript {m} {
5   \fontspec_if_fontspec_font:TF {
6     \fontspec_if_opentype:TF
7     { \fontspec_if_feature:nTF {+subs}
8       { {\addfontfeature{VerticalPosition=Inferior}\#1} }
9       { \fontspec_if_feature:nTF {+sinf}
10         { {\addfontfeature{VerticalPosition=ScientificInferior}\#1} }
11         { \fakesubscript{\#1} }
12       }
13     }
14     { \fontspec_if_aat_feature:nnTF {10} {2}
15       { {\addfontfeature{VerticalPosition=Inferior}\#1} }
16       { \fakesubscript{\#1} }
17     }
18   }
19   { \fakesubscript{\#1} }
20 }
21
22 \DeclareDocumentCommand \LWR@HTML@realsubscript {m} {
23   \LWR@HTML@textsubscript{\#1}

```

```
24 }
25
26 \LWR@formatted{realsubscript}
27
28
29 \DeclareDocumentCommand \LWR@print@realsuperscript {m} {
30   \fontspec_if_fontspec_font:TF
31   {
32     \fontspec_if_opentype:TF
33     { \fontspec_if_feature:nTF {+sups}
34       { {\addfontfeature{VerticalPosition=Superior}\#1} }
35       { \fakesuperscript{\#1} }
36     }
37     { \fontspec_if_aat_feature:nnTF {10} {1}
38       { {\addfontfeature{VerticalPosition=Superior}\#1} }
39       { \fakesuperscript{\#1} }
40     }
41   }
42   { \fakesuperscript{\#1} }
43 }
44
45 \DeclareDocumentCommand \LWR@HTML@realsuperscript {m} {
46   \LWR@HTML@textsuperscript{\#1}
47 }
48
49 \LWR@formatted{realsuperscript}
50
51
52 \DeclareDocumentCommand \LWR@print@textsubsuperscript {s O{l} mm} {
53   \leavevmode
54   \group_begin:
55   \IfBooleanTF #1
56   {
57     \hbox_set:Nn \l_tmpa_box {\textsubscript*{\#3}}
58     \hbox_set:Nn \l_tmpb_box {\textsuperscript*{\#4}}
59   }
56   {
57     \hbox_set:Nn \l_tmpa_box {\textsubscript{\#3}}
58     \hbox_set:Nn \l_tmpb_box {\textsuperscript{\#4}}
59   }
60   \hbox_set:Nn \l_tmpa_box
61   { \box_move_down:nn \subsupersep {\box_use:N \l_tmpa_box} }
62   \hbox_set:Nn \l_tmpb_box
63   { \box_move_up:nn \subsupersep {\box_use:N \l_tmpb_box} }
64   \str_case:nnF {\#2}
65   {
66     {l}{\use_i:nnn}
67     {c}{\use_ii:nnn}
68     {r}{\use_iii:nnn}
69   }
70   {
71     {l}{\use_i:nnn}
72     {c}{\use_ii:nnn}
73     {r}{\use_iii:nnn}
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 374 l warp-refcheck.sty

§ 480 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 375 l warp-register.sty

§ 481 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 376 **l warp-relsize.sty**

§ 482 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 377 **l warp-repeatingindex.sty**

§ 483 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 378 **l warp-resizegather.sty**

§ 484 Package **resizegather**

Pkg **resizegather** **resizegather** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{resizegather}[2016/05/16]
2 \newcommand*\{\resizegathersetup}{1}{}

File 379 **l warp-returntogrid.sty**

§ 485 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 380 **l warp-rmathbr.sty**

§ 486 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 381 **l warp-rmpage.sty**

§ 487 Package **rmpage**

Pkg **rmpage** **rmpage** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{rmpage}[1997/09/29]

File 382 **l warp-romanbar.sty**

§ 488 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 383 **l warp-romanbarpagenumber.sty**

§ 489 Package **romanbarpagenumber**

Pkg romanbarpagenumber romanbarpagenumber is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{romanbarpagenumber}[2015/02/06]

File 384 **l warp-rotating.sty**

§ 490 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 385 **l warp-rotfloat.sty**

§ 491 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 386 **l warp-rviewport.sty**

§ 492 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 387 **l warp-savetrees.sty**

§ 493 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 388 **l warp-scalefnt.sty**

§ 494 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 389 **l warp-scalerel.sty**

§ 495 Package **scalerel**

(Emulates or patches code by STEVEN B. SEGETES.)

Pkg scalerel scalerel is used as-is for SVG math, and is emulated and ignored for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{scalerel}[2016/12/29]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{scalerel}
4
5 \CustomizeMathJax{\newcommand{\scalerel}{\ifstar{\scalerelplain}{\scalerelplus}}}
6 \CustomizeMathJax{\newcommand{\scalerelplain}[3][]{\#2}}
7 \CustomizeMathJax{\newcommand{\scalerelplus}[3][]{\#2#3}}
8 \CustomizeMathJax{\newcommand{\stretchrel}{\ifstar{\stretchrelplain}{\stretchrelplus}}}
9 \CustomizeMathJax{\newcommand{\stretchrelplain}[3][]{\#2}}
10 \CustomizeMathJax{\newcommand{\stretchrelplus}[3][]{\#2#3}}
11 \CustomizeMathJax{\newcommand{\scaleto}[3][]{\#2}}
12 \CustomizeMathJax{\newcommand{\stretchto}[3][]{\#2}}
13 \CustomizeMathJax{\newcommand{\scaleleftright}[4][]{\#2#3#4}}
14 \CustomizeMathJax{\newcommand{\stretchleftright}[4][]{\#2#3#4}}
15 \CustomizeMathJax{\newcommand{\hstretch}[2]{\#2}}
16 \CustomizeMathJax{\newcommand{\vstretch}[2]{\#2}}
17 \CustomizeMathJax{\newcommand{\scaleobj}[2]{\#2}}
18 \CustomizeMathJax{\newcommand{\ThisStyle}[1]{\#1}}
19 \CustomizeMathJax{\newcommand{\SavedStyle}{}}
20 \CustomizeMathJax{\def\scriptstyleScaleFactor{.7}}
21 \CustomizeMathJax{\def\scriptscriptstyleScaleFactor{.5}}
22 \CustomizeMathJax{\newcommand{\discernmathstyle}{}}
23 \CustomizeMathJax{\newcommand{\ignoremathstyle}[1][T]{}}
24 \CustomizeMathJax{\newcommand{\Isnextbyte}[3][v]{}}
25 \end{warpMathJax}
```

File 390 **lwarf-schemata.sty**

§ 496 Package **schemata**

(Emulates or patches code by CHARLES P. SCHAUM.)

Pkg **schemata** **schemata** is patched for use by **lwarf**.

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 391 **l warp-scrextend.sty**

§ 497 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@stopars%
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*\{\\cr\}{\cr}%
47   \renewcommand*\{\\noalign\}{\cr}%

48   \renewcommand{\and}{%
49     \end{BlockClass}%
50     \begin{BlockClass}{oneauthor}%
51   }%
52     \begin{BlockClass}{oneauthor}%
53       \@author%
54     \end{BlockClass}%
55   \end{BlockClass}%
56   \begin{BlockClass}{titledate}%
57     \date%
58   \end{BlockClass}%
59   \ifdefvoid{\@published}{\%
60     \begin{BlockClass}{published}%
61     \@published%
62     \end{BlockClass}%
63   }%
64 }
65
66 \AddSubtitlePublished
67
68 \DeclareDocumentCommand{\extratitle}{m}{}
69 \DeclareDocumentCommand{\frontispiece}{m}{}
70
71 \def\@titlehead{}%
72 \DeclareDocumentCommand{\titlehead}{m}{\gdef\@titlehead{\#1}}%
73
74 \def\@subject{}%
75 \DeclareDocumentCommand{\subject}{m}{\gdef\@subject{\#1}}%
76
77 % \subtitle and \published are defined by \AddSubtitlePublished
78
79 \DeclareDocumentCommand{\publishers}{m}{\published{\#1}}
80
81 \DeclareDocumentCommand{\uppertitleback}{m}{}
82 \DeclareDocumentCommand{\lowertitleback}{m}{}
83 \DeclareDocumentCommand{\dedication}{m}{}
84
85 \DeclareDocumentCommand{\ifthispageodd}{m m}{\#1}
86
87 \DeclareDocumentCommand{\cleardoublepageusingstyle}{m}{}
88 \DeclareDocumentCommand{\cleardoubleemptypage}{}{%
89 \DeclareDocumentCommand{\cleardoubleplainpage}{}{}}
```

```
90 \DeclareDocumentCommand{\cleardoublestandardpage}{}{}{}
91 \DeclareDocumentCommand{\cleardoubleoddpage}{}{}{}
92 \DeclareDocumentCommand{\cleardoubleoddpageusingstyle}{m}{}{}
93 \DeclareDocumentCommand{\cleardoubleoddemptypage}{}{}{}
94 \DeclareDocumentCommand{\cleardoubleoddplainpage}{}{}{}
95 \DeclareDocumentCommand{\cleardoubleoddstandardpage}{}{}{}
96 \DeclareDocumentCommand{\cleardoubleevenpage}{}{}{}
97 \DeclareDocumentCommand{\cleardoubleevenpageusingstyle}{m}{}{}
98 \DeclareDocumentCommand{\cleardoubleevenemptypage}{}{}{}
99 \DeclareDocumentCommand{\cleardoubleevenplainpage}{}{}{}
100 \DeclareDocumentCommand{\cleardoubleevenstandardpage}{}{}{}
101
102 \DeclareDocumentCommand{\multiplefootnoteseparator}{}{}{%
103   \begingroup\let\thefootnotemark\multfootsep\@makefnmark\endgroup
104 }
105
106 \DeclareDocumentCommand{\multfootsep}{}{,}{}
107
108 \DeclareDocumentCommand{\footref}{m}{%
109   \begingroup
110     \unrestored@protected@xdef\@thefnmark{\ref{\#1}}%
111   \endgroup
112   \@footnotemark
113 }
114
115 \DeclareDocumentCommand{\deffootnote}{o m m m}{}
116 \DeclareDocumentCommand{\deffootnotemark}{m}{}
117 \DeclareDocumentCommand{\setfootnoterule}{o m}{}
118 \DeclareDocumentCommand{\raggedfootnote}{}{}{}

119 \DeclareDocumentCommand{\dictum}{o m}{%
120   \begin{LWR@BlockClassWP}{\LWR@print@mbox{text-align:right}}{}{dictum}
121     #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         }{%
132       }{%
133     }{%
134   \DeclareDocumentCommand{\dictumwidth}{}{}{%
135   \DeclareDocumentCommand{\dictumauthorformat}{m}{(\#1)}{%
136   \DeclareDocumentCommand{\dictumrule}{}{}{%
137   \DeclareDocumentCommand{\raggeddictum}{}{}{%
138   \DeclareDocumentCommand{\raggeddictumtext}{}{}{%
139   \DeclareDocumentCommand{\raggeddictumauthor}{}{}{%
140
141 \DeclareDocumentEnvironment{labeling}{o m}{%
142 {%
143 \def\sc@septext{\#1}%

```

```

144 \list{}{}%
145 \let\makelabel\labelinglabel%
146 }
147 {
148 \endlist
149 }
150
151 \DeclareDocumentCommand{\labelinglabel}{m}{%
152 #1 \qquad \sc@septext%
153 }
154
155 \let\addmargin\relax
156 \let\endaddmargin\relax
157 \cslet{addmargin*}{\relax}
158 \cslet{endaddmargin*}{\relax}

159 \NewDocumentEnvironment{addmargin}{s O{} m}
160 {
161 \LWR@stoppars%
162 \setlength{\LWR@templengthtwo}{#3}
163 \ifblank{#2}
164 {
165   \begin{BlockClass}[
166     \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthtwo}} ;
167     \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
168   ]{addmargin}
169 }
170 {
171   \setlength{\LWR@templengthone}{#2}
172   \begin{BlockClass}[
173     \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ;
174     \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
175   ]{addmargin}
176 }
177 }
178 {\end{BlockClass}\LWR@startpars}

```

Ref to create a starred environment:

<https://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>

```

179
180 \ExplSyntaxOn
181 \cs_new:cpn {addmargin*} {\addmargin*}
182 \cs_new_eq:cN {endaddmargin*} \endaddmargin
183 \ExplSyntaxOff
184
185 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}

```

File 392 **lwarf-scrhack.sty**

§ 498 Package **scrhack**

Pkg scrhack scrhack is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{scrhack}[2018/03/30]

File 393 **lwarp-scrlayer.sty**

§ 499 Package **scrlayer**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrlayer scrlayer is emulated.

 Not fully tested! Please send bug reports!

for HTML output: 1 \LWR@ProvidesPackageDrop{scrlayer}[2018/03/30]

```
2 \newcommand*{\DeclareSectionNumberDepth}[2]{}
3 \newcommand*{\DeclareLayer}[2][]{}
4 \newcommand*{\DeclareNewLayer}[2][]{}
5 \newcommand*{\ProvideLayer}[2][]{}
6 \newcommand*{\RedeclareLayer}[2][]{}
7 \newcommand*{\ModifyLayer}[2][]{}
8 \newcommand*{\layerhalign}{}{}
9 \newcommand*{\layervalign}{}{}
10 \newcommand*{\layerxoffset}{}{}
11 \newcommand*{\layeryoffset}{}{}
12 \newcommand*{\layerwidth}{}{}
13 \newcommand*{\layerheight}{}{}
14 \providecommand*{\LenToUnit}[1]{\strip@pt\dimexpr#1*\p@\/\unitlength}
15 \newcommand*{\putUL}[1]{}{}
16 \newcommand*{\putUR}[1]{}{}
17 \newcommand*{\putLL}[1]{}{}
18 \newcommand*{\putLR}[1]{}{}
19 \newcommand*{\putC}[1]{}{}
20 \newcommand*{\GetLayerContents}[1]{}{}
21 \newcommand{\IfLayerExists}[3]{#3}
22 \newcommand*{\DestroyLayer}[1]{}{}
23 \newcommand*{\layercontentsmeasure}{}{}
24 \newcommand*{\currentpagestyle}{}{}
25 \newcommand*{\BeforeSelectAnyPageStyle}[1]{}{}
26 \newcommand*{\AfterSelectAnyPageStyle}[1]{}{}
27 \newcommand*{\DeclarePageStyleAlias}[2]{}{}
28 \newcommand*{\DeclareNewPageStyleAlias}[2]{}{}
29 \newcommand*{\ProvidePageStyleAlias}[2]{}{}
```

```

30 \newcommand*{\RedeclarePageStyleAlias}[2]{}
31 \newcommand*{\DestroyPageStyleAlias}[1]{}
32 \newcommand*{\GetRealPageStyle}[1]{}
33 \newcommand*{\DeclarePageStyleByLayers}[3][]{}
34 \newcommand*{\DeclareNewPageStyleByLayers}[3][]{}
35 \newcommand*{\ProvidePageStyleByLayers}[3][]{}
36 \newcommand*{\RedeclarePageStyleByLayers}[3][]{}
37 \NewDocumentCommand{\ForEachLayerOfPageStyle}{s m m}){}
38 \newcommand*{\AddLayersToPageStyle}[2]{}
39 \newcommand*{\AddLayersAtBeginOfPageStyle}[2]{}
40 \newcommand*{\AddLayersAtEndOfPageStyle}[2]{}
41 \newcommand*{\RemoveLayersFromPageStyle}[2]{}
42 \newcommand*{\AddLayersToPageStyleBeforeLayer}[3]{}
43 \newcommand*{\AddLayersToPageStyleAfterLayer}[3]{}
44 \newcommand*{\UnifyLayersAtPageStyle}[1]{}
45 \newcommand*{\ModifyLayerPageStyleOptions}[2]{}
46 \newcommand*{\AddToLayerPageStyleOptions}[2]{}
47 \newcommand{\IfLayerPageStyleExists}[3]{#3}
48 \newcommand{\IfRealLayerPageStyleExists}[3]{#3}
49 \newcommand{\IfLayerAtPageStyle}[4]{#4}
50 \newcommand{\IfSomeLayerAtPageStyle}[4]{#4}
51 \newcommand{\IfLayersAtPageStyle}[4]{#4}
52 \newcommand*{\DestroyRealLayerPageStyle}[1]{}
53 @ifundefined{fooheight}{\newlength\fooheight}{}
54 \DeclareDocumentCommand{\automark}{s o m} {}
55 \DeclareDocumentCommand{\manualmark}{}{ }
56 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

57 \newcommand{\partmarkformat}(){}
58 \if@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 394 **l warp-scrlayer-notecolumn.sty**

§ 500 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{\makenote}{s o m}{\marginpar{\#3}}
7 \newcommand*\{\syncwithnotecolumn}{1}[]{}
8 \newcommand*\{\syncwithnotecolumns}{1}[]{}
9 \newcommand*\{\clearnotecolumn}{1}[]{}
10 \newcommand*\{\clearnotecolumns}{1}[]{}

---


```

File 395 l warp-scrlayer-scrpage.sty

§ 501 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{\cefoot}{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 396 **lwarf-scrpage2.sty**

§ 502 Package **scrpage2**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrpage2 **scrpage2** is ignored.

⚠ Not fully tested! Please send bug reports!

for HTML output: 1 \LWR@ProvidesPackageDrop{scrpage2}[2018/03/30]

```

2 \@ifundefined{fooheight}{\newlength\fooheight}{}  

3 \NewDocumentCommand{\lehead}{o m}{}  

4 \NewDocumentCommand{\cehead}{o m}{}  

5 \NewDocumentCommand{\rehead}{o m}{}  

6 \NewDocumentCommand{\lohead}{o m}{}  

7 \NewDocumentCommand{\cohead}{o m}{}  

8 \NewDocumentCommand{\rohead}{o m}{}  

9 \NewDocumentCommand{\lefoot}{o m}{}  

10 \NewDocumentCommand{\cefoot}{o m}{}  

11 \NewDocumentCommand{\refoot}{o m}{}  

12 \NewDocumentCommand{\lofoot}{o m}{}  

13 \NewDocumentCommand{\cofoot}{o m}{}  

14 \NewDocumentCommand{\rofoot}{o m}{}  

15 \NewDocumentCommand{\ohead}{o m}{}  

16 \NewDocumentCommand{\chead}{o m}{}  

17 \NewDocumentCommand{\ihead}{o m}{}  

18 \NewDocumentCommand{\ofoot}{o m}{}  

19 \NewDocumentCommand{\cfoot}{o m}{}  

20 \NewDocumentCommand{\ifoot}{o m}{}  

21 \DeclareDocumentCommand{\automark}{o m}{}  

22 \DeclareDocumentCommand{\manualmark}{}{}  

23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}  

24 \NewDocumentCommand{\deftripstyle}{m o o m m m m m}{}  

25 \NewDocumentCommand{\defpagestyle}{s m m m}{}  

26 \NewDocumentCommand{\newpagestyle}{s m m m}{}  


```

```
27 \NewDocumentCommand{\renewpagestyle}{s m m m}{}  
28 \NewDocumentCommand{\providepagestyle}{s m m m}{}  
29 \newcommand{\partmarkformat}{}  
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 397 l warp-section.sty**§ 503 Package section**

Pkg section section is ignored.

(Emulates or patches code by OLIVER PRETZEL.)

for HTML output: 1 \LWR@ProvidesPackageDrop{section}

```
2 \ifx\chapter\undefined  
3 \def\chsize{\Large}\def\hdsizes{\huge}\else  
4 \def\chsize{\huge}\def\hdsizes{\Huge}  
5 \fi  
6 \let\ttsize\LARGE  
7 \let\ausize\large  
8 \let\dasize\large  
9 \let\secsize\Large  
10 \let\subsize\large  
11 \let\hdpos\raggedright  
12 \newcounter{hddepth}  
13 \let\fpind\relax  
14 \def\ttfnt{}  
15 \def\hdfnt{}  
16 \def\fefnt{}  
17 \def\thfnt{}  
18 \def\pgfnt{}  
19 \def\hmkfnt{}  
20 \let\mkcse\uppercase  
21 \def\hddot{}  
22 \def\cpdot{:}  
23 \def\nmdot{}  
24 \ifx\secindent\undefined  
25 \newdimen\secindent  
26 \newskip\secpreskp  
27 \newskip\secpstskp  
28 \newdimen\subindent
```

```
29 \newskip\subpreskp
30 \newskip\subpstskp
31 \newskip\parpstskp
32 \newcount\c@hddepth
33 \fi
```

File 398 **l warp-sectionbreak.sty**

§ 504 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 399 **l warp-sectsty.sty**

§ 505 Package **sectsty**

(Emulates or patches code by ROWLAND McDONNELL.)

Pkg sectsty sectsty is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{sectsty}[2002/02/25]

```
2 \newcommand*\partfont{} [1] {}
3 \newcommand*\partnumberfont{} [1] {}
4 \newcommand*\parttitlefont{} [1] {}
5 \newcommand*\chapterfont{} [1] {}
6 \newcommand*\chaptnumberfont{} [1] {}
7 \newcommand*\chapttitlefont{} [1] {}
8 \newcommand*\sectionfont{} [1] {}
9 \newcommand*\subsectionfont{} [1] {}
10 \newcommand*\subsubsectionfont{} [1] {}
11 \newcommand*\paragraphfont{} [1] {}
12 \newcommand*\ subparagraphfont{} [1] {}
13 \newcommand*\minisecfont{} [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 400 **l warp-semantic-markup.sty**

§ 506 Package **semantic-markup**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg semantic-markup semantic-markup is patched for use by l warp.

 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 401 **l warp-setspace.sty**

§ 507 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*{\singespacing}{}
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 402 l warp-shadethm.sty**§ 508 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 403 l warp-shadow.sty**§ 509 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 404 l warp-shapepar.sty**§ 510 Package shapepar**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg shapepar shapepar is patched for use by l warp. Shapes appear in print mode, as well as inside a lateximage, but are ignored for HTML.

for HTML output: 1 \LWR@ProvidesPackagePass{shapepar}[2013/03/26]

```
2 \newcommand*{\LWR@HTML@shapepar}[2][]{}
3 \LWR@formatted{shapepar}
4
5 \NewDocumentCommand{\LWR@HTML@cutout}{m d()}{}
6 \LWR@formatted{cutout}
```

File 405 l warp-showidx.sty**§ 511 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 406 l warp-showkeys.sty**§ 512 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 407 **l warp-showtags.sty**

§ 513 Package **showtags**

Pkg showtags showtags is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{showtags}%
  no version is given

2 \newcommand{\thecitetag}[1]{}
```

File 408 **l warp-shuffle.sty**

§ 514 Package **shuffle**

(Emulates or patches code by JULIAN GILBEY AND ANTOINE LEJAY.)

Pkg shuffle shuffle is emulated for SVG math, and also emulated for MATHJAX.

The font used for shuffle may not render correctly when converted to SVG math, so a picture environment drawing is used instead.

For MATHJAX, the Unicode character is used, and for \cshuffle a \bar is added.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{shuffle}[2008/10/27]
 2 \LWR@origRequirePackage{l warp-common-mathjax-overlaysymbols}

3 \newcommand*{\LWR@shuffle@start}{%
 4   \hspace*{.2em}
 5   \begin{picture}(.75,0.65)
 6   \setlength{\unitlength}{1em}
 7   \put(0,0){\line(1,0){.75}}
 8   \put(0,0){\line(0,1){.5}}
 9   \put(.375,0){\line(0,1){.5}}
10   \put(.75,0){\line(0,1){.5}}
11 }
12
13 \newcommand*{\LWR@shuffle@finish}{%
14   \end{picture}
15   \hspace*{.75em}
16   \hspace*{.2em}
17 }
18
19 \newcommand*{\shuffle}{%
20   \LWR@shuffle@start%
21   \LWR@shuffle@finish%
22 }
23
24 \newcommand*{\cshuffle}{%
```

```
25   \LWR@shuffle@start%
26   \put(.05,.65){\line(1,0){.65}}%
27   \LWR@shuffle@finish%
28 }

29 \begin{warpMathJax}
30 \CustomizeMathJax{\newcommand{\shuffle}{\mathbin{\text{\scriptsize\texttt{\LWR@shuffle}}}}}
31 \CustomizeMathJax{\newcommand{\cshuffle}{\mathbin{\text{\scriptsize\texttt{\LWR@shuffle}}}}}
32 \end{warpMathJax}
```

File 409 l warp-sidecap.sty

§ 515 Package **sidecap**

(Emulates or patches code by ROLF NIEPRASCHK, HUBERT GÄSSELEIN.)

Pkg sidecap sidecap is emulated.

for HTML output Discard all options for l warp-sidecap.

```
1 \LWR@ProvidesPackageDrop{sidecap}[2003/06/06]
```

See:

<http://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>
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 410 **l warp-sidenotes.sty**

§ 516 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@sidenote@tov{#4}}
16     {\def\@sidenotes@sidenote@tov{#2}}
17     \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}
18     \caption[\@sidenotes@sidenote@tov]{#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   % start
27   \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{}{marginblock}%
28   \renewcommand*\@capttype{#2}%
29 }
30   \endLWR@BlockClassWP%
31 }
32
33 \RenewDocumentEnvironment{marginfigure}{o}
```

```

34 {\begin{KFLT}sidenotes@marginfloat}{figure}}
35 {\end{KFLT}sidenotes@marginfloat}}
36
37 \RenewDocumentEnvironment{marginstable}{o}
38 {\begin{KFLT}sidenotes@marginfloat}{table}}
39 {\end{KFLT}sidenotes@marginfloat}}

```

The following were changed by `sidenotes`, and now are reset back to their `l warp`-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@synconenotenumber{\LWR@sidenote}{\thesidenote}}
50 \appto{\LWR@syncnotenames}{\LWR@synconenotename{\LWR@sidenote}{\sidenotename}}
51 \CustomizeMathJax{\def{\LWR@sidenote}{1}}
52 \CustomizeMathJax{\newcommand{\sidenotemark}[1][\LWR@sidenote]{{}^{\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 411 **l warp-SIunits.sty**

§ 517 Package **Slunits**

(Emulates or patches code by MARCEL HELDOORN.)

Pkg **SIunits** **Slunits** is patched for use by `l warp`.

For `SVG` math, it is recommended to use `\unit` where possible, which combines the entire expression into a single `lateximage`, and adds the `alt` tag containing the `LATEX` code, allowing for copy/paste. When units are used outside of the `\unit` macro, each unit macro will have its own `lateximage`, and each will have the `alt` tag set according to `\MathImageAltText`, which defaults to `(math image)`.

For MATHJAX, individual units used in text will appear as SVG images, since \ensuremath is used in the original definitions, and \ensuremath often has expressions which do not work well in MATHJAX, so it is always forced to an SVG image. If, however, \unit is used, the result is expressed with MATHJAX instead of an SVG image.

for HTML output: 1 \LWR@ProvidesPackagePass{SIunits}[2007/12/02]

Patched for copy/paste with the HTML alt tag:

```

2 \ifbool{mathjax}{
3     \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
4         \LWR@subsingle$*% lwarp
5         {% alt tag
6             \textbackslash{}unit\{\LWR@HTMLsanitize{\#1}\}%
7             \{ \LWR@HTMLsanitize{\#2}\}% extra space
8         }%
9         {SIunits}% add'l hashing
10        {%
11            \#1\,\{#2\}%
12        }% contents
13    }
14 }{% not MathJax
15     \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
16         @inunitcommandtrue% original
17         \LWR@subsingle$*% lwarp
18         {% alt tag
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             \SI@fstyle{%
26                 \#1\@\qsk\period@active{\#2}%
27             }% original
28         }%
29         }% contents
30         @inunitcommandfalse% original
31     }
32 }% not MathJax
33 \LWR@formatted{unit}
```

For MATHJAX:

```

34 \begin{warpMathJax}
35 \LWR@infoprocessingmathjax{SIunits}
36
37 \CustomizeMathJax{\newcommand{\one}{}}
38 \CustomizeMathJax{\newcommand{\meter}{\metre}}
39 \CustomizeMathJax{\newcommand{\deka}{\deca}}
40 \CustomizeMathJax{\newcommand{\dekad}{\decad}}
41 \CustomizeMathJax{\newcommand{\per}{/}}
42 \CustomizeMathJax{\newcommand{\usk}{\;}}
43 \CustomizeMathJax{\newcommand{\unit}[2]{\#1\,\{#2\}}}
44 \CustomizeMathJax{\newcommand{\power}[2]{\#1^{\#2}}}
```

```
45
46 \AtBeginDocument{%
47   \if@redefsquare
48     \CustomizeMathJax{\renewcommand{\square}[1]{\power{\#1}{2}}}
49   \else
50     \if@defsquaren
51       \CustomizeMathJax{\newcommand{\squaren}[1]{\power{\#1}{2}}}
52     \else
53       \CustomizeMathJax{\renewcommand{\square}[1]{\power{\#1}{2}}}
54     \fi \% \if@defsquaren
55   \fi \% \if@redefsquare
56 } \% \AtBeginDocument
57
58 \CustomizeMathJax{\newcommand{\squared}{{}^2}}
59 \CustomizeMathJax{\newcommand{\cubic}[1]{\power{\#1}{3}}}
60 \CustomizeMathJax{\newcommand{\cubed}{{}^3}}
61 \CustomizeMathJax{\newcommand{\fourth}[1]{\power{\#1}{4}}}
62 \CustomizeMathJax{\newcommand{\reciprocal}[1]{\power{\#1}{-1}}}
63 \CustomizeMathJax{\newcommand{\rp}{\reciprocal}}
64 \CustomizeMathJax{\newcommand{\rpsquare}[1]{\power{\#1}{-2}}}
65 \CustomizeMathJax{\newcommand{\rpsquared}{{}^{-2}}}
66 \CustomizeMathJax{\newcommand{\rpcubic}[1]{\power{\#1}{-3}}}
67 \CustomizeMathJax{\newcommand{\rcubed}{{}^{-3}}}
68 \CustomizeMathJax{\newcommand{\rpfourth}[1]{\power{\#1}{-4}}}
69 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
70 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
71 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
72 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
73 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
74 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
75 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\mu}}}
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{y}}}
90 \CustomizeMathJax{\newcommand{\zeptod}{\mathrm{z}}}
91 \CustomizeMathJax{\newcommand{\attod}{\mathrm{a}}}
92 \CustomizeMathJax{\newcommand{\femtod}{\mathrm{f}}}
93 \CustomizeMathJax{\newcommand{\picod}{\mathrm{p}}}
94 \CustomizeMathJax{\newcommand{\nanod}{\mathrm{n}}}
95 \CustomizeMathJax{\newcommand{\microd}{\mathrm{\mu}}}
96 \CustomizeMathJax{\newcommand{\millid}{\mathrm{m}}}
97 \CustomizeMathJax{\newcommand{\centid}{\mathrm{c}}}
98 \CustomizeMathJax{\newcommand{\decid}{\mathrm{d}}}
99 \CustomizeMathJax{\newcommand{\decad}{\mathrm{e}}}
```

```
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{\degreecelcius}{\mathrm{\text{unicode{x2103}}}}}
133 \CustomizeMathJax{\newcommand{\celsius}{\mathrm{celsius}\{\degreecelcius\}}}
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   {\mathrm{metre}\mathrel{\text{\textbackslash usk}}\mathrel{\text{\textbackslash reciprocal}}\mathrm{metre}}}}
143 \CustomizeMathJax{\newcommand{\steradianbase}{%
144   {\mathrm{squaremetre}\mathrel{\text{\textbackslash usk}}\mathrel{\text{\textbackslash rpsquare}}\mathrm{metre}}}}
145 \CustomizeMathJax{\newcommand{\hertzbase}{%
146   {\mathrel{\text{\textbackslash reciprocal}}\mathrm{second}}}}
147 \CustomizeMathJax{\newcommand{\newtonbase}{%
148   {\mathrm{metre}\mathrel{\text{\textbackslash usk}}\mathrm{kilogram}\mathrel{\text{\textbackslash usk}}\mathrm{second}\mathrel{\text{\textbackslash rpsquared}}}}
149 \CustomizeMathJax{\newcommand{\pascalbase}{%
150   {\mathrel{\text{\textbackslash reciprocal}}\mathrm{metre}\mathrel{\text{\textbackslash usk}}\mathrm{kilogram}\mathrel{\text{\textbackslash usk}}\mathrm{second}\mathrel{\text{\textbackslash rpsquared}}}}
151 \CustomizeMathJax{\newcommand{\joulebase}{%
152   {\mathrm{squaremetre}\mathrel{\text{\textbackslash usk}}\mathrm{kilogram}\mathrel{\text{\textbackslash usk}}\mathrm{second}\mathrel{\text{\textbackslash rpsquared}}}}
153 \CustomizeMathJax{\newcommand{\wattbase}{%
154   {\mathrm{squaremetre}\mathrel{\text{\textbackslash usk}}\mathrm{kilogram}\mathrel{\text{\textbackslash usk}}\mathrel{\text{\textbackslash rpcubic}}\mathrm{second}}}}
```

```
155 \CustomizeMathJax{\newcommand{\coulombbase}%
156     {\ampere\usk\second}}
157 \CustomizeMathJax{\newcommand{\voltbase}%
158     {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\reciprocal\ampere}}
159 \CustomizeMathJax{\newcommand{\faradbase}%
160     {\rpsquare\metre\usk\reciprocal\kilogram\usk\fourth\second\usk\ampere\squared}}
161 \CustomizeMathJax{\newcommand{\ohmbase}%
162     {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\rpsquare\ampere}}
163 \CustomizeMathJax{\newcommand{\siemensbase}%
164     {\rpsquare\metre\usk\reciprocal\kilogram\usk\cubic\second\usk\ampere\squared}}
165 \CustomizeMathJax{\newcommand{\weberbase}%
166     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
167 \CustomizeMathJax{\newcommand{\teslabase}%
168     {\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
169 \CustomizeMathJax{\newcommand{\henrybase}%
170     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\rpsquare\ampere}}
171 \CustomizeMathJax{\newcommand{\celsiusbase}%
172     {\kelvin}}
173 \CustomizeMathJax{\newcommand{\lumenbase}%
174     {\candela\usk\squaremetre\usk\rpsquare\metre}}
175 \CustomizeMathJax{\newcommand{\luxbase}%
176     {\candela\usk\squaremetre\usk\rpfourth\metre}}
177 \CustomizeMathJax{\newcommand{\becquerelbase}%
178     {\hertzbase}}
179 \CustomizeMathJax{\newcommand{\graybase}%
180     {\squaremetre\usk\second\rpsquared}}
181 \CustomizeMathJax{\newcommand{\sievertbase}%
182     {\graybase}}
183 \CustomizeMathJax{\newcommand{\katalbase}%
184     {\rp\second\usk\mole}}
185 }{ }
186
187 \ifdef{\derradian}{%
188 \CustomizeMathJax{\newcommand{\derradian}%
189     {\metre\usk\reciprocal\metre}}
190 \CustomizeMathJax{\newcommand{\dersteradian}%
191     {\squaremetre\usk\rpsquare\metre}}
192 \CustomizeMathJax{\newcommand{\derhertz}%
193     {\reciprocal\second}}
194 \CustomizeMathJax{\newcommand{\dernewton}%
195     {\metre\usk\kilogram\usk\second\rpsquared}}
196 \CustomizeMathJax{\newcommand{\derpascal}%
197     {\newton\usk\rpsquare\metre}}
198 \CustomizeMathJax{\newcommand{\derjoule}%
199     {\newton\usk\metre}}
200 \CustomizeMathJax{\newcommand{\derwatt}%
201     {\joule\usk\reciprocal\second}}
202 \CustomizeMathJax{\newcommand{\dercoulomb}%
203     {\ampere\usk\second}}
204 \CustomizeMathJax{\newcommand{\dervolt}%
205     {\watt\usk\reciprocal\ampere}}
206 \CustomizeMathJax{\newcommand{\derfarad}%
207     {\coulomb\usk\reciprocal\volt}}
208 \CustomizeMathJax{\newcommand{\derohm}%
209     {\volt\usk\reciprocal\ampere}}
```

```
210 \CustomizeMathJax{\newcommand{\dersiemens}{%
211     {\ampere\usk\reciprocal\volt}}}
212 \CustomizeMathJax{\newcommand{\derweber}{%
213     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}}
214 \CustomizeMathJax{\newcommand{\dertesla}{%
215     {\weber\usk\rpsquare\metre}}}
216 \CustomizeMathJax{\newcommand{\derhenry}{%
217     {\weber\usk\reciprocal\ampere}}}
218 \CustomizeMathJax{\newcommand{\dercelsius}{%
219     {\kelvin}}}
220 \CustomizeMathJax{\newcommand{\derlumen}{%
221     {\candela\usk\steradian}}}
222 \CustomizeMathJax{\newcommand{\derlux}{%
223     {\lumen\usk\rpsquare\metre}}}
224 \CustomizeMathJax{\newcommand{\derbecquerel}{%
225     {\derhertz}}}
226 \CustomizeMathJax{\newcommand{\dergray}{%
227     {\joule\usk\reciprocal\kilogram}}}
228 \CustomizeMathJax{\newcommand{\dersievert}{%
229     {\dergray}}}
230 \CustomizeMathJax{\newcommand{\derkatal}{%
231     {\katalbase}}}
232 }{}}
233
234 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
235 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
236 \CustomizeMathJax{\newcommand{\dday}{\mathrm{d}}}
237 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
238 \CustomizeMathJax{\newcommand{\paminute}{^{\prime}}}
239 \CustomizeMathJax{\newcommand{\arcminute}{^{\prime\prime}}}
240 \CustomizeMathJax{\newcommand{\pasecond}{^{\prime\prime\prime}}}
241 \CustomizeMathJax{\newcommand{\arcsecond}{^{\prime\prime\prime\prime}}}
242 \CustomizeMathJax{\newcommand{\ton}{\mathrm{t}}}
243 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
244 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
245 \CustomizeMathJax{\newcommand{\litre}{\mathrm{l}}}
246 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
247 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
248 \CustomizeMathJax{\newcommand{\curie}{\mathrm{Ci}}}
249 \CustomizeMathJax{\newcommand{\rad}{\mathrm{rad}}}
250 \CustomizeMathJax{\newcommand{\arad}{\mathrm{rd}}}
251 \CustomizeMathJax{\newcommand{\rem}{\mathrm{rem}}}
252 \CustomizeMathJax{\newcommand{\roentgen}{\mathrm{R}}}
253 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
254 \CustomizeMathJax{\newcommand{\atomicmass}{\mathrm{u}}}
255 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
256 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{Da}}}
257 \CustomizeMathJax{\newcommand{\are}{\mathrm{a}}}
258 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{hecto}\mathrm{a}}}
259 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
260 \CustomizeMathJax{\newcommand{\bbar}{\mathrm{bar}}}
261 \CustomizeMathJax{\newcommand{\gal}{\mathrm{Gal}}}
262 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\AA}}}
263 \CustomizeMathJax{\newcommand{\rperminute}{\mathrm{r}\per\mathrm{min}}}
264 \CustomizeMathJax{\newcommand{\rpersecond}{\mathrm{r}\per\mathrm{sec}}}
```

```
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{\amperepermetresecond}{\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{\kilogrampersquaremetresecond}{\kilogram\per\squaremetre\usk\second}}
```

```
336 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecondnp}{\kilogram\usk\rpsquare\metre\usk\reciprocal\second}}
```

```
337 \CustomizeMathJax{\newcommand{\kilogrampersquaremetre}{\kilogram\per\squaremetre}}
```

```
338 \CustomizeMathJax{\newcommand{\kilogrampersquaremetrenp}{\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{\kilogramperkilmole}{\kilogram\per\kilo\mole}}
```

```
344 \CustomizeMathJax{\newcommand{\kilogramperkilmolenp}{\kilogram\usk\kilo\reciprocal\mole}}
```

```
345 \CustomizeMathJax{\newcommand{\kilogramsquaremetre}{\kilogram\usk\squaremetre}}
```

```
346 \CustomizeMathJax{\newcommand{\kilogramsquaremetrenp}{\kilogramsquaremetre}}
```

```
347 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecond}{\kilogram\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\kelvin}}
```

```
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}{\unicode{x2103}}}
```

```
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\metre} \CustomizeMathJax{\newcommand{\newtonmetre}{\newton\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\us{k}\rp{cubic}\metre}}
377 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulomb}{\kilogram\per\cubic\metre\us{k}\coulomb}}
378 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulombnp}{\kilogram\us{k}\rp{cubic}\metre\us{k}\recipro}
379 \CustomizeMathJax{\newcommand{\cubicmetrepersecond}{\cubicmetre\per\second}}
380 \CustomizeMathJax{\newcommand{\rp{cubicmetrepersecond}}{\cubicmetre\us{k}\reciprocal\second}}
381 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetre}{\kilogram\per\second\us{k}\cubicmetre}}
382 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetrenp}{\kilogram\us{k}\reciprocal\second\us{k}\rp{cu}
383 \end{warpMathJax}

```

File 412 **lwarf-siunitx.sty**

§ 518 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.

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   in case textcomp was not loaded
6 \DeclareSIUnit\bohr{\textit{a}\textsubscript{0}}
7 \DeclareSIUnit\clight{\textit{c}\textsubscript{0}}
8 \DeclareSIUnit\elementarycharge{\textit{e}}
9 \DeclareSIUnit\electronmass{\textit{m}\textsubscript{e}}
10 \DeclareSIUnit\hartree{\textit{E}\textsubscript{h}}
11 \DeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
```

`\@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@subsingle dollar`.

```

12
13 \ExplSyntaxOn
14 %
```

Modified to set `set HTML \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}% lwarp
36         {\__siunitx_print_text:}% lwarp
37         {%
38           \LWR@textcurrentcolor% lwarp
39           \__siunitx_print_text:
40         }%
```

```

41          }% lwarp
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$% lwarp
85     \textbackslash( \lWR@HTMLsanitize{#1} \textbackslash)% lwarp
86     ){siunitx}{%
87       \__siunitx_print:nn { number } {%
88         \lWR@origensuredmath{#1}%
89       }%
90     }% lwarp
91   \endgroup% lwarp
92   \__siunitx_unit_output_print:
```

```

93      }
94      \group_end:% l warp
95 }
```

For parse-numbers=false:

```

96 \cs_set_protected:Npn \__siunitx_range_numbers_aux:n #1
97 {
98     \bool_if:NTF \l__siunitx_number_parse_bool
99     {
100         \tl_clear:N \l__siunitx_number_out_tl
101         \tl_clear:N \l__siunitx_number_out_saved_tl
102         \bool_set_false:N \l__siunitx_number_compound_bool
103         \__siunitx_number_output_parse:n {#1}
104         \bool_if:NT \l__siunitx_number_compound_bool
105             { \msg_error:nnx { siunitx } { multi-part-range } {#1} }
106     }
107     {
108         \__siunitx_unit_output_pre_print:
109         \begingroup% l warp
110             \boolfalse{mathjax}% l warp
111 %             \__siunitx_print:nn { number } {#1}
112                 \LWR@subsingle dollar{\% l warp
113                     \textbackslash( \LWR@HTMLsanitize{#1} \textbackslash) \% l warp
114                 }{siunitx}{%
115                     \__siunitx_print:nn { number } {
116                         \LWR@origensuredmath{#1}%
117                     } \% l warp
118                 } \% l warp
119             \endgroup% l warp
120             \__siunitx_unit_output_print:
121     }
122 }
```

For parse-numbers=false:

```

123 \cs_set_protected:Npn \__siunitx_angle_print_direct_aux:nn #1#2 {
124     \tl_if_empty:nF {#1}
125     {
126         \tl_set:Nn \l__siunitx_unit_tl {#2}
127         \begingroup% l warp
128             \boolfalse{mathjax}% l warp
129 %             \__siunitx_print:nn { number } {#1}
130                 \LWR@subsingle dollar{\% l warp
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   { \siunitx_angle_print_astronomy_marker: }
194   { \siunitx_angle_print_astronomy_unit: }
195 }% lateximage
196 {% not a lateximage
197   \siunitx_print:nV { unit } \l_siunitx_unit_tl
198   \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 { \siunitx_print:nV { number } \l_siunitx_tmpa_tl }
203 }

204 \cs_undefine:N \siunitx_textsuperscript:n
205 \cs_new_protected:Npn \siunitx_textsuperscript:n #1 {\textsuperscript{#1} }

206 \RenewDocumentCommand \num { o m } {
207   \leavevmode
208   \group_begin:% lwarp
209   \LetLtxMacro\@ensuredmath\@origensuredmath% lwarp
210   \LetLtxMacro\mbox\@print@mbox% lwarp
211   \bool_set_false:N \l_siunitx_font_set_bool
212   \IfNoValueF {#1}
213     { \keys_set:nn { siunitx } {#1} }
214     \siunitx_number_output:n {#2}
215   \group_end:% lwarp
216 }
217
218 \RenewDocumentCommand \numrange { o m m } {
219   \leavevmode
220   \group_begin:% lwarp
221   \LetLtxMacro\@ensuredmath\@origensuredmath% lwarp
222   \LetLtxMacro\mbox\@print@mbox% lwarp
223   \bool_set_false:N \l_siunitx_font_set_bool
224   \IfNoValueF {#1}
225     { \keys_set:nn { siunitx } {#1} }
226     \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\@print@mbox% lwarp
234   \IfNoValueF {#1}
235     { \keys_set:nn { siunitx } {#1} }
236     \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\@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:nn {#2} { } }
248   {
249     \keys_set:nn { siunitx } {#1}
250     \__siunitx_unit_output:nn {#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{\LWSI}[2][]{\mathrm{#1}\LWSInumber\, #2}}
284 \CustomizeMathJax{\newcommand{\SI}[2][]{\def\LWSInumber{#2}\LWSI} }

285 \CustomizeMathJax{\newcommand{\numlist}[2][]{\mathrm{#2}}}
286 \CustomizeMathJax{\newcommand{\numrange}[3][]{\mathrm{#2}\,\text{\scriptsize\texttt{,}}\,\text{\scriptsize\texttt{x2013}}\,\mathrm{#3}}}
287 \CustomizeMathJax{\newcommand{\SIList}[3][]{\mathrm{#2}\,\mathrm{#3}}}
288 \CustomizeMathJax{\newcommand{\SIRange}[4][]{\mathrm{#2}\,\mathrm{#4}\,\text{\scriptsize\texttt{x2013}}\,\mathrm{#3}\,\mathrm{#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}{\text{\textnormal{\texttt{\&#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{katal}}}
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}_e}}
337 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
338 \CustomizeMathJax{\newcommand{\elementarycharge}{\mathrm{e}}}
339 \CustomizeMathJax{\newcommand{\hartree}{\mathrm{E}_h}}
340 \CustomizeMathJax{\newcommand{\planckbar}{\mathrm{\hbar}}}
341 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\AA}}}
342 \CustomizeMathJax{\let\WRorigbar\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{\mu}}}
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}\mathrm{gram}}}
380 \CustomizeMathJax{\newcommand{\of}[1]{_{\mathrm{#1}}}}
381 \CustomizeMathJax{\newcommand{\squared}{^2}}
382 \CustomizeMathJax{\newcommand{\square}[1]{\mathrm{#1}^2}}
383 \CustomizeMathJax{\newcommand{\cubed}{^3}}
384 \CustomizeMathJax{\newcommand{\cubic}[1]{\mathrm{#1}^3}}
385 \CustomizeMathJax{\newcommand{\per}{/}}
386 \CustomizeMathJax{\newcommand{\celsius}{\mathrm{\u00b0C}}}
387 %
388 \CustomizeMathJax{\newcommand{\fg}{\mathrm{femto}\mathrm{gram}}}
389 \CustomizeMathJax{\newcommand{\pg}{\mathrm{pico}\mathrm{gram}}}
390 \CustomizeMathJax{\newcommand{\ng}{\mathrm{nano}\mathrm{gram}}}
391 \CustomizeMathJax{\newcommand{\ug}{\mathrm{micro}\mathrm{gram}}}
392 \CustomizeMathJax{\newcommand{\mg}{\mathrm{milli}\mathrm{gram}}}
393 \CustomizeMathJax{\newcommand{\g}{\mathrm{gram}}}
394 \CustomizeMathJax{\newcommand{\kg}{\mathrm{kilo}\mathrm{gram}}}
395 %
396 \CustomizeMathJax{\newcommand{\amu}{\mathrm{u}}}
397 %
398 \CustomizeMathJax{\newcommand{\pm}{\mathrm{pico}\mathrm{metre}}}
399 \CustomizeMathJax{\newcommand{\nm}{\mathrm{nano}\mathrm{metre}}}
400 \CustomizeMathJax{\newcommand{\um}{\mathrm{micro}\mathrm{metre}}}
401 \CustomizeMathJax{\newcommand{\mm}{\mathrm{milli}\mathrm{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{\l}{\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 413 l warp-slantsc.sty

§ 519 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 414 l warp-slashed.sty

§ 520 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 415 l warp-soul.sty

§ 521 Package **soul**

(Emulates or patches code by MELCHIOR FRANZ.)

Pkg soul soul is emulated.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{soul}[2003/11/17]
2 \RequirePackage{xcolor}%
  for \convertcolorspec
```

Storage for the colors to use:

```
3 \newcommand*{\LWR@soululcolor}{}
```

```

4
5 \newcommand*\LWR@soulstcolor{}%
6
7 % \definecolor{\LWR@soulhlcolordefault}{HTML}{F8E800}
8 % \newcommand*\LWR@soulhlcolor{\LWR@soulhlcolordefault}%
9 \newcommand*\LWR@soulhlcolor{}%

```

\so {⟨text⟩}

Basic markup with css:

```

10 \newcommand{\so}[1]{%
11 \InlineClass(letter-spacing:.2ex){letterspacing}{#1}%
12 }%

```

\caps {⟨text⟩}

```

13 \newcommand{\caps}[1]{%
14   \InlineClass{%
15     (font-variant:small-caps;letter-spacing:.1ex)%
16     {capsspacing}{#1}%
17 }%

```

\LWR@soulcolor {⟨text⟩} {⟨color⟩} {⟨class⟩} {⟨colorstyle⟩} {⟨FormatWPstyle⟩}

Add colors if not empty:

```

18 \newcommand{\LWR@soulcolor}[5]{%
19 \ifcsempty{#2}%
20 {%
21   \InlineClass{#5}{#3}{#1}%
22 }%
23 {%
24   \convertcolorspec{named}{\@nameuse{#2}}{HTML}\LWR@tempcolor%
25   \LWR@htmlspanclass[#5:#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}%
26 }%
27 }%

```

```

28 \newcommand{\ul}[1]{%
29 \LWR@soulcolor{#1}{\LWR@soululcolor}{uline}{text-decoration-color}%
30   {text-decoration:underline; text-decoration-skip: auto;}%
31 }%
32
33 \newcommand{\st}[1]{%
34 \LWR@soulcolor{#1}{\LWR@soulstcolor}{sout}{text-decoration-color}%
35   {text-decoration:line-through}%
36 }%
37
38 \newcommand{\hl}[1]{%
39 \LWR@soulcolor{#1}{\LWR@soulhlcolor}{highlight}{background-color}%
40   {background:\LWR@origpound{}F8E800}%
41 }%

```

Nullified:

```

42 \newcommand*\soulaccent}[1]{}
43 \newcommand*\soulregister}[2]{}
44 \newcommand{\sloppyword}[1]{\#1}
45 \newcommand*\sodef}[5]{\DeclareRobustCommand*#1[1]{\so{##1}}}
46 \newcommand*\resetso(){}
47 \newcommand*\capsdef}[5]{}
48 \newcommand*\capsreset(){}
49 \newcommand*\capssave}[1]{}
50 \newcommand*\capsselect}[1]{}
51 \newcommand*\setul}[2]{}
52 \newcommand*\resetul(){}
53 \newcommand*\setuldepth}[1]{}
54 \newcommand*\setuloverlap}[1]{}
55 \newcommand*\lless(){}

```

Set colors:

```

56 \newcommand*\setulcolor}[1]{\renewcommand{\LWR@soululcolor}{#1}}
57 \newcommand*\setstcolor}[1]{\renewcommand{\LWR@soulstcolor}{#1}}
58 \newcommand*\sethlcolor}[1]{\renewcommand{\LWR@soulhlcolor}{#1}}

```

Long versions of the user-level macros:

```

59 \let\textso\so
60 \let\textul\ul
61 \let\texthl\hl
62 \let\textcaps\caps

```

File 416 **l warp-soulpos.sty**

§ 522 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 417 lwarf-soulutf8.sty**§ 523 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 418 lwarf-splitbib.sty**§ 524 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 419 **l warp-splitidx.sty**

§ 525 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 [639.17](#) 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 420 `l warp-srcltx.sty`

§ 526 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 421 l warp-srctex.sty**§ 527 Package srctex**

Pkg srctex srctex is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]
2 \LWR@origRequirePackage{l warp-srcltx}

File 422 l warp-stabular.sty**§ 528 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 423 **l warp-stackengine.sty**

§ 529 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 424 **l warp-stackrel.sty**

§ 530 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 425 **l warp-statex2.sty**

§ 531 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}}\mathbf{\#2}}}\wrap{\mathbf{\#2}}}
40 \CustomizeMathJax{\newcommand{\derivf}[2]{\mathbf{\frac{d}{d\#2}}\mathbf{\#1}}}\wrap{\mathbf{\#1}}}
41 \CustomizeMathJax{\newcommand{\e}[1]{\mathbf{\mathrm{e}}^{#1}}}
42 \CustomizeMathJax{\newcommand{\E}[2]{\mathbf{\mathrm{E}}[\mathbf{\mathrm{#1}}]\mathbf{\mathrm{#2}}}}\wrap{\mathbf{\#1}}\wrap{\mathbf{\#2}}}
43 \CustomizeMathJax{\newcommand{\ha}{\mathbf{\mathrm{\frac{\alpha}{2}}}}}
44 \CustomizeMathJax{\newcommand{\I}[2][]{\mathbf{\mathrm{I}}\mathbf{\mathrm{#1}}}\mathbf{\mathrm{#2}}}}\wrap{\mathbf{\#2}}}
45   \mathbf{\mathrm{I}}\mathbf{\mathrm{#1}}\mathbf{\mathrm{LWRrapparen}}\mathbf{\mathrm{#2}}}}\%
46 }
47 \CustomizeMathJax{\newcommand{\IBeta}[2]{%
48   \mathbf{\mathrm{\frac{\Gamma\mathrm{\mathrm{#1}}+\#2}}{\Gamma\mathrm{\mathrm{#1}}\Gamma\mathrm{\mathrm{#2}}}}}}\%
49 }
50 \CustomizeMathJax{\newcommand{\If}{{\mathbf{\mathrm{;}}}\mathbf{\mathrm{if}}{\mathbf{\mathrm{;}}}}}
51 \CustomizeMathJax{\newcommand{\im}{\mathbf{\mathrm{mb}}\mathbf{\mathrm{(\mathrm{i})}}}}
52 \CustomizeMathJax{\newcommand{\ol}{\mathbf{\mathrm{\overline{o}}}}}
53 \CustomizeMathJax{\newcommand{\ow}{{\mathbf{\mathrm{;}}}\mathbf{\mathrm{otherwise}}{\mathbf{\mathrm{;}}}}}
54 \CustomizeMathJax{\newcommand{\pderiv}[2]{\mathbf{\mathrm{\frac{\partial\mathrm{\partial\#1}}{\partial\mathrm{\#2}}}}}}\wrap{\mathbf{\#2}}}
55   \mathbf{\mathrm{\frac{\partial\mathrm{\partial\#1}}{\partial\mathrm{\#2}}}}}\wrap{\mathbf{\#2}}}}\%
56 }
57 \CustomizeMathJax{\newcommand{\pderivf}[2]{\mathbf{\mathrm{\frac{\partial\mathrm{\partial\#1}}{\partial\mathrm{\#2}}}}}}\wrap{\mathbf{\#1}}}
58   \mathbf{\mathrm{\frac{\partial\mathrm{\partial\#1}}{\partial\mathrm{\#2}}}}}\wrap{\mathbf{\#1}}}}\%
59 }
60 \CustomizeMathJax{\newcommand{\sd}{\mathbf{\mathrm{mb}}\mathbf{\mathrm{(\mathrm{\sigma})}}}}
61 \CustomizeMathJax{\newcommand{\ul}{\mathbf{\mathrm{\underline{u}}}}}
```

```

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 \CustomizeMathJax{\newcommand{\post}{\stackrel{\mb{\mathrm{post}}}{\sim}}}
76 \CustomizeMathJax{\newcommand{\prior}{\stackrel{\mb{\mathrm{prior}}}{\sim}}}
77
78 \CustomizeMathJax{\let\STATEXGamma=\Gamma}
79 \CustomizeMathJax{\renewcommand{\Gamma}[1][]{\mb{\STATEXGamma}\LWRwrapparen{\mb{#1}}}}
80
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{Log}}\!-\!\mathbf{N}}}\LWRwapparen{\mb{#1,\ #2}}%}
137 }
138 \CustomizeMathJax{\newcommand{\LogN}[2]{%
139   \mb{\mathrm{Log}\!-\!\mathbf{N}}}\LWRwapparen{\mb{#1,\ #2}}%}
140 }
141 \CustomizeMathJax{\newcommand{\N}[3][]{%
142   \mb{\mathrm{N}}_{\mb{#1}}}\LWRwapparen{\mb{#2,\ #3}}%}
143 }
144 \CustomizeMathJax{\newcommand{\Par}[2]{\mb{\mathrm{Pareto}}}\LWRwapparen{\mb{#1,\ #2}}}
145 \CustomizeMathJax{\let\Pareto=\Par}
146 \CustomizeMathJax{\newcommand{\Tsq}[2]{\mb{\mathrm{T}^2}}}\LWRwapparen{\mb{#1,\ #2}}}
147 \CustomizeMathJax{\newcommand{\U}[1]{\mb{\mathrm{U}}}\LWRwapparen{\mb{#1}}}
148 \CustomizeMathJax{\newcommand{\W}[2]{\mb{\mathrm{Wishart}}}\LWRwapparen{\mb{#1,\ #2}}}
149
150 \CustomizeMathJax{\renewcommand{\t}[1]{\mb{\mathrm{t}}}\LWRwapparen{\mb{#1}}}
151
152 \CustomizeMathJax{\newcommand{\pBet}[3][x]{%
153   \IBeta{\#2}{\#3}%
154   #1^{#2-1}\LWRwapparen{1-#1}^{#3-1}\I[#1]{0,\ 1}, \where #2>0 \and #3>0%
155 }
156 \CustomizeMathJax{\newcommand{\pCau}[3][x]{%
157   \ifthenelse{\equal{\#2,\ #3}{0,\ 1}}{\frac{1}{\cpi}\LWRwapparen{1+#1}^2}%
158   {\frac{1}{\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\LWRwapparen{1+#1/#2}^{#3+1}}I[#1]{0,\infty},%
179     \where #2>0 \and #3>0%
180 }%
181 \CustomizeMathJax{\newcommand{\pU}[3][x]{%
182 %      \ifthenelse{\equal{#2, #3}{0, 1}}{(I[#1]{0, 1})}{%
183 %          {\frac{#3-#2}{#2}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{\mathrm{#1}}}}
192 \CustomizeMathJax{\newcommand{\d}[1]{\mb{\mathrm{#1}}}}
193 \CustomizeMathJax{\newcommand{\ldots}{\ldots}}
194 \end{warpMathJax}
```

File 426 **l warp-statmath.sty**

§ 532 Package **statmath**

(Emulates or patches code by SEBASTIAN ANKARGREN.)

Pkg statmath statmath is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{statmath}[2018/03/08]

```

2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{statmath}
6
7 \ifdefequal{\abcbf}{\mathbf}
8     {\CustomizeMathJax{\newcommand{\abcbf}[1]{\mathbf{#1}}}}
9     {\CustomizeMathJax{\newcommand{\abcbf}[1]{\boldsymbol{#1}}}}
10
11 \CustomizeMathJax{\newcommand{\greekbf}[1]{\boldsymbol{#1}}}
12
13 \CustomizeMathJax{\newcommand{\bfA}{\abcbf A}}
14 \CustomizeMathJax{\newcommand{\bfB}{\abcbf B}}
15 \CustomizeMathJax{\newcommand{\bfC}{\abcbf C}}
16 \CustomizeMathJax{\newcommand{\bfD}{\abcbf D}}
17 \CustomizeMathJax{\newcommand{\bfE}{\abcbf E}}
18 \CustomizeMathJax{\newcommand{\bfF}{\abcbf F}}
19 \CustomizeMathJax{\newcommand{\bfG}{\abcbf G}}
20 \CustomizeMathJax{\newcommand{\bfH}{\abcbf H}}
```

```
21 \CustomizeMathJax{\newcommand{\bfI}{\abcbf I}}
22 \CustomizeMathJax{\newcommand{\bfJ}{\abcbf J}}
23 \CustomizeMathJax{\newcommand{\bfK}{\abcbf K}}
24 \CustomizeMathJax{\newcommand{\bfL}{\abcbf L}}
25 \CustomizeMathJax{\newcommand{\bfM}{\abcbf M}}
26 \CustomizeMathJax{\newcommand{\bfN}{\abcbf N}}
27 \CustomizeMathJax{\newcommand{\bfO}{\abcbf O}}
28 \CustomizeMathJax{\newcommand{\bfP}{\abcbf P}}
29 \CustomizeMathJax{\newcommand{\bfQ}{\abcbf Q}}
30 \CustomizeMathJax{\newcommand{\bfR}{\abcbf R}}
31 \CustomizeMathJax{\newcommand{\bfS}{\abcbf S}}
32 \CustomizeMathJax{\newcommand{\bfT}{\abcbf T}}
33 \CustomizeMathJax{\newcommand{\bfU}{\abcbf U}}
34 \CustomizeMathJax{\newcommand{\bfV}{\abcbf V}}
35 \CustomizeMathJax{\newcommand{\bfW}{\abcbf W}}
36 \CustomizeMathJax{\newcommand{\bfX}{\abcbf X}}
37 \CustomizeMathJax{\newcommand{\bfY}{\abcbf Y}}
38 \CustomizeMathJax{\newcommand{\bfZ}{\abcbf Z}}
39 \CustomizeMathJax{\newcommand{\bfa}{\abcbf a}}
40 \CustomizeMathJax{\newcommand{\bfb}{\abcbf b}}
41 \CustomizeMathJax{\newcommand{\bfc}{\abcbf c}}
42 \CustomizeMathJax{\newcommand{\bfd}{\abcbf d}}
43 \CustomizeMathJax{\newcommand{\bfe}{\abcbf e}}
44 \CustomizeMathJax{\newcommand{\bff}{\abcbf f}}
45 \CustomizeMathJax{\newcommand{\bfg}{\abcbf g}}
46 \CustomizeMathJax{\newcommand{\bfh}{\abcbf h}}
47 \CustomizeMathJax{\newcommand{\bfi}{\abcbf i}}
48 \CustomizeMathJax{\newcommand{\bfj}{\abcbf j}}
49 \CustomizeMathJax{\newcommand{\bfk}{\abcbf k}}
50 \CustomizeMathJax{\newcommand{\bfl}{\abcbf l}}
51 \CustomizeMathJax{\newcommand{\bfm}{\abcbf m}}
52 \CustomizeMathJax{\newcommand{\bfn}{\abcbf n}}
53 \CustomizeMathJax{\newcommand{\bfo}{\abcbf o}}
54 \CustomizeMathJax{\newcommand{\bfp}{\abcbf p}}
55 \CustomizeMathJax{\newcommand{\bfq}{\abcbf q}}
56 \CustomizeMathJax{\newcommand{\bfr}{\abcbf r}}
57 \CustomizeMathJax{\newcommand{\bfs}{\abcbf s}}
58 \CustomizeMathJax{\newcommand{\bft}{\abcbf t}}
59 \CustomizeMathJax{\newcommand{\bfu}{\abcbf u}}
60 \CustomizeMathJax{\newcommand{\bfv}{\abcbf v}}
61 \CustomizeMathJax{\newcommand{\bfw}{\abcbf w}}
62 \CustomizeMathJax{\newcommand{\bfx}{\abcbf x}}
63 \CustomizeMathJax{\newcommand{\bfy}{\abcbf y}}
64 \CustomizeMathJax{\newcommand{\bfz}{\abcbf z}}
65
66 \LWR@mathjax@addgreek@l@bf{it}{\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 427 **l warp-steinmetz.sty**

§ 533 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 \renewcommand{\phase}[2][]{%
3   \begin{lateximage}*[steinmetz{\detokenize{#2}\!}]
4     \ensuremath{\underline{/#2}}
5   \end{lateximage}
6 }
7
8 \begin{warpMathJax}
9 \CustomizeMathJax{\newcommand{\phase}[2][]{\underline{/#2}}}
10 \end{warpMathJax}
```

File 428 **l warp-stfloats.sty**

§ 534 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 429 **l warp-struktex.sty**

§ 535 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 430 **l warp-subcaption.sty**

§ 536 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 431 **lwarp-subfig.sty**

§ 537 Package **subfig**

(Emulates or patches code by STEVEN DOUGLAS COCHRAN.)

Pkg **subfig** **subfig** is supported and patched by **lwarp**.

⚠ **table numbering** To have correct sub table numbers:

```
\usepackage[caption]
\captionsetup[table]{position=top}
```

⚠ **lof/lotdepth** At present, the package options for **lofdepth** and **lotdepth** are not working. These counters must be set separately after the package has been loaded.

⚠ **horizontal spacing** In the document source, use **\hfill** and **\hspace*** between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

for HTML output: Accept all options for **lwarp-subfig**:

```
1 \LWR@ProvidesPackagePass{subfig}[2005/06/28]
```

\sf@@@subfloat {⟨1 type⟩} [⟨2 LOF entry⟩] [⟨3 caption⟩] {⟨4 contents⟩}

The outer minipage allows side-by-side subfloats with **\hfill** between.

```

2 \long\def\sf@@@subfloat#1[#2][#3]{%
3 \begin{minipage}{\linewidth}\l warp
4 \IfValueTF{#2}{%
5   \LWR@setlatestname{#2}%
6 }{%
7   \IfValueTF{#3}{%
8     \LWR@setlatestname{#3}%
9   }{%
10 }%
11 \LWR@stoppars\l warp
12 \@ifundefined{FBsc@max}{%

```

```

13      {\FB@readaux{\let\FBsuboheight\relax}}%
14  \tempcnta=\ne
15  \ifminipage
16    \tempcnta=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\Xhsizer-\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    \minipagetrue
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#3\relax \else
52      \sf@subcaption{#1}{#2}{#3}%
53    \vskip\sf@capskip
54    \vskip\sf@captionadj
55  }\egroup
56  \hrule width0pt height0pt depth0pt
57  \LWR@startpars% l warp
58  \box\tempboxa
59    #4
60    \LWR@stopars% l warp
61  }%
62  \LWR@startpars% l warp
63  @ifundefined{FBsc@max}%
64    {

```

```
65 % \box@tempboxa
66           #4
67       }%
68       {\ifx\FBsuboheight\relax
69 %           \box@tempboxa
70           #4
71       \else
72 %           \vbox to \FBsuboheight{\FBafil\box@tempboxa\FBbfil}%
73           #4
74           \fi}%
75       \LWR@stopars% lwarp
76       \egroup
77       \ifx \empty\relax \else
78 %           \vskip\sff@capskip
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@\captype}\m@ne
92   \fi
93 \end{minipage}% lwarp
94 \LWR@startpars% lwarp
95 \endgroup\ignorespaces%
96 }%
```

```
\sff@subcaption {\langle 1 type\rangle} {\langle 2 LOF entry\rangle} {\langle 3 caption\rangle}
97 \long\def\sff@subcaption#1#2#3{%
98 \LWR@stopars% lwarp
99   \ifx \relax#2\relax \else
100     \bgroup
101       \let\label=\gobble
102       \let\protect=\string
103       \def\@subcaplabel{%
104         \caption@lstdfmt{\nameuse{p#1}}{\nameuse{the#1}}%
105         \sff@updatecaptionlist{\#1}{\#2}{\the\value{\captype}}{\the\value{\#1}}%
106       }%
107     \egroup
108   \fi
109   \bgroup
110     \ifx \relax#3\relax
111       \let\captionlabelsep=\relax
112     \setbox0\vbox{%
113       \hb@xt@\the\tempdima{%
114 %
115       \hss
116       \parbox[t]{\the\tempdima}{%
```

```
117 %           \caption@make
118 %             {\@nameuse{sub\@capttype name}}%
119 %             {\@nameuse{thesub\@capttype}}%
120 %             {#3}
121 %   }%
122 %   \hss
123 %
124 %
125   \@ifundefined{FBsc@max}%
126     {\@box0}%
127   {
128 % \parbox[t]{\the\@tempdima}{%
129 \LWR@traceinfo{sfsupcap B1}%    lwarp
130       \LWR@figcaption%    lwarp
131       \caption@make
132         {\@nameuse{sub\@capttype name}}%
133         {\@nameuse{thesub\@capttype}}%
134         {\LWR@isolate{#3}}%
135
136 \endLWR@figcaption%    lwarp
137 \LWR@traceinfo{sfsupcap B2}%    lwarp
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     }%
159 \LWR@traceinfo{sfsupcap C1}% lwarp
160       \caption@make
161         {\@nameuse{sub\@capttype name}}%
162         {\@nameuse{thesub\@capttype}}%
163         {#3}
164 \LWR@traceinfo{sfsupcap C1}% lwarp
165 }
166   \hss
167
168 %
169 %
170 }
171 \egroup
```

```
172 \LWR@startpars% lwarp
173 }
```

\subfloat@label Patches for \sf@sub@label:

```
174 \def\subfloat@label{%
175 \LWR@ensuredoingapar% lwarp
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 l@sub<type> for each is redefined.

\@newsubfloat [<keys/values>] {<float name>}

```
186 \LetLtxMacro{\LWR@orig@newsubfloat}{\@newsubfloat}
187
188 \def\@newsubfloat[#1]#2{%
189 \LWR@orig@newsubfloat[#1]{#2}%
190 \renewcommand{\l@sub#2}[2]{\hypertocfloat{2}{sub#2}{\ext@sub#2}{##1}{##2}}%
191 }
```

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 432 l warp-subfigure.sty**§ 538 Package subfigure**

Pkg subfigure subfigure is emulated by subfig.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{subfigure}[2002/03/15]
2 \RequirePackage{subfig}

3 \LetLtxMacro{\subfigure}{\subfloat}
4 \LetLtxMacro{\subtable}{\subfloat}
5 \LetLtxMacro{\Subref}{\subref}
6 \@ifundefined{figuretopcaptrue}{\newif\iffiguretopcap{}}
7 \newif\ifsubfiguretopcap
8 \newif\ifsubcaphang
9 \newif\ifsubcapcenter
10 \newif\ifsubcapcenterlast
11 \newif\ifsubcapnooneline
12 \newif\ifsubcapraggedright
13 \newskip\subfigtopskip
14 \newskip\subfigcapskip
15 \newdimen\subfigcaptopadj
16 \newskip\subfigbottomskip
17 \newdimen\subfigcapmargin
18 \newskip\subfiglabelskip
19 \newcommand*\subcapsize{}
20 \newcommand*\subcaplabelfont{}
21 \newcommand*\subcapfont{}
```

File 433 l warp-subsupscripts.sty**§ 539 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{\lrsubscriptsC}[5]{%
10        \fourscriptsC{#1}{ }{#2}{ }{#3}{#4}{#5}%
11    }
12 }
13 \CustomizeMathJax{%
14   \newcommand{\lsuperscriptsC}[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}{}}
25 }
26 \CustomizeMathJax{%
27   \newcommand{\lsuperscripts}[3]{\fourscripts{#1}{#2}{ }{#3}{}}
28 }
29 \CustomizeMathJax{%
30   \newcommand{\twolscripts}[4][-.16ex]{\{}{\}^{#3}_{#4}\hspace{#1}#2\}
31 }
32 \CustomizeMathJax{%
33   \newcommand{\tworscripts}[4][-.07ex]{\#2\hspace{#1}{}^{#3}_{#4}\}}
34 }
35 \CustomizeMathJax{%
36   \newcommand{\lsubscript}[3][-.16ex]{\twolscripts{#1}{#2}{ }{#3}{}}
37 }
38 \CustomizeMathJax{%
39   \newcommand{\lsuperscript}[3][-.16ex]{\twolscripts{#1}{#2}{#3}{\}}
40 }
41 \CustomizeMathJax{%
42   \newcommand{\rsubscript}[3][-.07ex]{\tworscripts{#1}{#2}{ }{#3}{}}
43 }
44 \CustomizeMathJax{%
45   \newcommand{\rsuperscript}[3][-.07ex]{\tworscripts{#1}{#2}{#3}{\}}
46 }
47 \end{warpMathJax}

```

File 434 **lwarf-supertabular.sty**§ 540 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 &** For \tablefirsthead, etc., enclose them as follows:

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

 **lateximage** `supertabular` and `xtab` are not supported inside a `lateximage`.

```
2 \newcommand{\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 435 l warp-svg.sty

§ 541 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 436 l warp-syntonly.sty

§ 542 Package **syntonly**

(Emulates or patches code by FRANK MITTELBACH, RAINER SCHÖPF.)

Pkg syntonly syntonly is ignored.

for HTML output Discard all options for l warp-syntonly:

```
1 \LWR@ProvidesPackageDrop{syntonly}[2017/06/30]

2 \newif\ifsyntax@
3 \syntax@false
4
5 \newcommand*\syntonly{}{}
6
7 \@onlypreamble\syntonly

8 \def\nopages@{}
```

File 437 **l warp-tabfigures.sty**

§ 543 Package **tabfigures**

Pkg tabfigures tabfigures is ignored.

for HTML output 1 \LWR@ProvidesPackageDrop{tabfigures}[2012/01/24]

File 438 **l warp-tablefootnote.sty**

§ 544 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 439 **l warp-tables.sty**

§ 545 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 440 l warp-tabularx.sty**§ 546 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 441 l warp-tabulary.sty**§ 547 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{}  
14
```

File 442 l warp-tagpdf.sty

§ 548 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 443 **lwarp-tascmac.sty**

§ 549 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 444 **lwarf-tcolorbox.sty**

§ 550 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][]{\tcb@patcherror{tcolorbox}{tcbsubtitle}}
169 }
```

Patches for the subtitle, which is placed inside a <div> of class tcolorboxsubtitle.

```

170 \xpatchcmd{\tcbsubtitle}
171   {\begingroup}
172   {\begingroup\let\kvtcb@title\relax\begin{BlockClass}{tcolorboxsubtitle}}
173   {}
174   {\LWR@patcherror{tcolorbox}{tcbsubtitle}}
175
176 \xpatchcmd{\tcbsubtitle}
177   {\endgroup}
178   {\end{BlockClass}\endgroup}
179 {}
```

```
180 {\LWR@patcherror{tcolorbox}{tcbsubtitleB}}
```

\tcboxfit is the same as \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 445 **lwarp-termcal.sty**

§ 551 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 446 **l warp-textarea.sty**

§ 552 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 447 **l warp-textcomp.sty**

§ 553 Package **textcomp**

(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)

Pkg **textcomp** **textcomp** is patched for use by **l warp**.

§ 553.1 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.

§ 553.2 Package loading

for HTML output: 1 \LWR@ProvidesPackagePass{textcomp}[2017/04/05]

§ 553.3 HTML symbols

For `HTML`, use `HTML` entities or direct Unicode, depending on the engine.

`\AtBeginDocument` improves support for `LuaLaTeX` and `XeLaTeX`.

§ 553.3.1 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

```

§ 553.3.2 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}{\-\% emdash}
33 \newcommand*{\LWR@HTML@textthreequartersemdash}{\-\% emdash}
34 \newcommand*{\LWR@HTML@textmho}{\U}
35 \newcommand*{\LWR@HTML@textnaira}{\N}
36 \newcommand*{\LWR@HTML@textpeso}{\P}
37 \newcommand*{\LWR@HTML@textrecipe}{\R}
38 \newcommand*{\LWR@HTML@textinterrobang}{\?}
39 \newcommand*{\LWR@HTML@textinterrobangdown}{\i}
40 \newcommand*{\LWR@HTML@textperthousand}{\kern .2em}
41 \newcommand*{\LWR@HTML@textpertenthousand}{\kern .1em}
42 \newcommand*{\LWR@HTML@textbaht}{\B}
43 \newcommand*{\LWR@HTML@textdiscount}{\%}
44 \newcommand*{\LWR@HTML@textservicemark}{\textsuperscript{SM}}
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}

```

§ 553.4 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 448 **l warp-textfit.sty**

§ 554 Package **textfit**

Pkg **textfit** **textfit** is emulated.

Text is placed into a 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 449 **l warp-textpos.sty**

§ 555 Package **textpos**

(Emulates or patches code by NORMAN GRAY.)

Pkg **textpos** **textpos** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{textpos}[2020/09/26]

```

2 \NewDocumentEnvironment{textblock}{m o r()}{\begin{#1}\begin{#2}}
3 \NewDocumentEnvironment{textblock*}{m o r()}{\begin{#1}\begin{#2}}
4 \newcommand*\TPGrid[3][]{\begin{#1}\begin{#2}\begin{#3}}
5 \def\TPShowGrid{\@ifstar{\@TPShowGrid}{\@TPShowGrid}}
6 \def\@TPShowGrid#1#2{\begin{#1}\begin{#2}}
7 \NewDocumentCommand{\TPMargin}{s o}{\begin{#1}\begin{#2}}
8 \newcommand*\textblockcolour[1]{\color{#1}}
9 \newcommand*\textblockrulecolour[1]{\color{#1}}
10 \newcommand*\textblockcolor[1]{\color{#1}}
11 \newcommand*\textblockrulecolor[1]{\color{#1}}
12 \newcommand*\tekstblokkulur[1]{\color{#1}}
13 \newcommand*\tekstblokrulekulur[1]{\color{#1}}
14 \newlength{\TPHorizModule}
15 \newlength{\TPVertModule}
16 \newlength{\TPboxrulesize}
17 \newcommand\textblocklabel[1]{\color{#1}}
18 \newcommand\showtextsize[1]{\color{#1}}
19 \newcommand\textblockorigin[2]{\color{#1}}
20 \newcommand\TPoptions[1]{\color{#1}}
21 \newcommand\TPReferencePosition[1]{\color{#1}}

```

File 450 **l warp-theorem.sty**

§ 556 Package **theorem**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg **theorem** **theorem** is patched for use by **l warp**.

Table 19: Theorem package—css styling of theorems and proofs

Theorem: <div> of class theorembody<theoremstyle>

Theorem Header: of class theoremheader

where <theoremstyle> is plain, break, etc.

for HTML output: 1 \LWR@ProvidesPackagePass{theorem}[2014/10/28]

§ 556.1 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}

```

§ 556.2 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{\theorembody\LWR@thisthmstyle}{\l warp}
144   \trivlist
145   \topsep \theorempreskipamount           % used by first \item
146   \topsepadd \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 451 **l warp-thinsp.sty**

§ 557 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 452 **l warp-thm-listof.sty**

§ 558 Package **thm-listof**

(Emulates or patches code by ULRICH M. SCHWARZ, YUKAI CHOU.)

Pkg thm-listof thm-listof is part of thmtools, and is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{thm-listof}[2019/12/22]

For font control, see the generated HTML and use css per amsthm or ntheorem.

Other thm-* package may be loaded by thm-listof.

```

2 \ifpackagelater{thm-listof}{2020/08/01}{% v0.72
3   \def\thmtlo@newentry{%
4     \csdef{l@\thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%

```

```

5  }
6 }{\% earlier than v0.72
7   \xpatchcmd{\listoftheorems}
8     {%
9       \@xa\protected@edef\csname l@\thmt@envname\endcsname{%
10         \@nx\@dottedtocline{1}{1.5em}{\@nx\thmt@listnumwidth}%
11       }%
12     }
13     {%
14       \csdef{l@\thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
15     }
16     {}%
17     {\LWR@patcherror{thm-listof}{listoftheorems}}%
18
19   \xpatchcmd{\thmt@mklistcmd}
20     {%
21       \@xa\protected@edef\csname l@\thmt@envname\endcsname{%
22         \@nx\@dottedtocline{1}{1.5em}{\@nx\thmt@listnumwidth}%
23       }%
24     }
25     {%
26       \csdef{l@\thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
27     }
28     {}%
29     {\LWR@patcherror{thm-listof}{thmt@mklistcmd}}%
30 }

```

File 453 **lwarf-thm-restate.sty**

§ 559 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\thmt@restatable{\thmt@restatable}\@ifstar}
5   {}
6   {\LWR@patcherror{thm-restate}{thmt@restatable}}%

```

File 454 **lwarf-thmbox.sty**

§ 560 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 455 **l warp-thmtools.sty**

§ 561 Package **thmtools**

(Emulates or patches code by ULRICH M. SCHWARZ.)

Pkg thmtools thmtools is patched for use by l warp.

Also see **thm-listof** and **thm-restate**.

for HTML output: 1 \LWR@ProvidesPackagePass{thmtools}[2020/08/01]

The following patches either **thm-amsthm** or **thm-ntheorem**.

```

2 \def\thmt@headstyle@margin{%
3   \InlineClass{amsthmnnumbertheorem}{\NUMBER}
4   \
5   \InlineClass{amsthmnametheorem}{\NAME}
6   \InlineClass{amsthmnotetheorem}{\NOTE}
7 }

```

```
8  
9 \let\thmt@headstyle@swapnumber\thmt@headstyle@margin
```

File 456 l warp-threadcol.sty**§ 562 Package threadcol**

Pkg **threadcol** **threadcol** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{threadcol}[2013/01/06]
2 \newcommand{\setthreadname}{1}{}

File 457 l warp-threeparttable.sty**§ 563 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 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@html\span{sup}{#1}}

```

Env measuredfigure [<alignment>]
16 \newenvironment*{measuredfigure}[1][t]
17   {\def\@captype{figure}}
18   {}

```

File 458 l warp-threeparttablex.sty

§ 564 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 459 l warp-thumb.sty

§ 565 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 460 l warp-thumbs.sty

§ 566 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 461 l warp-tikz.sty

§ 567 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 462 **l warp-titlesp s.ty**

§ 568 Package **titlesp s**

(Emulates or patches code by JAVIER BEZOS.)

Pkg **titlesp s** **titlesp s** 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-titlesp s**:

for HTML output: 1 \LWR@ProvidesPackageDrop{titlesp s}[2016/03/15]

\pagestyle and \thispagestyle are already disabled in the **l warp** code.

\newpagestyle {<name>} [<style>] {<commands>}
 2 \NewDocumentCommand{\newpagestyle}{m o m}{}{}

\renewpagestyle {<name>} [<style>] {<commands>}
 3 \NewDocumentCommand{\renewpagestyle}{m o m}{}{}

\sethead [<el>] [<ec>] [<er>] {} {<oc>} {<or>}
 4 \NewDocumentCommand{\sethead}{o o o m m m}{}{}

\setfoot [<el>] [<ec>] [<er>] {} {<oc>} {<or>}
 5 \NewDocumentCommand{\setfoot}{o o o m m m}{}{}

\settitemarks * {<names>}
 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 463 **l warp-titleref.sty**

§ 569 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 464 **l warp-titlesec.sty**

§ 570 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{l warp-titles}  
17 }{}  
  
\titlelabel {⟨label-format⟩}  
18 \newcommand*{\titlelabel}[1]{}  
  
\titleformat* {⟨command⟩} {⟨format⟩}  
  
\titleformat {⟨command⟩} [⟨shape⟩] {⟨format⟩} {⟨label⟩} {⟨sep⟩} {⟨begfore⟩} [⟨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}{}  
  
\chapertitlename  
24 \@ifundefined{@chapapp}{\let\@chapapp\chaptername}{}  
25 \newcommand\chapertitlename{\@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 465 **lwarp-titletoc.sty**

§ 571 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} {}
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 466 l warp-titling.sty

§ 572 Package **titling**

(Emulates or patches code by PETER WILSON.)

Pkg titling

package support l warp supports the native L^AT_EX titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.

⚠ 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 467 **l warp-tocbasic.sty**

§ 573 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 468 **l warp-tocbibind.sty**

§ 574 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 469 l warp-tocdata.sty

§ 575 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   \ifempty{\TD@thistocdata}{}{%
4     \quad \InlineClass{authorartist}{\tocdataformat{\TD@thistocdata}}%
5     \def\TD@thistocdata{}%
6   }%
7 }

8 \renewrobustcmd{\tocdatapartprint}[4]
9 {%
10   \InlineClass{authorartist}{%
11     \quad \qquad --- %
12     \TOptionalnameprint{\#1}\TOptionalnameprint{\#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{\TDArtistauthorprint}[5]{%
36   \LWR@TD@settextalign{\#1}%
37   \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
38     \InlineClass{authorartist}{\TOptionalnameprint{\#2}\TOptionalnameprint{\#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 470 **l warp-tocenter.sty**

§ 576 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 471 **l warp-tocloft.sty**

§ 577 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^AT_EX 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 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{cftafter#3title}{}%
201  \@namedef{cft#3prehook}{}%
202  \@namedef{cft#3posthook}{}%
203 }

\cftchapterprecis {\text}

204 \newcommand{\cftchapterprecis}[1]{%
205   \cftchapterprecishere{#1}%
206   \cftchapterprecistoc{#1}%
207 \newcommand{\cftchapterprecishere}[1]{%
208   \begin{quote}\textit{#1}\end{quote}%
209 \newcommand{\cftchapterprecistoc}[1]{%
210   \addtocontents{toc}{%
211   {
212     \protect\begin{quote}\#1\protect\end{quote}%
213   }
214 }

```

File 472 lwarp-tocstyle.sty

§ 578 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 473 l warp-todo.sty

§ 579 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 474 **l warp-todonotes.sty**

§ 580 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   }{%
21     \marginpar{\@todonotes@drawMarginNote}%
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   \renewcommand{\@todonotes@drawMarginNote}{%
35     \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 475 **lwarf-topcapt.sty**

§ 581 Package **topcapt**

Pkg topcapt **topcapt** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{topcapt}[2004/12/11]

2 \LetLtxMacro{\topcaption}{\caption}

File 476 l warp-tram.sty**§ 582 Package tram**

Pkg **tram** **tram** is emulated.

⚠ block only The HTML emulation uses a `<div>`, which must not appear inside an HTML `` 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 477 l warp-transparent.sty**§ 583 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_ELT_EX! Note that `transparent` does not work with X_ELT_EX.

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 478 l warp-trimclip.sty**§ 584 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 479 l warp-trivfloat.sty**§ 585 Package trivfloat**

(Emulates or patches code by JOSEPH WRIGHT.)

Pkg trivfloat trivfloat is forced to use the built-in l warp emulation for floats.

To create a new float type and change its name:

```
\trivfloat{example}
\renewcommand{\examplename}{Example Name}
\crefname{example}{example}{examples}
\Crefname{example}{Example}{Examples}
```

Discard all options for l warp-trivfloat. This tells trivfloat not to use floatrow or memoir.

1 \LWR@ProvidesPackageDrop{trivfloat}[2009/04/23]
2 \LWR@origRequirePackage{trivfloat}

\tfl@chapter@fix Nullified at the beginning of the document. Is used by `trivfloat` to correct float chapter numbers, but is not needed for `l warp`.

```
3 \AtBeginDocument{\DeclareDocumentCommand{\tfl@chapter@fix}{m m}{}{}}
```

§ 585.1 Combining `\newfloat`, `\trivfloat`, and `algorithmicx`

For both print and HTML output:

- ⚠ When using `float`, `trivfloat`, or `algorithmicx` at the same time, be aware of conflicting file usage. `algorithmicx` uses `.loa`. `trivfloat` by default starts with `.loa` and goes up for additional floats, skipping `.lof` and `.lot`.
- ⚠ When using `\newfloat`, be sure to manually assign higher letters to the `\newfloat` files to avoid `.loa` used by `algorithmicx`, and any files used by `trivfloat`. Also avoid using `.lof` and `.lot`.
- ⚠ When using `\trivfloat`, you may force it to avoid conflicting with `algorithmicx` by starting `trivfloat`'s file extensions with `.lob`:

```
\makeatletter
\setcounter{tfl@float@cnt}{1} % start trivfloats with .lob
\makeatletter
```

File 480 `l warp-truncate.sty`

§ 586 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 481 `l warp-turnthepage.sty`

§ 587 Package `turnthepage`

Pkg `turnthepage` `turnthepage` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{turnthepage}[2011/03/24]

```
2 \newcommand{\turnthepage}{}%
```

File 482 **l warp-twoup.sty**

§ 588 Package **twoup**

Pkg twoup twoup is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{twoup}[2007/02/26]
2 \newcommand{\cleartolastpage}{}

File 483 **l warp-txfonts.sty**

§ 589 Package **txfonts**

(Emulates or patches code by YOUNG RYU.)

Pkg txfonts txfonts is used as-is for SVG math, and is emulated for MATHJAX.
for HTML output: 1 \LWR@ProvidesPackagePass{txfonts}[2008/01/22]

For MATHJAX:

2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{txfonts}
6
7 \LWR@mathjax@addgreek@l@up{}{up}
8 \end{warpMathJax}

File 484 **l warp-txgreeks.sty**

§ 590 Package **txgreeks**

(Emulates or patches code by JEAN-FRAN OIS BURNOL.)

Pkg txgreeks txgreeks is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors all package options.

for HTML output: 1 \LWR@ProvidesPackagePass{txgreeks}[2011/03/16]
2
3 \LWR@infoprocessingmathjax{txgreeks}

```

4 \LWR@origRequirePackage{l warp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7 \iftgs@uplower% upright lowercase Greek
8   \LWR@mathjax@addgreek@l@up{}{}
9   \LWR@mathjax@addgreek@l@it{other}{}%
10 \else% italic lowercase Greek
11   \LWR@mathjax@addgreek@l@it{}{}%
12   \LWR@mathjax@addgreek@l@up{other}{}%
13 \fi
14
15 \iftgs@itupper % italic uppercase Greek
16   \LWR@mathjax@addgreek@u@it*{}{}%
17   \LWR@mathjax@addgreek@u@up*{other}{}%
18   \LWR@mathjax@addgreek@u@up*{var}{}%
19 \else% upright uppercase Greek
20   \LWR@mathjax@addgreek@u@up*{}{}%
21   \LWR@mathjax@addgreek@u@it*{other}{}%
22   \LWR@mathjax@addgreek@u@it*{var}{}%
23 \fi
24 \end{warpMathJax}

```

File 485 **l warp-typearea.sty**

§ 591 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{footoheight}{\newlength\footoheight}{}%
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 486 l warp-typicons.sty

§ 592 Package **typicons**

(Emulates or patches code by ARTHUR VIGIL, XAVIER DANAUX.)

Pkg typicons typicons is patched for use by l warp.

If \ticon is used, the name of the icon is used in the alt tag. Otherwise, for each of the individual icon macros, a generic alt tag is used.

for HTML output: 1 \LWR@ProvidesPackagePass{typicons}[2015/05/20]

```
2 \LetLtxMacro{\LWR@orig@symbol}{\symbol}
3
4 \let\LWR@orig@typicon@TI\TI
5
6 \newcommand*{\LWR@typicon@symbol}[1]{%
7   \begin{lateximage}*[typicon][typicon#1]%
8   \begingroup%
9     \LWR@orig@typicon@TI%
10    \LWR@orig@symbol{#1}%
11   \endgroup%
12   \end{lateximage}%
13 }
14
15 \renewcommand*{\TI}{%
16   \LetLtxMacro{\symbol}{\LWR@typicon@symbol}%
17 }
18
19 \renewcommand*{\ticon}[1]{%
20   \begin{lateximage}*[#1 icon][typicon#1]%
21   \TI\csname ticon@#1\endcsname%
22   \end{lateximage}%
23 }
24 }
```

File 487 l warp-ulem.sty

§ 593 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 488 **l warp-umoline.sty**

§ 594 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@UMOnewline}{s}{\newline}
26 \LWR@formatted{UMOnewline}

```

File 489 **l warp-underscore.sty**

§ 595 Package **underscore**

Pkg underscore underscore is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{underscore}[2006/09/13]

File 490 **l warp-unicode-math.sty**

§ 596 Package **unicode-math**

(Emulates or patches code by WILL ROBERTSON.)

Pkg unicode-math **unicode-math** is supported as-is for HTML with `svgmath`.

 MATHJAX If the document source includes embedded Unicode characters, these may not be reproduced correctly for `pdftotext`, and thus not display correctly in MATHJAX.

Symbol font commands are emulated, but not all combinations are supported by MathJax, especially with the dedicated Greek macros. Symbol macros such as \symbf{sf} may not be sans or bold. For Greek, use the Unicode equivalent, if necessary.

 \mathversion The MATHJAX emulation does not change with the use of `\mathversion`. Whatever emulation is established at the begin of the document will remain.

The option `sans-style` honors `upright` and `italic`, but `italic` will not be sans, in order to support Greek macros.

Greek macros such as `\alpha` respond to the `math-style` option. Latin symbols does not, per MATHJAX limitations, unless placed inside `\symbol` or similar.

Macros from the categories `\mathopen`, `\mathclose`, and `\mathfence` are emulated. Due to current MATHJAX limitations, not all stretch to the correct height.

Also emulated are macros from the categories `\mathpunct`, `\mathover`, `\mathunder`, `\mathaccnt`, `\mathbotaccnt`, and `\mathop`.

The individual `unicode-math` macros of categories `\mathbin`, `\mathord`, and `\mathrel` are not emulated for MATHJAX, as there are more than two thousand of them, but they may be added as needed. Place the following in the document preamble after loading `unicode-math`, including a definition for each macro which is used in the document but undefined in MATHJAX:

```
\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\uplus}{\mathbin{\text{\scriptsize{\texttt{\textbackslash}}}\text{\normalsize{\texttt{unicode}}}{\text{\scriptsize{\texttt{x0228E}}}}}}}
...
\end{warpMathJax}
```

Use `\mathrel`, `\mathbin`, etc. depending on the category of each macro. For a list of macro names and symbols, see **texdoc unimath-symbols**.

for HTML output:

```
1 \LWR@ProvidesPackagePass{unicode-math}[2019/09/26]

2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{unicode-math}
6
7 % Not all are possible in MathJax.
8 \CustomizeMathJax{\let\symnormal\mathit}
9 \CustomizeMathJax{\let\symliteral\mathrm}
10 \CustomizeMathJax{\let\symbb\mathbb}
11 \CustomizeMathJax{\let\sympbit\mathbb}% not italic
12 \CustomizeMathJax{\let\symcal\mathcal}
13 \CustomizeMathJax{\let\symscr\mathscr}
14 \CustomizeMathJax{\let\symfrak\mathfrak}
15
16 \CustomizeMathJax{\let\symsup\mathsf}
17
18 \CustomizeMathJax{\let\symsfit\mathit}% not sans
19 % \CustomizeMathJax{\newcommand{\symsfit}[1]{%
20 %     \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}}% not greek
21 % }
22
23 \CustomizeMathJax{\let\symbfsf\mathbf}% not sans
24 % \CustomizeMathJax{\newcommand{\symbfsf}[1]{%
25 %     \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
26 % }
27
28 \CustomizeMathJax{\let\symbfup\mathbf}
29 \CustomizeMathJax{\newcommand{\symbfit}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\let\symbfcal\mathcal}% not bold
31
32 \CustomizeMathJax{\let\symbfscr\mathscr}% not bold
33 % \CustomizeMathJax{\newcommand{\symbfscr}[1]{%
34 %     \mmlToken{mi}[mathvariant="math-bold-script"]{#1}}% not greek
35 % }
36
37 \CustomizeMathJax{\let\symbffrak\mathfrak}% not bold
38 % \CustomizeMathJax{\newcommand{\symbffrak}[1]{%
39 %     \mmlToken{mi}[mathvariant="math-bold-fraktur"]{#1}}% not greek
40 % }
41
42 \CustomizeMathJax{\let\symbfsup\mathbf}% not sans
43 % \CustomizeMathJax{\newcommand{\symbfsup}[1]{%
44 %     \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
45 % }
46
47 \CustomizeMathJax{\newcommand{\symbfsfit}[1]{\boldsymbol{#1}}}% not sans
48 % \CustomizeMathJax{\newcommand{\symbfsfit}[1]{%
49 %     \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}}% not greek
50 % }
51
```

```

52 % Duplicates below are commented out.
53 \CustomizeMathJax{\let\symup\mathrm}
54 \CustomizeMathJax{\let\sympf\mathbf}% \sympfup defined above
55 \CustomizeMathJax{\let\symit\mathit}
56 % \CustomizeMathJax{\let\sympfit\mathit}% not bold

57 \ExplSyntaxOn
58 \AtBeginDocument{
59     \bool_if:NTF \g__um_sfliteral_bool
60         {\CustomizeMathJax{\let\symsf\symsfup}}
61     {
62         \bool_if:NTF \g__um_upsans_bool
63             {\CustomizeMathJax{\let\symsf\symsfup}}
64             {\CustomizeMathJax{\let\symsf\symsfit}}
65     }
66 }
67 \ExplSyntaxOff

68 % \CustomizeMathJax{\let\sympfsfup\mathbf}% not sans
69 % \CustomizeMathJax{\let\symsfit\mathit}% not sans
70 % \CustomizeMathJax{\let\sympfsfit\mathit}% not bold nor sans
71 \CustomizeMathJax{\let\symtt\mathtt}
72 % \CustomizeMathJax{\let\symbb\mathbb}
73 % \CustomizeMathJax{\let\sybbbit\mathbb}% not italic
74 % \CustomizeMathJax{\let\symscr\mathscr}
75 % \CustomizeMathJax{\let\sympfscr\mathscr}% not bold
76 % \CustomizeMathJax{\let\symfrak\mathfrak}
77 \CustomizeMathJax{\let\sympffrac\mathbfrac}

```

Some symbol categories defined by `unicode-math`, in case they are used inside custom macros:

```

78 \CustomizeMathJax{\newcommand{\mathfence}[1]{\mathord{#1}}}
79 \CustomizeMathJax{\newcommand{\mathover}[1]{#1}}
80 \CustomizeMathJax{\newcommand{\mathunder}[1]{#1}}
81 \CustomizeMathJax{\newcommand{\mathaccent}[1]{#1}}
82 \CustomizeMathJax{\newcommand{\mathbotaccent}[1]{#1}}
83 \CustomizeMathJax{\newcommand{\mathalpha}[1]{\mathord{#1}}}

```

`math-style` is one of: ISO, TeX, french, upright, or literal, which set `\g__um_upGreek_bool` and `\g__um_upgreek_bool`.

```

84 \ExplSyntaxOn
85
86 \AtBeginDocument{
87     \bool_if:NTF \g__um_upGreek_bool
88         {\LWR@mathjax@addgreek@u@up*{}{}}
89         {\LWR@mathjax@addgreek@u@it*{}{}}
90
91     \bool_if:NTF \g__um_upgreek_bool
92         {\LWR@mathjax@addgreek@l@up*{}{}}
93         {\LWR@mathjax@addgreek@l@it*{}{}}
94 }
95

```

```

96 \LWR@mathjax@addgreek@u@up*{up}{}
97 \LWR@mathjax@addgreek@u@it*{it}{}
98 \LWR@mathjax@addgreek@l@up{up}{}
99 \LWR@mathjax@addgreek@l@it{it}{}
100
101 \ExplSyntaxOff
102
103 \CustomizeMathJax{\let\lparen{}}
104 \CustomizeMathJax{\let\rparen{}}
105 \CustomizeMathJax{\newcommand{\cuberoot}[1]{\,{\{}^3\!\sqrt{\#1}\,{\}}},}
106 \CustomizeMathJax{\newcommand{\fourthroot}[1]{\,{\{}^4\!\sqrt{\#1}\,{\}}},}

```

Many `\mathopen`/`\mathclose` delimiters are defined in `lwarp_mathjax.txt`, where `\left`/`\right` support is added.

```

107 \CustomizeMathJax{\newcommand{\longdivision}[1]{\mathord{\unicode{x027CC}\#1}}}
108
109 \CustomizeMathJax{\newcommand{\mathcomma}{,}}
110 \CustomizeMathJax{\newcommand{\mathcolon}{:}}
111 \CustomizeMathJax{\newcommand{\mathsemicolon}{;}}
112
113 \CustomizeMathJax{\newcommand{\overbracket}[1]{\mathinner{\overline{\ulcorner{\#1}\urcorner}}}}
114 \CustomizeMathJax{\newcommand{\underbracket}[1]{\mathinner{\underline{\llcorner{\#1}\rlcorner}}}}
115
116 \CustomizeMathJax{\newcommand{\overbar}[1]{\mathord{\#1\unicode{x00305}}}}
117 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{\#1\unicode{x00309}}}}
118 \CustomizeMathJax{\newcommand{\ocirc}[1]{\mathord{\#1\unicode{x0030A}}}}
119 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{\#1\unicode{x00310}}}}
120 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{\#1\unicode{x00312}}}}
121 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{\#1\unicode{x00315}}}}
122 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{\#1\unicode{x0031A}}}}
123 \CustomizeMathJax{\newcommand{\Leftharpoonaccent}[1]{\mathord{\#1\unicode{x020D0}}}}
124 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{\#1\unicode{x020D1}}}}
125 \CustomizeMathJax{\newcommand{\vertoverlay}[1]{\mathord{\#1\unicode{x020D2}}}}
126 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{\#1\unicode{x020D0}}}}
127 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{\#1\unicode{x020E7}}}}
128 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{\#1\unicode{x020E9}}}}
129 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{\#1\unicode{x020F0}}}}
130 \CustomizeMathJax{\newcommand{\threeunderdot}[1]{\mathord{\#1\unicode{x020E8}}}}
131
132 \CustomizeMathJax{\newcommand{\Bbbsum}{\mathop{\unicode{x2140}}\limits}}
133 \CustomizeMathJax{\newcommand{\oint}{\mathop{\unicode{x222F}}\limits}}
134 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
135 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
136 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
137 \CustomizeMathJax{\newcommand{\ointctrlclockwise}{\mathop{\unicode{x2233}}\limits}}
138 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
139 \CustomizeMathJax{\newcommand{\leftouterjoin}{\mathop{\unicode{x27D5}}\limits}}
140 \CustomizeMathJax{\newcommand{\rightouterjoin}{\mathop{\unicode{x27D6}}\limits}}
141 \CustomizeMathJax{\newcommand{\fullouterjoin}{\mathop{\unicode{x27D7}}\limits}}
142 \CustomizeMathJax{\newcommand{\bigbot}{\mathop{\unicode{x27D8}}\limits}}
143 \CustomizeMathJax{\newcommand{\bigtop}{\mathop{\unicode{x27D9}}\limits}}
144 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}\limits}}
145 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}\limits}}
146 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}\limits}}

```

```

147 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\text{\normal{unicode{x2A05}}}}\limits}}
148 \CustomizeMathJax{\newcommand{\conjquant}{\mathop{\text{\normal{unicode{x2A07}}}}\limits}}
149 \CustomizeMathJax{\newcommand{\disjquant}{\mathop{\text{\normal{unicode{x2A08}}}}\limits}}
150 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\text{\normal{unicode{x2A09}}}}\limits}}
151 \CustomizeMathJax{\newcommand{\modtwoosum}{\mathop{\text{\normal{unicode{x2A0A}}}}\limits}}
152 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\text{\normal{unicode{x2A0B}}}}\limits}}
153 \CustomizeMathJax{\newcommand{\intbar}{\mathop{\text{\normal{unicode{x2A0D}}}}\limits}}
154 \CustomizeMathJax{\newcommand{\intBar}{\mathop{\text{\normal{unicode{x2A0E}}}}\limits}}
155 \CustomizeMathJax{\newcommand{\fint}{\mathop{\text{\normal{unicode{x2A0F}}}}\limits}}
156 \CustomizeMathJax{\newcommand{\cirlfnint}{\mathop{\text{\normal{unicode{x2A10}}}}\limits}}
157 \CustomizeMathJax{\newcommand{\awint}{\mathop{\text{\normal{unicode{x2A11}}}}\limits}}
158 \CustomizeMathJax{\newcommand{\rppoint}{\mathop{\text{\normal{unicode{x2A12}}}}\limits}}
159 \CustomizeMathJax{\newcommand{\scpoint}{\mathop{\text{\normal{unicode{x2A13}}}}\limits}}
160 \CustomizeMathJax{\newcommand{\npoint}{\mathop{\text{\normal{unicode{x2A14}}}}\limits}}
161 \CustomizeMathJax{\newcommand{\pointint}{\mathop{\text{\normal{unicode{x2A15}}}}\limits}}
162 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\text{\normal{unicode{x2A16}}}}\limits}}
163 \CustomizeMathJax{\newcommand{\intlarhk}{\mathop{\text{\normal{unicode{x2A17}}}}\limits}}
164 \CustomizeMathJax{\newcommand{\intx}{\mathop{\text{\normal{unicode{x2A18}}}}\limits}}
165 \CustomizeMathJax{\newcommand{\intcap}{\mathop{\text{\normal{unicode{x2A19}}}}\limits}}
166 \CustomizeMathJax{\newcommand{\intcup}{\mathop{\text{\normal{unicode{x2A1A}}}}\limits}}
167 \CustomizeMathJax{\newcommand{\upint}{\mathop{\text{\normal{unicode{x2A1B}}}}\limits}}
168 \CustomizeMathJax{\newcommand{\lowint}{\mathop{\text{\normal{unicode{x2A1C}}}}\limits}}
169 \CustomizeMathJax{\newcommand{\bigtriangleleft}{\mathop{\text{\normal{unicode{x2A1E}}}}\limits}}
170 \CustomizeMathJax{\newcommand{\zcmp}{\mathop{\text{\normal{unicode{x2A1F}}}}\limits}}
171 \CustomizeMathJax{\newcommand{\zpipe}{\mathop{\text{\normal{unicode{x2A20}}}}\limits}}
172 \CustomizeMathJax{\newcommand{\zproject}{\mathop{\text{\normal{unicode{x2A21}}}}\limits}}
173 \CustomizeMathJax{\newcommand{\biginterleave}{\mathop{\text{\normal{unicode{x2AFC}}}}\limits}}
174 \CustomizeMathJax{\newcommand{\bigtalloblong}{\mathop{\text{\normal{unicode{x2AFF}}}}\limits}}
175 \CustomizeMathJax{\newcommand{\arabicmaj}{\mathop{\text{\normal{unicode{x1EEF0}}}}\limits}}
176 \CustomizeMathJax{\newcommand{\arabichad}{\mathop{\text{\normal{unicode{x1EEF1}}}}\limits}}
177
178 \end{warpMathJax}

```

File 491 **l warp-units.sty**

§ 597 Package **units**

(Emulates or patches code by AXEL REICHERT.)

Pkg units units is patched for use by l warp.

Values are not styled by css, and take the style of the surrounding HTML text.

Units are styled according to the print version, so they will be forced to upright roman in HTML if the print version does so. It may be necessary to adjust the document's body css to match the print version.

for HTML output: 1 \LWR@ProvidesPackagePass{units}[1998/08/04]

```

2 \DeclareRobustCommand*{\LWR@HTML@unit}[2][]{%
3 \ifblank{#1}%
4   {\LWR@textcurrentfont{#2}}%
5   {%

```

```

6      #1%
7      \ifthenelse{\boolean{B@UnitsLoose}}{\~}{\,}%
8      \LWR@textcurrentfont{\#2}%
9      }%
10 }
11 \LWR@formatted{unit}

12 \DeclareRobustCommand*\LWR@HTML@unitfrac}[3][]{%
13 \ifblank{#1}%
14   {%
15     \nicefrac{#2}{#3}%
16   }%
17   {%
18     #1%
19     \ifthenelse{\boolean{B@UnitsLoose}}{\~}{\,}%
20     \nicefrac{#2}{#3}%
21   }%
22 }
23
24 \LWR@formatted{unitfrac}

```

For Mathjax:

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\unit}[2][]{\mathinner{#2}}}
27 \CustomizeMathJax{\newcommand{\unitfrac}[3][]{\mathinner{\{}^{\#2}\!/\!\!{\}_{\#3}}}}
28 \end{warpMathJax}

```

File 492 **l warp-unitsdef.sty**

§ 598 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     \unitSIdef\selectfont%
22     \LWR@textcurrentfont{\#1#2}% l warp
23   \endgroup%
24 }
```

File 493 l warp-upgreek.sty**§ 599 Package upgreek**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg upgreek upgreek is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{upgreek}[2003/02/12]

For MATHJAX:

```
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{upgreek}
6
7 \LWR@mathjax@addgreek@l@up{up}{}
8 \LWR@mathjax@addgreek@u@up{Up}{}
9
10 \end{warpMathJax}
```

File 494 l warp-upref.sty**§ 600 Package upref**

Pkg upref upref is ignored.

for HTML output: Discard all options for l warp-upref:

1 \LWR@ProvidesPackageDrop{upref}[2007/03/14]

File 495 l warp-url.sty**§ 601 Package url**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg url url is patched for use by l warp.

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 496 l warp-ushort.sty

§ 602 Package **ushort**

(Emulates or patches code by MARTIN VÄTH.)

Pkg ushort ushort is used as-is, and emulated for MATHJAX.

for HTML output:

```
1 \LWR@ProvidesPackagePass[ushort][2001/06/13]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\ushortdline}[1]{%
4   \kern{.1em}\underline{\underline{#1}}\kern{.1em}%
5 }}%
6 \CustomizeMathJax{\newcommand{\ushort}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
7 \CustomizeMathJax{\newcommand{\ushortd}[1]{\ushortdline{#1}}}
8 \CustomizeMathJax{\newcommand{\ushortw}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
9 \CustomizeMathJax{\newcommand{\ushortdw}[1]{\ushortdline{#1}}}
10 \end{warpMathJax}
```

File 497 l warp-uspace.sty

§ 603 Package **uspace**

Pkg uspace uspace is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop[uspace][2016/11/06]
```

File 498 l warp-varioreref.sty

§ 604 Package **varioreref**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg varioreref varioreref is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass[varioreref][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 499 **l warp-verse.sty**

§ 605 Package **verse**

(Emulates or patches code by PETER WILSON.)

Pkg **verse** **verse** is supported and patched by **l warp**.

for HTML output: Pass all options for **l warp-verse**:

```
1 \LWR@ProvidesPackagePass{verse}[2009/09/04]
```

When using **verse** or **memoir**, always place a `\\"` after each line.

\attrib The documentation for the **verse** and **memoir** packages suggest defining an **\attrib** command, which may already exist in current documents, but it will only work for print output. **l warp** provides **\attribution**, which works for both print and HTML output. To combine the two so that **\attrib** is used for print and **\attribution** is used for HTML:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

Len **\vleftskip** 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 **\HTMLvleftskip** 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.

Env **verse** The **verse** environment will be placed inside a **HTML <pre>**.

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching verse.}
```

At the beginning of the **verse** environment:

```
4 \AtBeginEnvironment{verse}
5 {%
```

Use the original **list** environment inside a **<pre>** to attempt to preserve formatting.

```
6 \LWR@restoreoriglists%
```

Pkg **verse** The **verse** or **memoir** packages can place stanza numbers to the left with their **\flagverse** command. The following does not allow them to go into the left margin, which would cause **pdfcrop** to crop the entire page further to the left.
 Cls **memoir**
\flagverse
 Len **\vleftskip** 7 \ifdef{\vleftskip}{%
 8 \setlength{\vleftskip}{\HTMLvleftskip}
 9 \setlength{\leftmargini}{\HTMLleftmargini}
 10 }{%
 11 \LWR@forcenewpage
 12 \LWR@atbeginverbatim{verse}%
 13 }

After the end of the **verse** environment, which places the **<pre>** tag at the regular left margin:

```
14 \AtEndEnvironment{verse}{%
15 \leavevmode%
16 \LWR@afterendverbatim%
17 }
```

Patch to place **poemtitle** inside an **HTML ** 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 500 **lwarf-personotes.sty**

§ 606 Package **personotes**

(Emulates or patches code by NORMAN GRAY.)

Pkg versonotes versonotes is emulated.

for HTML output 1 \LWR@ProvidesPackageDrop{versonotes}[2019/07/06]

```
2 \newcommand{\versonote}[1]{\marginpar{#1}}
3 \newdimen\versotextwidth
4 \newdimen\versoleftmargin
5 \newcommand*{\versolayout}{}  
6 \setcounter{page}{1}
```

In case the user changed the page number before loading versonotes:

File 501 l warp-vertbars.sty

§ 607 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 502 l warp-vmargin.sty

§ 608 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 503 **l warp-vowel.sty**

§ 609 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 504 **l warp-vpe.sty**

§ 610 Package **vpe**

Pkg vpe **vpe** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]

File 505 **l warp-vwcol.sty**

§ 611 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 {<style tag>}
 8 \newcommand*{\LWR@vwcol@addgap}[1]{%
 9   \appto{\LWR@vwcolstyle}{%
10     #1: %
11     \LWR@printlength{\vwcol@sep} ; %
12   }%
13 }
```

Env vwcol {<key/values>}

Redefine the environment to add a HTML style. The style is built depending on the required options.

14 \renewenvironment*{vwcol}[1][]{}%

New paragraph, and process the options:

15 \LWR@stopars%

16 \vwcolsetup{#1}%

Begin with no style:

17 \newcommand*{\LWR@vwcolstyle}{}%

presep and postsep are created with HTML margins:

```

18 \if@vwcol@presep
19     \appto{\LWR@vwcolstyle}{margin-left: 1em ; padding-left: .5em ; }
20 \fi
21 \if@vwcol@postsep
22     \appto{\LWR@vwcolstyle}{margin-right: 1em ; padding-right: .5em ; }
23 \fi

```

sep becomes column-gap:

```

24 \ifdimgreater{\vwcol@sep}{1sp}{
25     \LWR@vwcol@addgap{column-gap}
26     \LWR@vwcol@addgap{-moz-column-gap}
27     \LWR@vwcol@addgap{-webkit-column-gap}
28 }{}

```

rule become column-rule, while prerule and postrule become HTML borders:

```

29 \convertcolorspec[named]{\vwcol@rulecol}{HTML}\LWR@vwcol@rulecolor%
30 \ifdimgreater{\vwcol@rule}{0pt}%
31     \ifdimless{\vwcol@rule}{1pt}%
32         \setlength{\vwcol@rule}{1pt}
33     }%
34     \LWR@vwcol@addrule{column-rule}
35     \LWR@vwcol@addrule{-moz-column-rule}
36     \LWR@vwcol@addrule{-webkit-column-rule}
37     \if@vwcol@prerule\LWR@vwcol@addrule{border-left}\fi
38     \if@vwcol@postrule\LWR@vwcol@addrule{border-right}\fi
39 }{}

```

Each of the justify options becomes a text-align. Indentation is added where appropriate.

```

40 \ifdefequal{\vwcol@justify}{\RaggedRight}%
41     \appto{\LWR@vwcolstyle}{text-align: left ; }
42     \ifdimgreater{\vwcol@parindent}{0pt}%
43         \appto{\LWR@vwcolstyle}{%
44             text-indent: \LWR@printlength{\vwcol@parindent} ; %
45         }%
46     }%
47 }{}

48 \ifdefequal{\vwcol@justify}{\RaggedLeft}%
49     \appto{\LWR@vwcolstyle}{text-align: right ; }
50 }{}

51 \ifdefequal{\vwcol@justify}{\Centering}%
52     \appto{\LWR@vwcolstyle}{text-align: center ; }
53 }{}

54 \ifdefequal{\vwcol@justify}{\justifying}%
55     \appto{\LWR@vwcolstyle}{text-align: justify ; }
56     \ifdimgreater{\vwcol@parindent}{0pt}%
57         \appto{\LWR@vwcolstyle}{%
58             text-indent: \LWR@printlength{\vwcol@parindent} ; %
59         }%
60     }%
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 506 **lwarf-wallpaper.sty**

§ 612 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 507 **lwarf-watermark.sty**

§ 613 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 508 **lwarp-widetable.sty**

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 509 ***l warp-widows-and-orphans.sty***

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\WaOsetup{m}{}  
3 \NewDocumentCommand\WaOparameters{}{}  
4 \NewDocumentCommand\WaOignorenext{}{}
```

File 510 **lwarw-witharrows.sty**

witharrows

(Emulates or patches code by F. PANTIGNY.)

Pkg witharrows witharrows is patched for use by lwarpt. Emulation is provided for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{witharrows}[2019/12/27]

```

2 \ifbool{mathjax}{%
3   % For the hidden print version in the HTML:
4   \newcommand{\Arrow}[2][]{}
5   \newcommand{\unicode}[1]{}
6   \NewDocumentEnvironment { DispWithArrows } { ! d < > ! O { } +b }
7   {
8     \IfValueTF{#1}{%
9       \begin{displaymath}
10      #1 \left\{ \right.

```

```

11 \begin{align}
12   #3
13 \end{align}
14 \right .
15 \end{displaymath}
16 }{
17   \begin{displaymath}
18     \begin{align}
19       #3
20     \end{align}
21   \end{displaymath}
22 }
23 }
24 {}
25 \NewDocumentEnvironment { DispWithArrows* } { ! d < > ! O { } +b }
26 {
27   \IfValueTF{#1} {
28     \begin{displaymath}
29       #1 \left\{ \vphantom{#1} \right.
30     \begin{align*}
31       #3
32     \end{align*}
33     \right. \vphantom{#1}
34     \end{displaymath}
35   }{
36     \begin{displaymath}
37       \begin{align*}
38         #3
39       \end{align*}
40     \end{displaymath}
41   }
42 }
43 {}
44 }{
45 % If not MathJax, use SVG images.
46 \BeforeBeginEnvironment{WithArrows}{\global\booltrue{LWR@unknonwmathsize}}
47 \BeforeBeginEnvironment{DispWithArrows}{%
48   \begin{BlockClass}{displaymathnumbered}%
49   \begin{ lateximage}%
50   }%
51 \AfterEndEnvironment{DispWithArrows}{\end{ lateximage}\end{BlockClass}}%
52 \BeforeBeginEnvironment{DispWithArrows*}{%
53   \begin{BlockClass}{displaymath}%
54   \begin{ lateximage}%
55   }%
56 \AfterEndEnvironment{DispWithArrows*}{\end{ lateximage}\end{BlockClass}}%
57 }
58 %
59 \begin{warpMathJax}
60 \CustomizeMathJax{\newenvironment{WithArrows}[1][]{\begin{aligned}}{\end{aligned}}}
61 % Unable to make a sized box.
62 \CustomizeMathJax{\newcommand{\Arrow}[2][]{\&{\Large\unicode{x2938}}\textit{#2}}}
63 \end{warpMathJax}

```

File 511 l warp-wrapfig.sty

§ 617 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 512 l warp-xbmks.sty

§ 618 Package **xbmks**

Pkg xbmks xbmks is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{xbmks}[2018/07/04]

```
2 \newcommand{\xmksetup}[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 513 l warp-xcolor.sty

§ 619 Package **xcolor**

(Emulates or patches code by DR. UWE KERN.)

Pkg xcolor xcolor is supported by l warp.

§ 619.1 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 . These <div>s are set to display: inline-block so adjacent \colorboxBlocks appear side-by-side in HTML, although text is placed before or after each.
Print-mode definitions for \colorboxBlock and \fcolorboxBlock are created by lwarp's core if xcolor is loaded.	
background: none	\fcolorbox and \fcolorboxBlock allow a background color of none, in which case only the frame is drawn, which can be useful for HTML.
color support	Color definitions, models, and mixing are fully supported without any changes required.
colored tables	\rowcolors is supported, except that the optional argument is ignored so far.
colored text and boxes	\textcolor, \colorbox, and \fcolorbox are supported.
\color and \pagecolor	\color and \pagecolor are ignored. Use css or \textcolor where possible.

§ 619.2 xcolor definitions: location and timing

The lwarp core and its lwarp-xcolor package are tightly integrated to allow comparable results for print, HTML, and print inside an HTML `lateximage`. This requires a number of definitions and redefinitions depending on whether each of xcolor and `lateximage` is being used, and whether print or HTML is being generated. Some of these actions are one-time when xcolor is loaded, and others are temporary as `lateximage` is used.

When xcolor is loaded in print mode: No special actions are taken at the time that xcolor is loaded in print mode, but see \AtBeginDocument below.

When lwarp-xcolor is loaded in HTML mode: xcolor's original definitions are saved for later restoration. \LWR@restoreorigformatting is appended to restore these definitions for use inside a `lateximage`. New HTML-mode definitions are created for \textcolor, \pagecolor, \nopagecolor, \colorbox, \colorboxBlock, \fcolorbox, \fcolorboxBlock, and \fcolorminipage.

\AtBeginDocument in print or HTML mode: See Section 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 `lateximage`, \LWR@restoreorigformatting is appended to temporarily set these functions to their print-mode versions.

In a `lateximage` in HTML mode: \LWR@restoreorigformatting temporarily restores the print-mode definitions of xcolor's functions. See \LWR@restoreorigformatting on page 541.

\color:

Print: Used as-is.

HTML: Ignored by *pdftotext*, and will not appear.

HTML lateximage: Colors will appear in a *lateximage*.

\textcolor:

Print: Used as-is.

HTML: Redefined by *lwarp-xcolor*, page 1190.

HTML lateximage: Remembers and reuses the print version.

\pagecolor:

Print: Used as-is.

HTML: Ignored.

HTML lateximage: Colors will be picked up in a *lateximage*.

\nopagecolor:

Print: Used as-is.

HTML: Ignored.

HTML lateximage: Colors will be picked up in a *lateximage*.

\colorbox:

Print: Used as-is.

HTML: Redefined by *lwarp-xcolor*, page 1191.

HTML lateximage: Remembers and reuses the print version.

\colorboxBlock:

Print: Becomes \colorbox.

HTML: Newly defined by *lwarp-xcolor* to use a <div>, page 1191.

HTML lateximage: 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 *lwarp-xcolor*, page 1191.

HTML lateximage: Remembers and reuses the print version.

\fcolorboxBlock:

Print: Becomes \fcolorbox. Section 87

HTML: Newly defined by *lwarp-xcolor* to use a <div>, page 1192.

HTML lateximage: Remembers and reuses the print version \fcolorbox.

fcolorminipage:

Print: Newly defined in the *lwarp* core.

\LWR@print@fcolorminipage at section 87

HTML: Newly defined by l warp-xcolor, page 1193.

HTML lateximage: Uses the print version.

\boxframe:

Print: Used as-is.

HTML: Redefined by l warp-xcolor, page 1194.

HTML lateximage: Remembers and reuses the print version.

§ 619.3 Package loading

for HTML output: 1 \LWR@ProvidesPackagePass{xcolor}[2016/05/11]

§ 619.4 Remembering and restoring original definitions

Remember the following print-mode actions to be restored when inside a lateximage environment:

2 \LetLtxMacro{\LWR@print@pagecolor}{\pagecolor}
3 \LetLtxMacro{\LWR@print@nopagecolor}{\nopagecolor}

\LWR@restoreorigformatting Inside a lateximage the following gets restored to their print-mode actions:

4 \appto{\LWR@restoreorigformatting}{%
5 \LetLtxMacro{\pagecolor}{\LWR@print@pagecolor}%
6 \LetLtxMacro{\nopagecolor}{\LWR@print@nopagecolor}%
7 }

§ 619.5 \normalcolor

\normalcolor

8 \DeclareRobustCommand{\LWR@HTML@normalcolor}{\color{black}}%
9
10 \LWR@formatted{normalcolor}

§ 619.6 HTML color style

\LWR@findcurrenttextcolor Sets \LWR@tempcolor to the current color.

11 \renewcommand*{\LWR@findcurrenttextcolor}{%
12 \protect\colorlet{\LWR@current@color}{.} %
13 \protect\convertcolorspec[named]{\LWR@current@color}{HTML}\LWR@tempcolor%
14 }

Prints a color style for the current color.

15 \newcommand*{\LWR@currenttextcolorstyle}{%
16 \LWR@findcurrenttextcolor%
17 \ifdefstring{\LWR@tempcolor}{000000}{%
18 {}%
19 {color: \LWR@origpound\LWR@tempcolor ; }%
20 }

\LWR@currenttextcolorstyle

\LWR@textcurrentcolor {*text*} Like \textcolor but uses the current \color instead.

```
21 \DeclareDocumentCommand{\LWR@textcurrentcolor}{m}{%
22 \begingroup%
23 \LWR@FBcancel%
24 \LWR@findcurrenttextcolor%
25 \InlineClass[color:\LWR@origpound\LWR@tempcolor]{textcolor}{%
26     \renewcommand*\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
27     #1%
28 }%
29 \endgroup%
30 }
```

\LWR@colorstyle {*1: model*} {*2: color*}

For a color style, prints the color converted to HTML colors.

```
31 \NewDocumentCommand{\LWR@colorstyle}{m m}{%
32 \begingroup%
33 \LWR@FBcancel%
```

Use the xcolor package to convert to an HTML color space:

```
34 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
```

Print the converted color:

```
35 \LWR@origpound\LWR@tempcolor%
36 \endgroup%
37 }
```

\LWR@backgroundcolor [*model*] {*color*} {*text*}

Similar to \textcolor, but prints black text against a color background.

Converted into an HTML hex color span.

```
38 \NewDocumentCommand{\LWR@backgroundcolor}{O{named} m m}{%
39 \begingroup%
40 \LWR@FBcancel%
41 \InlineClass[background:\LWR@colorstyle{#1}{#2}]{backgroundcolor}{%
42 #3%
43 }%
44 \endgroup%
45 }
```

§ 619.7 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.

```
46 \newcommand*{\LWR@borderpadding}[2]{%
47 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@colorstyle{#1}{#2} ; %
48 padding:\LWR@printlength{\fboxsep}%
49 }
```

§ 619.8 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.

```
50 \NewDocumentCommand{\LWR@HTML@color}{o m}{%
51 \IfValueTF{#1}{%
52   \LWR@print@color[#1]{#2}%
53   \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
54 }{%
55   \LWR@print@color{#2}%
56   \convertcolorspec{named}{#2}{HTML}\LWR@tempcolor%
57 }%
58 \edef\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
59 }
60
61 \LWR@formatted{color}
```

\textcolor [*model*] {*color*} {*text*}

Converted into an HTML hex color span.

```
62 \NewDocumentCommand{\LWR@HTML@textcolor}{o m m}{%
63 \begingroup%
64 \LWR@FBcancel%
65 \IfValueTF{#1}{%
66   \color[#1]{#2}%
67 }{%
68   \color{#2}%
69 }%
70 \InlineClass[color:\LWR@currenttextcolor]{textcolor}{#3}%
71 \endgroup%
72 }%
73
74 \LWR@formatted{textcolor}
```

\pagecolor [*model*] {*color*}

Ignored. Use css instead.

```
75 \renewcommand*{\pagecolor}[2][named]{}
```

\nopagecolor Ignored.

```
76 \renewcommand*\nopagecolor{}
```

\colorbox [⟨model⟩] {⟨color⟩} {⟨text⟩}

Converted into an HTML hex background color .

```
77 \NewDocumentCommand{\LWR@HTML@colorbox}{O{named} m +m}{%
78 \begingroup%
79 \LWR@FBcancel%
80 \InlineClass[%%
81 background:\LWR@colorstyle{#1}{#2} ; %
82 padding:\LWR@printlength{\fboxsep}%
83 ]{colorbox}{#3}%
84 \endgroup%
85 }%
86
87 \AtBeginDocument{%
88     \LWR@formatted{colorbox}%
89 }
```

\colorboxBlock [⟨model⟩] {⟨color⟩} {⟨text⟩}

Converted into an HTML hex background color <div>.

```
90 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{O{named} m +m}{%
91 \begingroup%
92 \LWR@FBcancel%
93 \LWR@stopars%
94 \begin{BlockClass}[%%
95 background:\LWR@colorstyle{#1}{#2} ; %
96 padding:\LWR@printlength{\fboxsep}%
97 ]{colorboxBlock}%
98 #3%
99 \end{BlockClass}%
100 \endgroup%
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
101 \global\booltrue{\LWR@minipagethispar}%
102 }
103
104 \AtBeginDocument{%
105     \LWR@formatted{colorboxBlock}%
106 }
```

```
\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.

```

107 \NewDocumentCommand{\LWR@HTML\fcolorbox}{O{named} m O{#1} m +m}{%
108 \LWR@traceinfo{HTML fcolorbox #2 #4}%
109 \begingroup%
110 \LWR@FBcancel%
111 \LWR@forceminwidth{\fboxrule}%
112 \ifthenelse{\equal{#4}{none}}{%
113     {% no background color
114         \InlineClass[%
115             \LWR@borderpadding{#1}{#2}%
116             ]{fcolorbox}{#5}%
117     }%
118     {% yes background color
119         \InlineClass[%
120             \LWR@borderpadding{#1}{#2} ; %
121             background:\LWR@colorstyle{#3}{#4}%
122             ]{fcolorbox}{#5}%
123     }%
124 \endgroup%
125 }
126
127 \AtBeginDocument{%
128     \LWR@formatted{fcolorbox}%
129 }
```

```
\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.

```

130 \NewDocumentCommand{\LWR@HTML\fcolorboxBlock}{O{named} m O{#1} m +m}{%
131 \LWR@traceinfo{HTML fcolorboxBlock #2 #4}%
132 \begingroup%
133 \LWR@FBcancel%
134 \LWR@forceminwidth{\fboxrule}%

135 \LWR@stopars%

136 \ifthenelse{\equal{#4}{none}}{%
137     {% no background color
138         \begin{BlockClass}[%
139             \LWR@borderpadding{#1}{#2}%
140             ]{fcolorboxBlock}%
141             #5%
142             \end{BlockClass}%
143     }%
144     {% yes background color
145         \begin{BlockClass}[%
146             \LWR@borderpadding{#1}{#2} ; %
147             background:\LWR@colorstyle{#3}{#4}%
148             ]{fcolorboxBlock}%
149             #5%
150             \end{BlockClass}%
151     }%
152 }
```

```

145      \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
146      \begin{BlockClass}[%  

147          background:\LWR@origpound\LWR@tempcolortwo\ ; %  

148          \LWR@borderpadding{#1}{#2}%
149      ]{fcolorboxBlock}
150      #5
151      \end{BlockClass}%
152  }%
153 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

154 \global\booltrue{\LWR@minipagethispar}%
155 \LWR@traceinfo{HTML fcolorboxBlock done}%
156 }
157
158 \AtBeginDocument{%
159     \LWR@formatted{fcolorboxBlock}
160 }

```

Creates a framed HTML <div> around its contents.

A print-output version is defined in the `lwarp` core: section 87

```

\LWR@subfcolorminipage {⟨framemodel⟩} {⟨framecolor⟩} {⟨background tag⟩} {⟨height⟩}
161 \NewDocumentCommand{\LWR@subfcolorminipage}{m m m m}{%
162 \LWR@stoppars%
163 \begin{BlockClass}[%  

164 #3%
165 \LWR@borderpadding{#1}{#2} ; %
166 \IfValueT{#4}{height:\LWR@printlength{\LWR@tempheight} ; }%
167 width:\LWR@printlength{\LWR@tempwidth}%
168 ]{fcolorminipage}%
169 }

Env  fcolorminipage [⟨1:framemodel⟩] {⟨2:framecolor⟩} [⟨3:boxmodel⟩] {⟨4:boxcolor⟩} [⟨5:align⟩] [⟨6:height⟩]
[⟨7:inner-align⟩] {⟨8:width⟩}

170 \NewDocumentEnvironment{\LWR@HTML@fcolorminipage}{O{named} m O{#1} m O{c} o o m}
171 {%
172 \LWR@FBcancel%
173 \setlength{\LWR@tempwidth}{#8}%
174 \IfValueT{#6}{\setlength{\LWR@tempheight}{#6}}%
175 \LWR@forceminwidth{\fboxrule}%
176 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
177 \ifthenelse{\equal{#4}{none}}{%
178     {\LWR@subfcolorminipage{#1}{#2}{}}{#6}%
179 }%
180     \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%

```

```

181      \LWR@subfcolorminipage{#1}{#2}%
182          {background:\LWR@origpound\LWR@tempcolortwo\ ; }%
183          {#6}%
184      }%
185 }%
186 {%
187     \end{BlockClass}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

188     \global\booltrue{\LWR@minipagethispar}%
189 }
190
191 \AtBeginDocument{%
192 \LWR@formattedenv{fcolorminipage}%
193 }

```

\boxframe {*width*} {*height*} {*depth*}

The depth is added to the height, but the box is not descended below by the depth. \textcolor is honored.

```

194 \newcommand*{\LWR@HTML@boxframe}[3]{%
195 {%
196 \setlength{\LWR@tempwidth}{#1}%
197 \setlength{\LWR@tempheight}{#2}%
198 \addtolength{\LWR@tempheight}{#3}%
199 \LWR@forceminwidth{\fboxrule}%
200 \LWR@findcurrenttextcolor%
201 \InlineClass[%
202 display:inline-block ; %
203 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@currenttextcolor{} ; %
204 width:\LWR@printlength{\LWR@tempwidth} ; %
205 height:\LWR@printlength{\LWR@tempheight}%
206 ]{\boxframe}{}%
207 }%
208 }%
209
210 \LWR@formattedenv{\boxframe}

```

§ 619.9 Row colors

\rowc@l@rs [⟨cmds⟩] {⟨startrow⟩} {⟨odd color⟩} {⟨even color⟩}

```

211 \newcommand*{\LWR@xcolor@tempcolor}{}%
212
213 \def\rowc@l@rs[#1]#2#3#4%
214 {
215 \rownum=1%
216     \rowcolorstrue%
217     \ifxempty{#3}%
218         {\def\@oddrowcolor{\@norowcolor}}%

```

```

219      {%
220          \convertcolorspec{named}{#3}{HTML}\LWR@xcolortempcolor%
221          \edef\@oddrowcolor{%
222              \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
223          }%
224      }%
225      \@ifxempty{#4}%
226          {\def\@evenrowcolor{@norowcolor}%
227          {%
228              \convertcolorspec{named}{#4}{HTML}\LWR@xcolortempcolor%
229              \edef\@evenrowcolor{%
230                  \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
231              }%
232          }%
233          \if@rowcmd
234              \def\@rowcolors
235          {%
236 %                 #1%
237              \if@rowcolors
238 %                 \noalign{%
239                  \relax\ifnum\rownum<#2@\norowcolor\else
240                      \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi\fi%
241 %                 }%
242              \fi%
243          }%
244          \else
245              \def\@rowcolors
246          {%
247              \if@rowcolors
248                  \ifnum\rownum<#2%
249 %                     \noalign{%
250                      \norowcolor
251 %                     }
252                  \else
253 %                     #1%
254 %                     \noalign{%
255                      \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi%
256 %                     }%
257                  \fi
258              \fi%
259          }%
260          \fi
261          \ignorespaces%
262      }

```

\@norowcolor Turns off color for this row.

```

263 \def\@norowcolor{%
264 \renewcommand{\LWR@xcolorrowHTMLcolor}{()}%
265 }

```

\@rowc@lors Executed at the end of each row.

```

266 \def\@rowc@lors{%
267 %     \noalign{%

```

```
268           \advance\rownum\@ne%
269 %     }%
270     \@rowcolors%
271 }
```

File 514 l warp-xexchangebar.sty**§ 620 Package xexchangebar**

Pkg xexchangebar xexchangebar is ignored

for HTML output: 1 \LWR@ProvidesPackageDrop{xexchangebar}[2017/08/03]
2 \LWR@origRequirePackage{l warp-changebar}

File 515 l warp-xellipsis.sty**§ 621 Package xellipsis**

(Emulates or patches code by DONALD P. GOODMAN III.)

Pkg xellipsis xellipsis is patched for use by l warp.

When non-zero, each of the spaces is converted to an HTML thin unbreakable space.

for HTML output: 1 \LWR@ProvidesPackagePass{xellipsis}[2015/11/01]

```
2 \newcommand*{\LWR@xellipsespace}[1]{%
3 \ifdim#1=0pt\else%
4   \ifdim#1<\fontdimen2\font%
5     ,%
6   \else%
7     ~%
8   \fi%
9 \fi%
10 }
11
12 \def\xelip{%
13 \mbox{%
14   \LWR@xellipsespace{\xeliprebef}%
15   \xelipprechar%
16   \LWR@xellipsespace{\xelippreaft}%
17   \LWR@xellipsespace{\xelipbef}%
18   \xelipchar%
19   \xel@loopi = 1%
20   \loop\ifnum\xelipnum>\xel@loopi%
21     \advance\xel@loopi by1%
22     \LWR@xellipsespace{\xelipgap}%
23     \xelipchar%
24   \repeat%
25   \LWR@xellipsespace{\xelipaft}%
26 }
```

```

26      \LWR@xellipsespace{\xelippostbef}%
27      \xelippostchar%
28      \LWR@xellipsespace{\xelippoststaft}%
29 }%
30 }%

```

File 516 **l warp-xetexko-vertical.sty**

§ 622 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{\verticaltypesetting}{}
5 \renewenvironment{vertical}[1]{\BlockClass{verticalrl}}{\endBlockClass}
6 \renewenvironment{horizontal}[1]{\BlockClass{horizontaltb}}{\endBlockClass}
7 \renewcommand{\vertlatin}[1]{#1}

```

File 517 **l warp-xfakebold.sty**

§ 623 Package **xfakebold**

(Emulates or patches code by HERBERT VOSS.)

Pkg **xfakebold** **xfakebold** is patched for use by **l warp**, and additional underlying support is found in the **l warp** core.

⚠ **text mode** **xfakebold** is only used in **SVG** math and **lateXimages**. Text mode is not set bold, but **\setBold** in text will be applied to any following **SVG** math.

for HTML output:

```

1 \LWR@ProvidesPackagePass{xfakebold}[2020/06/24]

2 \newcommand*{\LWR@HTML@setBold}{\booltrue{\LWR@xfakebold}}
3 \LWR@formatted{setBold}
4
5 \newcommand*{\LWR@HTML@unsetBold}{\boolfalse{\LWR@xfakebold}}
6 \LWR@formatted{unsetBold}
7
8 \renewcommand*{\LWR@applyxfakebold}{%
9   \ifbool{\LWR@xfakebold}{\LWR@print@setBold}{\LWR@print@unsetBold}%
10 }

```

For **MATHJAX**, **xfakebold** is ignored.

```

11 \begin{warpMathJax}
12 \CustomizeMathJax{\newcommand{\setBold}[1][]{}}
13 \CustomizeMathJax{\newcommand{\unsetBold}{}}
14 \end{warpMathJax}
```

File 518 **lwarp-xfrac.sty**

§ 624 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, **lwarp** should be loaded after font-related setup. During HTML conversion, this font is used by **lwarp** to generate its initial PDF output containing HTML tags, later to be converted by **pdftotext** to a plain text file. While the text may be in any font which **pdftotext** can read, the math is directly converted into SVG images using this same user-selected font. **xfrac** below is set for the Latin Modern (lmr) font. If another font is used, it may be desirable to redefine **\xfracHTMLfontsize** with a different em size.

\sfrac [*instance*] [*num*] [*sep*] [*denom*]

A text-mode instance for the default font is provided below. The numerator and denominator formats are adjusted to encase everything in HTML tags. **\scalebox** is made null inside the numerator and denominator, since the HTML tags should not be scaled, and we do not want to introduce additional HTML tags for scaling.

In math mode, which will appear inside a **lateximage**, no adjustments are necessary.

\xfracHTMLfontsize User-redefinable macro which controls the font size of the fraction.

2 \newcommand*\xfracHTMLfontsize{.6em}

instances Instances of **xfrac** for various font choices:

Produce css for a small raised numerator and a small denominator.

Scaling is turned off so that **pdftotext** correctly reads the result.

```

3 \DeclareInstance{xfrac}{default}{text}{
4   numerator-format = {%
5     \begingroup%
6     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
7     \InlineClass{numerator}{#1}\,,
8     \endgroup%
9   },
10  denominator-format = {%
11    \begingroup%
```

```
12      \RenewDocumentCommand{\scalebox}{m o m}{##3}%
13      \InlineClass{denominator}{#1}%
14      \endgroup%
15 },
```

For *pdftotext*, do not scale the text:

```
16     scaling = false
17 }
18
19 \DeclareInstance{xfrac}{lmr}{text}{
20     numerator-format = {%
21         \begingroup%
22         \RenewDocumentCommand{\scalebox}{m o m}{##3}%
23         \InlineClass{numerator}{#1},%
24         \endgroup%
25 },
26     denominator-format = {%
27         \begingroup%
28         \RenewDocumentCommand{\scalebox}{m o m}{##3}%
29         \InlineClass{denominator}{#1}%
30         \endgroup%
31 },
```

For *pdftotext*, do not scale the text:

```
32     scaling = false
33 }
34
35 \DeclareInstance{xfrac}{lmss}{text}{
36     numerator-format = {%
37         \begingroup%
38         \RenewDocumentCommand{\scalebox}{m o m}{##3}%
39         \InlineClass{numerator}{#1},%
40         \endgroup%
41 },
42     denominator-format = {%
43         \begingroup%
44         \RenewDocumentCommand{\scalebox}{m o m}{##3}%
45         \InlineClass{denominator}{#1}%
46         \endgroup%
47 },
```

For *pdftotext*, do not scale the text:

```
48     scaling = false
49 }
50
51 \DeclareInstance{xfrac}{lmtt}{text}{
52     numerator-format = {%
53         \begingroup%
54         \RenewDocumentCommand{\scalebox}{m o m}{##3}%
55         \InlineClass{numerator}{#1},%
56         \endgroup%
57 },
```

```

58     denominator-format = {%
59         \begingroup%
60         \RenewDocumentCommand{\scalebox}{m o m}{##3}%
61         \InlineClass{denominator}{#1}%
62         \endgroup%
63     },

```

For *pdftotext*, do not scale the text:

```

64     scaling = false
65 }

```

For MATHJAX:

```

66 \begin{warpMathJax}
67 \CustomizeMathJax{\newcommand{\LWRsfrac}[2][]{\{}^{\LWRsfracnumerator\!#1\}_{\#2}}}
68 \CustomizeMathJax{\newcommand{\sfrac}[2][]{\def\LWRsfracnumerator{\#2}\LWRsfrac}}
69 \end{warpMathJax}

```

File 519 **l warp-xltabular.sty**

§ 625 Package **xltabular**

(Emulates or patches code by ROLF NIEPRASCHK, HERBERT VOSS.)

Pkg xltabular xltabular is emulated by l warp.

for HTML output: Relies on tabularx.

⚠ **table numbering** At present, an xltabular without a caption or with only a \caption* may be misnumbered in HTML, so it may be necessary to place at the end of the table:

```
\warpHTMLonly{\addtocounter{table}{-1}}
```

```

1 \RequirePackage{tabularx}
2 \RequirePackage{ltablex}
3
4 \LWR@ProvidesPackageDrop{xltabular}[2018/05/23]
5
6 \DeclareDocumentEnvironment{xltabular}{o m m}
7 {\longtable{\#3}}
8 {\endlongtable}

```

File 520 **l warp-xltxttra.sty**

§ 626 Package **xltxttra**

(Emulates or patches code by WILL ROBERTSON, JONATHAN KEW.)

Pkg xltxttra xltxttra is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{xltxttra}[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 521 **l warp-xmpincl.sty**

§ 627 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 522 **l warp-xpiano.sty**

§ 628 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 523 l warp-xpinyin.sty

§ 629 Package xpinyin

(Emulates or patches code by SOBEN LEE.)

Pkg xpinyin xpinyin is supported.

Pinyin is disabled for file names, the sidetoc, and regular footnotes, but is left enabled for minipage footnotes, as per the print mode.

for HTML output 1 \LWR@ProvidesPackagePass[xpinyin][2019-04-07]

The original's boxes are not used, instead the contents are used with <ruby>, <rb>, and <rt> tags per modern HTML. Color is detected. ratio is ignored for pdftotext to work correctly. Extra spaces are placed inside the tags to allow line breaks in the HTML text.

```

2 \ExplSyntaxOn
3 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_make_pinyin_box:nnn #1#2#3
4 {
5   \color_group_begin: \color_ensure_current:
6   \l__xpinyin_pinyin_box_hook_tl
7   \renewcommand*\l__xpinyin_ratio_tl{1}% for pdftotext
8   \__xpinyin_select_font:
9   \clist_if_exist:cTF { c__xpinyin_multiple_ #1 _clist }
10    { \l__xpinyin_multiple_tl \l__xpinyin_format_tl }
11    { \l__xpinyin_format_tl }
12   \ifdefempty{\l__xpinyin_format_tl}
13    {#3}
14    {\LWR@textcurrentcolor{#3}}
15   \color_group_end:
16 }
17 \LWR@formatted{__xpinyin_make_pinyin_box:nnn}
18

```

```

19 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_CJKsymbol:nn #1#2
20  {
21      __xpinyin_leavevmode:
22      \LWR@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:nnn {#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 **lwarf** core uses the following to disable CJK `xpinyin` for filenames, `sideroc`, and footnotes.

```

53 \renewcommand*{\LWR@disablepinyin}{\disablepinyin}
54
55 \FilenameNullify{\LWR@disablepinyin}

```

File 524 **lwarf-xr.sty**

§ 630 Package **Xr**

(*Emulates or patches code by JEAN-PIERRE DRUCBERT, DAVID CARLISLE.*)

Pkg **xr** **xr** is patched for use by **lwarf**. 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 525 **l warp-xr-hyper.sty**

§ 631 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 526 **l warp-xtab.sty**

§ 632 Package **xtab**

(Emulates or patches code by PETER WILSON.)

Pkg **xtab** **xtab** is emulated.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{xtab}[2011/07/31]
```

⚠ **Misplaced alignment tab character &** For **\tablefirsthead**, etc., enclose them as follows:

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

⚠ **latextimage** **supertabular** and **xtab** are not supported inside a **latextimage**.

```
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 527 **l warp-xunicode.sty**

§ 633 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 }% F ilenameNullify

```

File 528 **l warp-xurl.sty**

§ 634 Package **xurl**

Pkg xurl xurl is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{xurl}[2020/01/14]
2
3 \def\useOriginalUrlSetting{}

File 529 **l warp-xy.sty**

§ 635 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@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 530 **lwarp-zhlineskip.sty**

§ 636 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 531 **lwarf-zwpagelayout.sty**

§ 637 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{rbred}{rgb}{1,0,0}
15  \definecolor{rbgreen}{rgb}{0,1,0}
16  \definecolor{rbblue}{rgb}{0,0,1}
17 %   \ifzwpl@redefinecmyk
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\ZW@evenwarning{#1}}
41 \def\ZW@oddwarning{Empty page inserted}\let\ZW@evenwarning\ZW@oddwarning
42
```

```
43 \def\clap#1{#1}
44
45 \def\CropFlap{2in}
46 \def\CropSpine{1in}
47 \def\CropXSpine{1in}
48 \def\CropXtrim{.25in}
49 \def\CropYtrim{.25in}
50 \def\UserWidth{5in}
51 \def\UserLeftMargin{1in}
52 \def\UserRightMargin{1in}
53 \def\UserTopMargin{1in}
54 \def\UserBotMargin{1in}
55 \def\thePageNumber{\LWR@origpound\,\arabic{page}}
56 \ifXeTeX
57 \def\ifcaseZWdriver{\ifcase2}
58 \else
59 \def\ifcaseZWdriver{\ifcase1}
60 \fi
61 \DeclareRobustCommand\ZWifdriver[2]{}

---


```

File 532 **l warp-patch-komascript.sty**

§ 638 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\captionof{above\captionof}
47 }
48 }
49
50 \RenewDocumentEnvironment{captionbeside}{o m o o o s}
51 {}
52 {%
53     \IfValueTF{#1}%
54         {\caption[#1]{#2}}%
55         {\caption{#2}}%
56 }
57
58 \RenewDocumentEnvironment{captionofbeside}{m o m o o o s}
59 {}
60 {%
61     \IfValueTF{#2}%
62         {\captionof{#1}[#2]{#3}}%
63         {\captionof{#1}{#3}}%
64 }
65
66 \RenewDocumentCommand{\setcapindent}{s m}{}
67 \renewcommand*{\setcaphanging}{}%
68 \renewcommand*{\setcapwidth}[2]{}%
69 \renewcommand*{\setcapdynwidth}[2]{}%
70 \RenewDocumentCommand{\setcapmargin}{s o m}{}

```

File 533 **l warp-patch-memoir.sty**

§ 639 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 639.1). 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 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 cleverref, 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.

for HTML output: 1 \ProvidesPackage{l warp-patch-memoir}

§ 639.1 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 l warp is directly loading the "l warp-" version of each, which happens to avoid memoir's emulation system.

```
2 \RequirePackage{l warp-abstract}%
3 % \RequirePackage{l warp-array}%
4 % \RequirePackage{l warp-booktabs}%
5 % \RequirePackage{l warp-ccaption}%
6 % \RequirePackage{l warp-changepage}%
```

req'd
no longer req'd
req'd
emulated below
req'd

```

7 \RequirePackage{lwarp-crop}
8 % \RequirePackage{lwarp-dcolumn}% no longer req'd
9 \RequirePackage{lwarp-enumerate}% req'd
10 \RequirePackage{lwarp-epigraph}% req'd
11 \RequirePackage{lwarp-fancyvrb}% req'd
12 \RequirePackage{lwarp-footmisc}% req'd

13 \let\framed\relax \let\endframed\relax
14 \let\shaded\relax \let\endshaded\relax
15 \let\leftbar\relax \let\endleftbar\relax
16 \let\snugshade\relax \let\endsnugshade\relax
17 \RequirePackage{lwarp-framed}% req'd
18
19 \RequirePackage{lwarp-hanging}% req'd
20 \RequirePackage{lwarp-makeidx}% req'd
21 \DisemulatePackage{moreverb}
22 \RequirePackage{lwarp-moreverb}
23 \RequirePackage{lwarp-mparhack}
24 \RequirePackage{lwarp-needspace}% req'd
25 \RequirePackage{lwarp-nextpage}% req'd
26 \RequirePackage{lwarp-pagenote}% req'd
27 \RequirePackage{lwarp-parskip}
28 \RequirePackage{lwarp-setspace}% req'd
29 \RequirePackage{lwarp-showidx}

30 \makeindex

31 % \RequirePackage{lwarp-tabularx}% no longer req'd
32 \RequirePackage{lwarp-titling}% req'd
33 % \RequirePackage{lwarp-tocbibind}% not emulated by memoir
34 \RequirePackage{lwarp-tocloft}% req'd
35 \RequirePackage{lwarp-verse}% req'd

```

§ 639.2 Label handling

Insert the `lwarp` label mechanism into the `memoir` package mechanism:

- `\@mem@old@label` is the L^AT_EX definition of `\label`.
- `\LWR@orig@label` adds the `memoir` definition.
- `lwarp`'s `\LWR@new@label` uses `\LWR@orig@label`.
- Want `memoir`'s `\label` to use `lwarp`'s `\label`, which then would use L^AT_EX'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         \@memoldlabel{\#1}%
43         \LWR@label@createtag{sub@#1}%
44         \protected@write\@auxout{}{%
45             \string\newlabel{sub@#1}%
46             {{\@nameuse{@thesub@\capttype}}%{\thepage}}}}%
47         \LWR@write@lwarplabel{sub@#1}%
48         @esphack
49     }
50 }
51 }
```

§ 639.3 Page layout

memoir already set the page size to a default, so it must be forced large for l warp's use, to avoid tag overflows off the page.

```
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*\{\pagesmallroyalvo}{}  
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*\{\stocksmaledemyvo}{}  
108 \renewcommand*\{\stockdemyvo}{}  
109 \renewcommand*\{\stockmediumvo}{}  
110 \renewcommand*\{\stocksmaledroyalvo}{}  
111 \renewcommand*\{\stockroyalvo}{}  
112 \renewcommand*\{\stocksuperroyalvo}{}  
113 \renewcommand*\{\stockimperialvo}{}  
114 \renewcommand*\{\pagepottvo}{}  
115 \renewcommand*\{\pagefoolscapvo}{}  
116 \renewcommand*\{\pagecrownvo}{}  
117 \renewcommand*\{\pagepostvo}{}  
118 \renewcommand*\{\pagelargecrownvo}{}  
119 \renewcommand*\{\pagelargepostvo}{}  
120 \renewcommand*\{\pagesmaledemyvo}{}  
121 \renewcommand*\{\pagedemyvo}{}  
122 \renewcommand*\{\pagemediumvo}{}  
123 \renewcommand*\{\pagesmaledroyalvo}{}  
124 \renewcommand*\{\pageroyalvo}{}  
125 \renewcommand*\{\pagesuperroyalvo}{}  
126 \renewcommand*\{\pageimperialvo}{}  
127  
128 \renewcommand*\{\memfontfamily}{}  
129 \renewcommand*\{\memfontenc}{}  
130 \renewcommand*\{\memfontpack}{}  
131  
132 \renewcommand*\{\anyptfilebase}{}  
133 \renewcommand*\{\anyptsize}{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*\{\setcolsepandrule}[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{\setpagetm}[3]{}{}
185 \renewcommand{\setpagebr}[3]{}{}
186 \renewcommand{\setpagemr}[3]{}{}
187 \renewcommand{\setpagebm}[3]{}{}
188 \renewcommand{\setpagecc}[3]{}{}
```

§ 639.4 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}{}%

```

§ 639.5 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]{}

§ 639.6 Abstracts

239 % \newlength{\absindent}
 240 % \newlength{\absparsep}
 241 \renewcommand*\{\abstractcol}{
 242 \renewcommand*\{\abstractintoc}{
 243 \renewcommand*\{\abstractnum}{
 244 \renewcommand*\{\abstractrunin}{

§ 639.7 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]{}
```

§ 639.8 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}{}  
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}{}  
490
```

§ 639.9 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}{}  
490
```

§ 639.10 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{\printtoctitle}[1]{}%
502 \renewcommand{\tocmark}{}%
503 \renewcommand{\aftertoctitle}{}%
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*{\cftpabreak}{}%
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]{}
```

§ 639.11 **Floats and captions**

\@xfloat

\@dblfloat 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   }%
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      \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{\flegtablename}{\tablename}
775 \renewcommand{\flegfigurename}{\figurename}
776 \renewcommand{\flegtoctablename}{}
777 \renewcommand{\flegtocfigurename}{}

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     #
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 }
```

§ 639.12 Footnotes and page notes

```
849 \renewcommand*\{\feetabovefloat}{}
850 \renewcommand*\{\feetbelowfloat}{}
851 \renewcommand*\{\feetatbottom}{}
852
853 \renewcommand*\{\verbfootnote}[2][]{%
854     \PackageError{lwarp,memoir}%
855     {Verbatim footnotes are not yet supported by lwarp}%
856     {This may be improved some day.}%
857 }
858
859 \renewcommand*\{\plainfootnotes}{}
860 \renewcommand*\{\twocolumnfootnotes}{}
861 \renewcommand*\{\threecolumnfootnotes}{}
862 \renewcommand*\{\paragraphfootnotes}{}
863 \renewcommand*\{\footfudgefiddle}{}
864
865 \renewcommand*\{\newfootnoteseries}[1]{%
866     \PackageError{lwarp,memoir}%
867     {Memoir footnote series are not yet supported by lwarp}%
868     {This may be improved some day.}%
869 }
870
871 \renewcommand*\{\plainfootstyle}[1]{}
872 \renewcommand*\{\twocolumnfootstyle}[1]{}
873 \renewcommand*\{\threecolumnfootstyle}[1]{}
874 \renewcommand*\{\paragraphfootstyle}[1]{}
875
876 \renewcommand*\{\footfootmark}{}
877 \renewcommand*\{\footmarkstyle}[1]{}
878
879 % \newlength{\footmarkwidth}
880 % \newlength{\footmarksep}
881 % \newlength{\footparindent}
882
883 \renewcommand*\{\foottextfont}{}
884
```

```

885 \renewcommand*\{\marginparmargin}[1]{}
886 \renewcommand*\{\sideparmargin}[1]{}
887
888 \LetLtxMacro\sidepar\marginpar
889 \renewcommand*\{\sideparfont}{}
890 \renewcommand*\{\sideparform}{}
891 \LWR@providelength{\sideparvshift}
892
893 \renewcommand*\{\parnopar}{}
894
895 \renewcommand{\sidebar}[1]{\begin{quote}#1\end{quote}}
896 \renewcommand*\{\sidebarmargin}[1]{}
897 \renewcommand*\{\sidebarfont}{}
898 \renewcommand*\{\sidebarform}{}
899 % \newlength{\sidebarhsep}
900 % \newlength{\sidebarvsep}
901 % \newlength{\sidebarwidth}
902 % \newlength{\sidebartopsep}
903 \renewcommand{\setsidebarheight}[1]{}
904 \renewcommand*\{\setsidebars}[6]{}
905 \renewcommand*\{\footnotesatfoot}{}
906 \renewcommand*\{\footnotesinmargin}{}
907
908 \LetLtxMacro\sidefootnote\footnote
909 \LetLtxMacro\sidefootnotemark\footnotemark
910 \LetLtxMacro\sidefootnotetext\footnotetext
911
912 \renewcommand*\{\sidefootmargin}[1]{}
913 % \newlength{\sidefoothsep}
914 % \newlength{\sidefootvsep}
915 % \newlength{\sidefootwidth}
916 % \newlength{\sidefootadjust}
917 % \newlength{\sidefootheight}
918 \renewcommand*\{\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 }
```

§ 639.13 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{}
```

§ 639.14 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\}{}  


```

§ 639.15 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*\{\bverpagegettrue\}{}  

1003 \renewcommand*\{\bverpagefalse\}{}  

1004 \renewcommand{\bvtopofpage}[1]{}  

1005 \renewcommand{\bvendofpage}[1]{}  

1006 \renewcommand*\{\linenumberfrequency\}[1]{}  

1007 \renewcommand*\{\resetbvlinenumber\}{}  

1008 \renewcommand*\{\setbvlinenums\}[2]{}  

1009 \renewcommand*\{\linenumberfont\}[1]{}  

1010 \renewcommand*\{\bvnnumbersinside\}{}  

1011 \renewcommand*\{\bvnnumbersoutside\}{}  


```

§ 639.16 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}{}%

```

§ 639.17 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@#1{\@idxfile}{#1}{\thepage}}%
1050         {\string\@wrindexm@#1{\@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@#1{\@idxfile}{#1}{\@nameuse{the\@sptheadidx}}}%
1059         {\string\@wrindexm@#1{\@idxfile}{#1}{\arabic{LWR@autoindex}}}%
1060     \endgroup
1061     \@esphack}%

```

```
1062
1063 }% \AtBeginDocument
```

\@spindex Patched to append _html to the file:

```
1064 \renewcommand{\@spindex}[2]{%
1065   \@ifundefined{#1@idxfile}{%
1066     {\ifreportnoidxfile
1067       \memwarn{Undefined index file #1}%
1068     \fi
1069     \begingroup
1070     \@sanitize
1071     \@nowrindex}%
1072   {\def\@idxfile{#1_html}%
1073    \def\@sptheidx{#2}%
1074    \begingroup
1075    \@sanitize
1076    \@wrspindex}}
```

\makeindex Patched to use _html filename and \BaseJobname:

```
1077 \catcode`\_=12%
1078 \renewcommand*{\makeindex}[1][\BaseJobname]{%
1079   \if@filesw
1080     \def\gindex{\@bsphack%
1081       \ifnextchar [{\@index}{\@index[\BaseJobname]}}%
1082     \def\specialindex{\@bsphack\@spindex}%
1083     \makememindexhook
1084     \expandafter\newwrite\csname #1@idxfile\endcsname
1085     \expandafter\immediate\openout \csname #1@idxfile\endcsname #1_html.idx\relax
1086     \typeout{Writing index file #1_html.idx }%
1087   \fi}
1088 \catcode`\_=8%
```

\printindex Patched to use _html filename and \BaseJobname. This will later be patched by the lwarp core.

```
1089 \catcode`\_=12%
1090 \renewcommand{\printindex}[1][\BaseJobname]{\input{\#1_html.ind}}
1091 \catcode`\_=8%
1092 \DeclareDocumentCommand{\newblock}{}{%
1093 %
1094 \renewcommand*{\showindexmarks}{}%
1095 \renewcommand*{\hideindexmarks}{}%
1096 %
1097 \renewcommand*{\xindyindex}{}%
```

§ 639.18 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][]{}

```

§ 639.19 ccaption emulation

```

1132 \renewcommand*\{\\captiondelim}[1]{\renewcommand*\{\\CaptionSeparator}{#1}}
1133 \renewcommand*\{\\captionnamefont}[1]{}
1134 \renewcommand*\{\\captiontitlefont}[1]{}
1135 \renewcommand*\{\\flushleftright}{}
1136 \renewcommand*\{\\centerlastline}{}
1137 \renewcommand*\{\\captionstyle}[2][]{}
1138 \DeclareDocumentCommand{\captionwidth}{m}{}
1139 \renewcommand*\{\\changeccaptionwidth}{}
1140 \renewcommand*\{\\normalccaptionwidth}{}
1141 \renewcommand*\{\\hangcaption}{}
1142 \renewcommand*\{\\indentcaption}[1]{}
1143 \renewcommand*\{\\normalcaption}{}
1144 \renewcommand{\precaption}[1]{}
1145 \renewcommand{\postcaption}[1]{}
1146 \renewcommand{\midbcaption}[1]{}
1147 \renewcommand{\contcaption}[1]{%
1148 % \ContinuedFloat%
}
```

```

1149 %   \caption{#1}%
1150   \begin{LWR@figcaption}% later becomes \caption*
1151   \LWR@isolate{@nameuse{@capttype name}}~%
1152   \thechapter.\the\value{@capttype}\CaptionSeparator\LWR@isolate{#1}%
1153   \end{LWR@figcaption}%
1154 }

1155 \newlength{\abovelegendskip}
1156 \setlength{\abovelegendskip}{0.5\baselineskip}
1157 \newlength{\belowlegendskip}
1158 \setlength{\belowlegendskip}{\abovelegendskip}

```

The extra \\ here forces a
 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\@xadvskip
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\subfloatcaptopadj
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 }

```

§ 639.20 Final patchwork

```

1290 \newlistof{tableofcontents}{toc}{\contentsname}
1291 \newlistof{listoffigures}{lof}{\listfigurename}
1292 \newlistof{listoftables}{lot}{\listtablename}

```

File 534 **l warp-common-multimedia.sty**

§ 640 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^AT_EX 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 535 lwarf-common-mathjax-letters.sty

§ 641 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 def\LWRbackslash\%
12    #3\% prefix
13    \LWR@tempone%name
14    #4\% postfix
15    \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 536 **lwarp-common-mathjax-newpxtxmath.sty**

§ 642 Package **common-mathjax-newpxtxmath**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg Common code used by `newpxmath`, `newtxmath`, and `newtxsf` for MATHJAX.

lwarp-common-mathjax-newpxtxmath

for HTML output: 1 \ProvidesPackage{lwarp-common-mathjax-newpxtxmath}[2020/09/20]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
3 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
4
5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\fAlt}{f}}
7 \CustomizeMathJax{\newcommand{\rhoAlt}{\rho}}
8
9 \CustomizeMathJax{\newcommand{\imathscr}{\mathord{\mathscr{i}}}}
10 \CustomizeMathJax{\newcommand{\jmathscr}{\mathord{\mathscr{j}}}}

```

`lwarp_mathjax.txt` adds `\left`/`\right` support for delimiters.

```

11 \CustomizeMathJax{\let\llbracket\lBrack}
12 \CustomizeMathJax{\let\rrbracket\rBrack}
13
14 \CustomizeMathJax{\let\smlbrace{}}
15 \CustomizeMathJax{\let\smrbrace{}}
16 \CustomizeMathJax{\newcommand{\Perp}{\mathrel{\!\!unicode{x02AEB}}}}
17 \CustomizeMathJax{\newcommand{\nPerp}{\mathrel{\not{\!\!unicode{x02AEB}}}}}
18 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\!\!unicode{x01B5}}}}
19 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\!\!unicode{x212B}}}}
20 \CustomizeMathJax{\newcommand{\Euler}{\mathord{\!\!unicode{x2107}}}}
21 \CustomizeMathJax{\newcommand{\transp}{\mathord{\!\!unicode{xFF34}}}}
22 \CustomizeMathJax{\newcommand{\hermtransp}{\mathord{\!\!unicode{xFF28}}}}
23 \CustomizeMathJax{\let\htransp=\hermtransp}
24 \CustomizeMathJax{\newcommand{\circledplus}{\mathbin{\!\!unicode{x2295}}}}
25 \CustomizeMathJax{\newcommand{\circledminus}{\mathbin{\!\!unicode{x2296}}}}
26 \CustomizeMathJax{\newcommand{\circledtimes}{\mathbin{\!\!unicode{x2297}}}}
27 \CustomizeMathJax{\newcommand{\circledslash}{\mathbin{\!\!unicode{x2298}}}}
28 %
29 \CustomizeMathJax{\newcommand{\circleddot}{\mathbin{\!\!unicode{x2299}}}}
30 \CustomizeMathJax{\let\overgroup\overparen}
31 \CustomizeMathJax{\let\overgroupra\overrightarrow}
32 \CustomizeMathJax{\let\undergroup\underparen}
33 \CustomizeMathJax{\let\undergroupla\overleftarrow}
34 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\!\!unicode{x2218}}{\overgroup{#1}}}}
35 \CustomizeMathJax{\let\widearc\overparen}
36 \CustomizeMathJax{\let\wideOarc\overrightarrow}
37 \CustomizeMathJax{\newcommand{\LWRvstar}[2]{\overrightarrow{\#1}_{\#2}}}
38 \CustomizeMathJax{\newcommand{\vv}{\ifstar{\LWRvstar}{\overrightarrow{}}}}
39 %
40 \CustomizeMathJax{\let\smallintsl\smallint}
41 \CustomizeMathJax{\newcommand{\smalliintsl}{\mathop{\!\!unicode{x222C}}\limits}}
42 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\!\!unicode{x222D}}\limits}}
43 \CustomizeMathJax{\newcommand{\smalliiiintsl}{\mathop{\!\!unicode{x2A0C}}\limits}}
44 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\!\!unicode{x222E}}\limits}}
45 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\!\!unicode{x222F}}\limits}}
46 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\!\!unicode{x2230}}\limits}}
47 \CustomizeMathJax{\newcommand{\smallvarointclockwisesl}{\mathop{\!\!unicode{x2232}}\limits}}
48 \CustomizeMathJax{\newcommand{\smallointctrclockwisesl}{\mathop{\!\!unicode{x2233}}\limits}}
49 \CustomizeMathJax{\newcommand{\smallsumintsl}{\mathop{\!\!unicode{x2A0B}}\limits}}
50 \CustomizeMathJax{\newcommand{\smallfintsl}{\mathop{\!\!unicode{x2A0F}}\limits}}
51 \CustomizeMathJax{\newcommand{\smallsqintsl}{\mathop{\!\!unicode{x2A16}}\limits}}
52 %

```

```
53 \CustomizeMathJax{\let\smallintup\smallint}
54 \CustomizeMathJax{\newcommand{\smallintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222C\}}\limits}}
55 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222D\}}\limits}}
56 \CustomizeMathJax{\newcommand{\smalliiiintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0C\}}\limits}}
57 \CustomizeMathJax{\newcommand{\smalllointup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222E\}}\limits}}
58 \CustomizeMathJax{\newcommand{\smalllointup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222F\}}\limits}}
59 \CustomizeMathJax{\newcommand{\smallloiiintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2230\}}\limits}}
60 \CustomizeMathJax{\newcommand{\smallvarointclockwiseup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2232\}}\limits}}
61 \CustomizeMathJax{\newcommand{\smallointctr-clockwiseup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2233\}}\limits}}
62 \CustomizeMathJax{\newcommand{\smallsumintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0B\}}\limits}}
63 \CustomizeMathJax{\newcommand{\smallfintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0F\}}\limits}}
64 \CustomizeMathJax{\newcommand{\smallsqintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A16\}}\limits}}
65 %
66 \CustomizeMathJax{\newcommand{\iint}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222C\}}\limits}}
67 \CustomizeMathJax{\newcommand{\iiint}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222D\}}\limits}}
68 \CustomizeMathJax{\newcommand{\iiiint}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0C\}}\limits}}
69 \CustomizeMathJax{\newcommand{\oint}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222F\}}\limits}}
70 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2230\}}\limits}}
71 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2232\}}\limits}}
72 \CustomizeMathJax{\newcommand{\ointctr-clockwise}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2233\}}\limits}}
73 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0B\}}\limits}}
74 \CustomizeMathJax{\newcommand{\fint}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0F\}}\limits}}
75 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A16\}}\limits}}
76 %
77 \CustomizeMathJax{\let\intsl\int}
78 \CustomizeMathJax{\newcommand{\iintsl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222C\}}\limits}}
79 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222D\}}\limits}}
80 \CustomizeMathJax{\newcommand{\iiiintsl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0C\}}\limits}}
81 \CustomizeMathJax{\let\ointsl\oint}
82 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222F\}}\limits}}
83 \CustomizeMathJax{\newcommand{\oiinttsl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2230\}}\limits}}
84 \CustomizeMathJax{\newcommand{\varointclockwisesl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2232\}}\limits}}
85 \CustomizeMathJax{\newcommand{\ointctr-clockwisesl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2233\}}\limits}}
86 \CustomizeMathJax{\newcommand{\sumintsl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0B\}}\limits}}
87 \CustomizeMathJax{\newcommand{\fintsl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0F\}}\limits}}
88 \CustomizeMathJax{\newcommand{\sqintsl}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A16\}}\limits}}
89 %
90 \CustomizeMathJax{\let\intup\int}
91 \CustomizeMathJax{\newcommand{\iintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222C\}}\limits}}
92 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222D\}}\limits}}
93 \CustomizeMathJax{\newcommand{\iiiintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0C\}}\limits}}
94 \CustomizeMathJax{\let\ointup\oint}
95 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x222F\}}\limits}}
96 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2230\}}\limits}}
97 \CustomizeMathJax{\newcommand{\varointclockwiseup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2232\}}\limits}}
98 \CustomizeMathJax{\newcommand{\ointctr-clockwiseup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2233\}}\limits}}
99 \CustomizeMathJax{\newcommand{\sumintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0B\}}\limits}}
100 \CustomizeMathJax{\newcommand{\fintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A0F\}}\limits}}
101 \CustomizeMathJax{\newcommand{\sqintup}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A16\}}\limits}}
102 %
103 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A03\}}\!\!\!}}
104 \CustomizeMathJax{\newcommand{\bigcupplus}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A04\}}\!\!\!}}
105 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\text{\scriptsize\texttt{unicode}}\{x2A05\}}\!\!\!}}
106 %
```

```
107 %
108 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\backslash unicode{x2A09}}}}
109 \CustomizeMathJax{\let\varprod\bigtimes}
110 %

111 \CustomizeMathJax{\newcommand{\mappedfrom}{\mathrel{\backslash unicode{x021A4}}}}
112 \CustomizeMathJax{\let\mappedfromchar\mappedfrom}
113 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\backslash unicode{x021A4}}}}
114 \CustomizeMathJax{\newcommand{\longmappedfrom}{\mathrel{\backslash unicode{x027FB}}}}
115 %

116 \CustomizeMathJax{\newcommand{\Mapsto}{\mathrel{\backslash unicode{x02907}}}}
117 \CustomizeMathJax{\let\Mapstochar\Mapsto}
118 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\backslash unicode{x027FE}}}}
119 \CustomizeMathJax{\newcommand{\Mappedfrom}{\mathrel{\backslash unicode{x02906}}}}
120 \CustomizeMathJax{\let\Mappedfromchar\Mappedfrom}
121 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathrel{\backslash unicode{x02906}}}}
122 \CustomizeMathJax{\newcommand{\Longmappedfrom}{\mathrel{\backslash unicode{x27FD}}}}
123 %

124 \CustomizeMathJax{\newcommand{\medcirc}{\mathbin{\backslash unicode{x025CB}}}}
125 \CustomizeMathJax{\newcommand{\medbullet}{\mathbin{\backslash unicode{x025CF}}}}
126 \CustomizeMathJax{\newcommand{\varparallel}{\mathrel{\backslash unicode{x02AFD}}}}
127 \CustomizeMathJax{\newcommand{\varparallelinv}{\mathrel{\backslash unicode{x244A}}}}
128 \CustomizeMathJax{\newcommand{\nvarparallel}{\mathrel{\LWRoverlaysymbols{-}\backslash unicode{x02AFD}}}}
129 \CustomizeMathJax{\newcommand{\nvarparallelinv}{\mathrel{\LWRoverlaysymbols{-}\backslash unicode{x244A}}}}
130 %

131 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\backslash unicode{x02254}}}}
132 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\backslash unicode{x02255}}}}
133 %
134 \CustomizeMathJax{\newcommand{\Vdash}{\mathrel{\backslash unicode{x22AB}}}}

135 %
136 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\backslash unicode{x02AB3}}}}
137 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\backslash unicode{x02AB4}}}}
138 %
139
140 \CustomizeMathJax{\newcommand{\nprecsim}{\mathrel{\LWRoverlaysymbols{/}\backslash unicode{x0227E}}}}
141 \CustomizeMathJax{\newcommand{\nsuccsim}{\mathrel{\LWRoverlaysymbols{/}\backslash unicode{x0227F}}}}
142 \CustomizeMathJax{\newcommand{\nlesssim}{\mathrel{\backslash unicode{x02274}}}}
143 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\backslash unicode{x02275}}}}
144 %

145 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\backslash unicode{x02284}}}}
146 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\backslash unicode{x02285}}}}
147 \CustomizeMathJax{\newcommand{\notni}{\mathrel{\backslash unicode{x220C}}}}
148 \CustomizeMathJax{\let\notowns\notni}
149 %
150 \CustomizeMathJax{\newcommand{\nlessapprox}{\mathrel{\LWRoverlaysymbols{/}\backslash unicode{x02A85}}}}
151 \CustomizeMathJax{\newcommand{\ngtrapprox}{\mathrel{\LWRoverlaysymbols{/}\backslash unicode{x02A86}}}}
152 %
153 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\LWRoverlaysymbols{/}\backslash unicode{x0227C}}}}
```

```
154 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0227D}}}}}
155 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
156 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x2278}}}}
157 \CustomizeMathJax{\newcommand{\nbumpeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0224F}}}}}
158 \CustomizeMathJax{\newcommand{\nBumpeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0224E}}}}}
159 %
160 \CustomizeMathJax{\newcommand{\nbacksim}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0223D}}}}}
161 \CustomizeMathJax{\newcommand{\nbacksimeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x022CD}}}}}
162 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x226D}}}}
163 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x2262}}}}
164 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x2249}}}}
165 %
166 \CustomizeMathJax{\newcommand{\nll}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0226A}}}}}
167 \CustomizeMathJax{\newcommand{\ngg}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0226B}}}}}
168 \CustomizeMathJax{\newcommand{\nthickapprox}{%
169   \mathrel{\LWRoverlaysymbols{/}{\mathbf{\unicode{x02248}}}}}}
170 }
171 \CustomizeMathJax{\newcommand{\napproxeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0224A}}}}}
172 \CustomizeMathJax{\newcommand{\nprecapprox}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x02AB7}}}}}
173 \CustomizeMathJax{\newcommand{\nsuccapprox}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x02AB8}}}}}
174 \CustomizeMathJax{\newcommand{\npreceqq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x02AB3}}}}}
175 \CustomizeMathJax{\newcommand{\nsuccceqq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x02AB4}}}}}
176 \CustomizeMathJax{\newcommand{\nsimeq}{\mathrel{\unicode{x02244}}}}
177 %
178 \CustomizeMathJax{\newcommand{\nSubset}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x022D0}}}}}
179 \CustomizeMathJax{\newcommand{\nSupset}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x022D1}}}}}
180 \CustomizeMathJax{\newcommand{\nsqsubseteq}{\mathrel{\unicode{x022E2}}}}
181 \CustomizeMathJax{\newcommand{\nsqsupseteq}{\mathrel{\unicode{x022E3}}}}
182 %
183 \CustomizeMathJax{\newcommand{\coloneqq}{\mathrel{\unicode{x02254}}}}
184 \CustomizeMathJax{\newcommand{\eqqcolon}{\mathrel{\unicode{x02255}}}}
185 \CustomizeMathJax{\newcommand{\Coloneqq}{\mathrel{\unicode{x02A74}}}}
186 \CustomizeMathJax{\newcommand{\Coloneq}{\mathrel{\unicode{x2237}-}}}
187 \CustomizeMathJax{\newcommand{\Eqcolon}{\mathrel{-\unicode{x2237}}}}
188 %
189 \CustomizeMathJax{\newcommand{\lvec}[1]{\mathord{\overset{\unicode{x02190}}{\#1}}}}
190 \CustomizeMathJax{\newcommand{\lrvec}[1]{\mathord{\overset{\unicode{x2194}}{\#1}}}}
191 \CustomizeMathJax{\newcommand{\harpoonacc}[1]{\mathord{\overset{\unicode{x021C0}}{\#1}}}}
192 \CustomizeMathJax{\newcommand{\lharpoonacc}[1]{\mathord{\overset{\unicode{x021BC}}{\#1}}}}
193 \CustomizeMathJax{\newcommand{\lrharpoonacc}[1]{\mathord{\overset{\unicode{x0294E}}{\#1}}}}
194 \CustomizeMathJax{\newcommand{\barbar}[1]{\mathord{\overset{=}{\#1}}}}
195 \CustomizeMathJax{\newcommand{\bartilde}[1]{\mathord{\overset{\simeq}{\#1}}}}
196 \CustomizeMathJax{\newcommand{\barhat}[1]{\mathord{\hat{\bar{\#1}}}}}
197 \CustomizeMathJax{\newcommand{\tildebar}[1]{\mathord{\overset{\eqsim}{\#1}}}}
198 \CustomizeMathJax{\newcommand{\tilde tilde}[1]{\mathord{\overset{\approx}{\#1}}}}
199 \CustomizeMathJax{\newcommand{\tildehat}[1]{\mathord{\hat{\tilde{\#1}}}}}
200 \CustomizeMathJax{\newcommand{\hatbar}[1]{\mathord{\bar{\hat{\#1}}}}}
201 \CustomizeMathJax{\newcommand{\hattilde}[1]{\mathord{\tilde{\hat{\#1}}}}}
202 \CustomizeMathJax{\newcommand{\hathat}[1]{\mathord{\hat{\bar{\#1}}}}}
203 %
204 \CustomizeMathJax{\newcommand{\cdotB}{\mathord{\boldsymbol{\cdot}}}}
205 \CustomizeMathJax{\newcommand{\cdotBB}{\mathord{\mathbf{\cdot}}}}
206 \CustomizeMathJax{\newcommand{\circS}{\mathord{\boldsymbol{\circ}}}}
207 \CustomizeMathJax{\newcommand{\bulletSSS}{\mathord{\bullet}}}
208 \CustomizeMathJax{\newcommand{\bulletSS}{\mathord{\mathbf{\bullet}}}}
```

```
209 \CustomizeMathJax{\newcommand{\bulletS}{\mathord{\{\!unicode{x02B24}\!}\}}}
210 \CustomizeMathJax{\newcommand{\primeS}{\prime}}
211
212 \CustomizeMathJax{\newcommand{\invamp}{\mathbin{\{\!unicode{x0214B}\!}\}}}
```

`lwarp_mathjax.txt` adds `\left/\right` support for delimiters.

```

213 \CustomizeMathJax{\newcommand{\Lbag}{\mathopen{\large\unicode{x027C5}}}}
214 \CustomizeMathJax{\newcommand{\Rbag}{\mathclose{\large\unicode{x027C6}}}}
215 \CustomizeMathJax{\newcommand{\circledless}{\mathrel{\large\circledless}}}
216 \CustomizeMathJax{\newcommand{\circledgtr}{\mathrel{\large\circledgtr}}}
217 \CustomizeMathJax{\newcommand{\circledbslash}{\mathbin{\large\circledbslash}}}

```

```
218 \CustomizeMathJax{\newcommand{\lJoin}{\mathrel{\text{\texttt{\unichar{x22C9}}}}}}
219 \CustomizeMathJax{\newcommand{\rJoin}{\mathrel{\text{\texttt{\unichar{x22CA}}}}}}
220 \CustomizeMathJax{\newcommand{\lrJoin}{\mathrel{\text{\texttt{\unichar{x2A1D}}}}}}
221
222 \CustomizeMathJax{\newcommand{\lrtimes}{\mathrel{\text{\texttt{\unichar{x2A1D}}}}}}
223 \CustomizeMathJax{\newcommand{\Diamondblk}{\mathord{\text{\texttt{\unichar{x025C6}}}}}}
224 \CustomizeMathJax{\newcommand{\nplus}{\mathrel{\text{\texttt{\LWRoverlaysymbols{+}{\unichar{x02229}}}}}}}
225 \CustomizeMathJax{\newcommand{\nsqsubset}{\mathrel{\text{\texttt{\LWRoverlaysymbols{/}{\unichar{x0228F}}}}}}}
226 \CustomizeMathJax{\newcommand{\nsqsupset}{\mathrel{\text{\texttt{\LWRoverlaysymbols{/}{\unichar{x02290}}}}}}}
227 \CustomizeMathJax{\newcommand{\dasharrow}{\mathrel{\text{\texttt{\unichar{x021E2}}}}}}
228 \CustomizeMathJax{\newcommand{\leftsquigarrow}{\mathrel{\text{\texttt{\unichar{x021DC}}}}}}
229 \CustomizeMathJax{\newcommand{\twoheadrightarrow}{\mathrel{\text{\texttt{\unichar{x02900}}}}}}
230 \CustomizeMathJax{\newcommand{\twoheadleftarrow}{\mathrel{\text{\texttt{\unichar{x02B34}}}}}}
231 \CustomizeMathJax{\newcommand{\boxast}{\mathbin{\text{\texttt{\unichar{x029C6}}}}}}
232 \CustomizeMathJax{\newcommand{\boxbslash}{\mathbin{\text{\texttt{\unichar{x29C5}}}}}}
233 \CustomizeMathJax{\newcommand{\boxbar}{\mathbin{\text{\texttt{\unichar{x025EB}}}}}}
234 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\text{\texttt{\unichar{x029C4}}}}}}
235
236 \CustomizeMathJax{\newcommand{\varclubsuit}{\mathord{\text{\texttt{\unichar{x02667}}}}}}
237 \CustomizeMathJax{\newcommand{\vardiamondsuit}{\mathord{\text{\texttt{\unichar{x02666}}}}}}
238 \CustomizeMathJax{\newcommand{\varheartsuit}{\mathord{\text{\texttt{\unichar{x02665}}}}}}
239 \CustomizeMathJax{\newcommand{\varspadesuit}{\mathord{\text{\texttt{\unichar{x02664}}}}}}
240
241 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\text{\texttt{\unichar{x021D7}}}}}}
242 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\text{\texttt{\unichar{x021D8}}}}}}
243 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\text{\texttt{\unichar{x021D6}}}}}}
244 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\text{\texttt{\unichar{x021D9}}}}}}
245 \CustomizeMathJax{\newcommand{\Top}{\mathord{\text{\texttt{\unichar{x02AEA}}}}}}
246 \CustomizeMathJax{\newcommand{\Bot}{\mathord{\text{\texttt{\unichar{x02AEB}}}}}}
247
248 \CustomizeMathJax{\newcommand{\leadstoext}{\mathrel{\text{\texttt{\unichar{xFF5E}}}}}}
249
250 \CustomizeMathJax{\newcommand{\sqcupplus}{\mathbin{\text{\texttt{\LWRoverlaysymbols{+}{\unichar{x02294}}}}}}}
251 \CustomizeMathJax{\newcommand{\sqcapplus}{\mathbin{\text{\texttt{\LWRoverlaysymbols{+}{\unichar{x02293}}}}}}}
252
253 \CustomizeMathJax{\newcommand{\dlb}{\mathopen{\text{\texttt{\unichar{x027E6}}}}}}
254 \CustomizeMathJax{\newcommand{\drb}{\mathopen{\text{\texttt{\unichar{x027E7}}}}}}
255
256 \CustomizeMathJax{\newcommand{\varg}{\text{\texttt{g}}}}
257 \CustomizeMathJax{\newcommand{\vary}{\text{\texttt{y}}}}
258 \CustomizeMathJax{\newcommand{\varv}{\text{\texttt{v}}}}
259 \CustomizeMathJax{\newcommand{\varw}{\text{\texttt{w}}}}
```

```
260 \CustomizeMathJax{\newcommand{\nexistsAlt}{\mathord{\unicodetext{2204}}}}
261 \CustomizeMathJax{\newcommand{\existsAlt}{\mathord{\unicodetext{2203}}}}
262 \CustomizeMathJax{\newcommand{\forallAlt}{\mathord{\unicodetext{2200}}}}
263 \CustomizeMathJax{\newcommand{\emptysetAlt}{\mathord{\unicodetext{2205}}}}
264 
265 
266 \CustomizeMathJax{\newcommand{\uppartial}{\mathord{\unicodetext{2202}}}}% not upright
267 
268 \CustomizeMathJax{\let\varmathbb\mathbb}
269 \CustomizeMathJax{\let\vmathbb\mathbb}
270 \CustomizeMathJax{\let\vvmathbb\mathbb}
271 
272 \CustomizeMathJax{\let\smallprod\prod}
273 \CustomizeMathJax{\let\smallsum\sum}
274 \CustomizeMathJax{\let\smallcoprod\coprod}
275 
276 \CustomizeMathJax{\newcommand{\openbox}{\mathord{\unicodetext{25FD}}}}
277 \CustomizeMathJax{\let\textsquare\openbox}

278 \CustomizeMathJax{\let\varemptyset\emptyset}
279 %
280 % for newpxmath:
281 \CustomizeMathJax{\newcommand{\mathsterling}{\mathord{\unicodetext{00A3}}}}
282 \CustomizeMathJax{\newcommand{\mathcent}{\mathord{\unicodetext{00A2}}}}
283 
284 \end{warpMathJax}
```

File 537 **l warp-common-mathjax-nonunicode.sty**

§ 643 Package **common-mathjax-nonunicode**

(Emulates or patches code by DANIEL FLIPO, MICHAEL SHARPE.)

Pkg Common code used by newpxmath, newtxmath, newtxsf, kpfonts-otf for MATHJAX.
nicodThese are symbols not found in UNICODE.

Factored from l warp-common-mathjax-newpctxmath.

for HTML output: 1 \ProvidesPackage{lwarp-common-mathjax-nonunicode}[2020/09/20]

For MATHJAX:


```
67 }}
68 \CustomizeMathJax{\newcommand{\multimapdotbothAvert}{%
69   \mathrel{\overset{\text{\scriptsize\texttt{unicode{x025CB}}}}{\underset{\text{\scriptsize\texttt{unicode{x025CF}}}}{|}}}}%
70 }}

71 \CustomizeMathJax{\newcommand{\bignplus}{%
72   \mathop{\text{\LWRoverlaysymbols{\scriptsize\texttt{FF0B}}}\text{\scriptsize\texttt{x22C2}}}}%
73 }}

74 \CustomizeMathJax{\let\bigcapplus\bignplus}
75 \CustomizeMathJax{\let\capplus\bignplus}%
76 \CustomizeMathJax{\let\capplus\bignplus} from kpfonts-otf
77

78 \CustomizeMathJax{\newcommand{\bigsqcapplus}{%
79   \mathop{\text{\LWRoverlaysymbols{\scriptsize\texttt{FF0B}}}\text{\scriptsize\texttt{x2A05}}}}%
80 }}

81 \CustomizeMathJax{\let\sqcupplus\bigsqcapplus} from kpfonts-otf
82

83 \CustomizeMathJax{\newcommand{\bigsqcupplus}{%
84   \mathop{\text{\LWRoverlaysymbols{\scriptsize\texttt{FF0B}}}\text{\scriptsize\texttt{x2A06}}}}%
85 }}

86 \CustomizeMathJax{\let\squarecupplus\bigsqcupplus} from kpfonts-otf
87

88 \CustomizeMathJax{\newcommand{\parallellslant}{\mathrel{\text{\scriptsize\texttt{unicode{x02AFD}}}}}}
89 \CustomizeMathJax{\newcommand{\parallelbackslant}{%
90   \mathrel{\text{\scriptsize\texttt{unicode{x0005C}}}\text{\scriptsize\texttt{!}}\text{\scriptsize\texttt{!}}\text{\scriptsize\texttt{unicode{x0005C}}}}}}%
91 }}

92 \CustomizeMathJax{\newcommand{\Eqqcolon}{\mathrel{=\!\text{\scriptsize\texttt{unicode{x2237}}}}}}
93 \CustomizeMathJax{\let\eqqColon\Eqqcolon} for kpfonts-otf
94 \CustomizeMathJax{\newcommand{\dashColon}{\mathrel{-\text{\scriptsize\texttt{unicode{x2237}}}}}}
95 \CustomizeMathJax{\newcommand{\Colondash}{\mathrel{\text{\scriptsize\texttt{unicode{x2237}}}-}}}

96 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{\text{\scriptsize\texttt{unicode{x2237}}}\text{\scriptsize\texttt{!}}\text{\scriptsize\texttt{approx}}}}}
97 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{\text{\scriptsize\texttt{sim}}}}}
98 \CustomizeMathJax{\newcommand{\Colonapprox}{\mathrel{\text{\scriptsize\texttt{unicode{x2237}}}\text{\scriptsize\texttt{!}}\text{\scriptsize\texttt{approx}}}}}
99 \CustomizeMathJax{\newcommand{\Colonsim}{\mathrel{\text{\scriptsize\texttt{unicode{x2237}}}\text{\scriptsize\texttt{!}}\text{\scriptsize\texttt{sim}}}}}

100 \CustomizeMathJax{\newcommand{\strictif}{\mathrel{\text{\scriptsize\texttt{unicode{x0297D}}}}}}% right fish tail
101 \CustomizeMathJax{\newcommand{\strictfi}{\mathrel{\text{\scriptsize\texttt{unicode{x0297C}}}}}}% left fish tail
102 \CustomizeMathJax{\newcommand{\strictiff}{\mathrel{\text{\scriptsize\texttt{unicode{x0297C}}}\text{\scriptsize\texttt{!}}\text{\scriptsize\texttt{!}}\text{\scriptsize\texttt{unicode{x0297D}}}}}}%
103 \CustomizeMathJax{\newcommand{\strictif}{\mathrel{\text{\scriptsize\texttt{unicode{x0297D}}}}}}% left/right fish tails
104 \CustomizeMathJax{\newcommand{\strictfi}{\mathrel{\text{\scriptsize\texttt{unicode{x0297C}}}}}}%
105 \CustomizeMathJax{\newcommand{\strictiff}{\mathrel{\text{\scriptsize\texttt{unicode{x0297C}}}\text{\scriptsize\texttt{!}}\text{\scriptsize\texttt{!}}\text{\scriptsize\texttt{unicode{x0297D}}}}}}%
106 \CustomizeMathJax{\newcommand{\circledwedge}{\mathbin{\text{\LWRoverlaysymbols{\scriptsize\texttt{025EF}}}\text{\scriptsize\texttt{x02227}}}}}
107 }% left/right fish tails
108

109 \CustomizeMathJax{\newcommand{\circledvee}{%
110   \mathbin{\text{\LWRoverlaysymbols{\scriptsize\texttt{025EF}}}\text{\scriptsize\texttt{x02228}}}}}
111 }}

112 \CustomizeMathJax{\newcommand{\circledbar}{\mathbin{\text{\LWRoverlaysymbols{\scriptsize\texttt{025EF}}}\text{\scriptsize\texttt{x029B6}}}}}
113

114 \CustomizeMathJax{\newcommand{\openJoin}{\mathrel{\text{\scriptsize\texttt{unicode{x2AA4}}}}}}% overlapping >
115 \CustomizeMathJax{\newcommand{\opentimes}{\mathrel{\text{\scriptsize\texttt{unicode{x2AA4}}}}}}% overlapping >
116

117 \CustomizeMathJax{\newcommand{\VvDash}{\mathrel{\text{\scriptsize\texttt{unicode{x22AA}}}}}}
```

```

122 \CustomizeMathJax{\newcommand{\lambdabar}{%
123     \mathord{\text{\LWRoverlaysymbols}\raise{.5ex}{-}}\lambda}%
124 }%
125
126 \CustomizeMathJax{\newcommand{\lambdaslash}{\mathord{\text{\LWRoverlaysymbols}\raise{.5ex}{-}}\lambda}%
127 }%
128 \CustomizeMathJax{\newcommand{\Wr}{\mathbin{\text{\LWRoverlaysymbols}\raise{.5ex}{-}}\text{\LWRoverlaysymbols}}}%
129
130 \CustomizeMathJax{\newcommand{\dashleftrightarrow}{%
131     \mathrel{\text{\LWRoverlaysymbols}\raise{.5ex}{-}}\text{\LWRoverlaysymbols}\raise{.5ex}{-}}\text{\LWRoverlaysymbols}\raise{.5ex}{-}}%
132 }%
133 \CustomizeMathJax{\let\leftrightharpoonup\dashleftrightarrow}% for kpfonts-otf
134
135 \end{warpMathJax}

```

File 538 **lwarp-common-mathjax-overlaysymbols.sty**

§ 644 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

§ 645 Chg Hist

For the most recent changes, see page [1298](#).

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 Added section: Operating-System portability. 227 Added section: Selecting the operating system. 118 Test Suite: MS-WINDOWS in README.txt 1 Test Suite: Images and index in README.txt 1	Test Suite: Floatrow 1
v0.12	\LWR@newhtmlfile: Bugfix: toc with numbered files. 391 General: 2016/03/14 1 Global: Uses \p@{type} in float captions. 1 Test Suite: Sub-figures 1	v0.15 General: 2016/04/06 1 Added. 807 Ampersand (&): Fixed handling when passed as an argument. 447 Docs: Added warning icons for items needing special attention. 205 Docs: Clarify print/HTML output. 119 Docs: Moved the supported features table to the introduction. 66 Files: l warp_formal.css added. 1 Fix: steps counter 807 Fixed & handling. 805 Test Suite: test_suite_formal.css file added. 1
v0.13	\CaptionSeparator: Fix for newer babel package. 518 \LWR@LwarpStart: \up and \fup 410 General: 2016/03/24 1 Fix dollar-redefined bug for newer package. 1133 Removed package: subfig 1 Test Suite: Ordinals, Subcaption 1	v0.16 General: 2016/04/11 1 \titlingpage: Improved print-output spacing. 419 xfrac: Adjusted for the use of any font. 1198 Added XeLaTeX, LuaLaTeX support. 206 Docs: Font and UTF-8 support. 101 Docs: Moved location of \usepackage{l warp}. 104 Docs: Text not converting. 197 Lwarp no longer selects fonts. 101, 238 Removed package: suffix 1 Test Suite: Improved titlingpage. 419 Test Suite: Lwarp no longer selects fonts. 1 Test Suite: Supports XeLaTeX, LuaLaTeX. 1
v0.14	\LWR@htmlsectionfilename: Fix: Links to home page. 344 General: 2016/03/31 1 floatrow: Added. 803 Docs: Commands for a successful HTML conversion. 123 Docs: Commands into a warpprint environment. 120 Docs: Newclude limitations. 176 Docs: Table: Cross-referencing data structures. 501 Docs: Table: Float data structures. 514 Docs: Trademarks section. 202 Docs: Troubleshooting cross-references. 197	v0.17 \LWR@htmlsectionfilename: Fix: Links when entire doc is one HTML page. 344 General: 2016/04/14 1 mdframed: Added. 932 Test Suite: Fix: Print-version front-matter page numbers. 1

Test Suite: Mdframed	1
v0.18	
\LWR@myshorttoc: Reorganize	
\HomeHTMLfilename logic.	523
\LWR@newhtmlfile: sideroc after title,	
improving responsive design.	390
\LWR@requesttoc: Reorganize	
\HomeHTMLfilename logic.	412
\LWR@subhyperref: Improved HTML	
output linebreaks.	511
\LWR@subhyperrefclass: Improved	
HTML output linebreaks.	511
\LWR@subinlineimage: Suppress extra	
space.	512
\hspace: \hspace supported.	618
General: 2016/05/19	1
graphics: Add: svgz file extension.	840
graphics: Fix: \linewidth,	
\textwidth, \textheight inside a	
minipage.	840
graphics: Improved HTML output	
linebreaks.	840
graphics: em, ex, %, px dimensions	
preserved.	840
File: l warp.css: Improved toc	
outline display.	1
Files: l warp.css and	
l warp_formal.css: Improved	
responsive design.	1
Microtype disabled during HTML	
generation	239
PDF Unicode input characters.	221
Test Suite: Verse package	1
\teximage: pdfcrop: --hires added.	576
Reorganize \HomeHTMLfilename	
logic.	576
Suppress extra space.	576
verse: Supports verse, memoir	
packages.	1175
minipage: Fix: \linewidth,	
\textwidth, \textheight inside a	
minipage.	596
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\HTMLfilename: Docs: Escape	
filename underscores.	343
\HomeHTMLfilename: Docs: Escape	
filename underscores.	343
\LWR@LwarpStart: Enabled \\ equal to	
\newline.	409
\LWR@doequation: MATHJAX support.	563
\LWR@doubledollar: MATHJAX	
support.	556
\LWR@filestart: l warp_mathjax.txt	
loaded.	406
\LWR@minipagestartpars: Suppresses	
paragraph tags between	
minipages.	617
\LWR@subsingle dollar: MATHJAX	
support.	555
\LateximageFontSizeName: Add:	
User-adjustable math/latexitimage	
font size.	573
\hspace: Fix: \hspace length	
computations.	618
\minipagewidth: Added: No	
width tag for the next minipage in	
HTML.	595
\warpHTMLonly: Added.	237
\warpprintonly: Replaces	
\rowprintedonly.	236
\xfracHTMLfontsize: Added.	1198
General: 2016/06/08	1
css for table note item.	1130
MATHJAX support added.	560, 568
multirow: Added optional args.	963
xcolor: Supports colored \rule.	1189
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rotfloat: Added.	1041	\makebox: Fix: Handles width and horiz position.	600
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File: README.txt: updated.	1	xcolor: \fcolorbox etc. now work inside lateximage.	1185
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\@secntformat: Added for appendix.	397	\TabularMacro: Added.	490
\ForceHTMLPage: Added.	394	\multicolumnrow: Added.	488, 965
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\LWR@section: \part* starts a new HTML page, for appendix.	397	Supports authblk with <div>s of class oneauthor instead of tabular.	418
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arabicfront: Added.	663	addlines: Added.	646
chappg: Added.	707	anysize: Added.	660
color: Forces xcolor as well.	742	authblk: Added.	670
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fncychap: Added.	809	bigstrut: Added.	687
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metalogo: Added.	944	fullwidth: Added.	822
nonumonpart: Added.	987	midpage: Added.	949
nopageno: Added.	987	multirow: Add: New optional vpos argument.	963
pagenote: Option page disabled.	1003	multirow: Add: Supports left/right border for bigdelim.	963
realscripts: Added.	1032	multirow: Fix: Long text argument.	963
relsize: Added.	1037	supertabular: Added.	1103
romanbarpagenumber: Added.	1040	textarea: Added.	1118
romanbar: Added.	1040	titling: Improved compatibility.	1141
scalefnt: Added.	1042	titling: Removed extraneous center environments.	1142
siunitx: Removed from <i>l warp</i> core.	1070	typearea: Added.	1163
textcomp: Removed from <i>l warp</i> core.	1119	xtabular: Added.	1204
tocbibind: Added.	1147	zwpagelayout: Added.	1209
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<i>lwarpmk</i> : Added <code>print1</code> and <code>html1</code> actions.	319	Titlepage \published and \subtitle removed.	
Added \markboth, \sloppy, etc.	350	\AddSubtitlePublished restores.	423
Docs: Enhanced <i>Supported Features</i> table.	66	titlepage: Clear pending footnotes.	417
Docs: Index, tocbibind.	139	Removed minipages.	417
Docs: Starred sections.	135	titlingpage: Clear pending footnotes.	1141
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Removed minipages.	422, 1144		
Supports authblk with <div>s of class oneauthor instead of tabular.	422, 1144		
\AddSubtitlePublished: Added.	423		

\LWR@nullfonts: Fix: Long arguments for expandable command.	v0.41	542
\LWR@restoreorigformatting: Improved L ^A T _E X logos inside a <i>lateximage</i>		541
Improved symbols inside a <i>lateximage</i>		541
Nullified \InlineClass, etc. inside a <i>lateximage</i>		541
\LWR@tabledatacolumntag: Fix for bigdelim: \ldelim, \rdelim.		491
\chapter: Added support for quotchap.		404
\multicolumnrow: Fix: Adapts to older multirow and xparse.		488
\simplechapterdelim: Added for tocbibind, anonchap.		397
\underline: Added.		613
General: 2017/09/25		1
adjmulticol: Added.		645
anonchap: Added.		660
bigdelim: Improved documentation.		686
cuted: Added.		748
dblfnote: Added.		749
fnpos: Added.		810
graphics: Add: Full \graphicspath support.		840
graphics: Moved out of the lwrap core.		832
graphics: Restores \includegraphics and \DeclareGraphicsExtensions in a <i>lateximage</i>		832
graphicx: Moved out of the lwrap core.		845
grffile: Directly supported.		845
midfloat: Added.		949
multirow: Improved bigdelim borders.		963
pfnote: Added.		1020
quotchap: Added.		1030
sectsty: Added.		1053
stabular: Added.		1086
tabls: Added.		1106
textcomp: Additional symbols, improved XeLaTeX and LuaLaTeX support.		1119
tocbibind: Improved for \simplechapter.		1147
xfrac: No longer preloaded.		244
xltextra: Fix for \showhyphens with XeLaTeX.		1200
\LWR@addcmidruletrim: Add: \\cmidrule trims.	v0.42	472
\LWR@clearmidrules: Add: \\cmidrule trims.		469
\LWR@closetabledatacell: Add: Mute > for \\bottomrule.		446
Fix: At/bang column with \\multirow.		446
Fix: Cancel < for \\multicolumn.		446
\LWR@domulticolumn: Add: \\cmidrule trims.		482
Added vertical rules.		483
\LWR@nullifyNoAutoSpacing: babel-french: Fix: \\NoAutoSpacing in a tabular.		496
\LWR@parsebarcolumn: Added vertical rules.		454
\LWR@printatbang: Add: \\cmidrule trims.		465
Add: Mute at and bang columns for \\bottomrule.		465
\LWR@printbartag: Added vertical rules.		465
\LWR@subaddcmidruletrim: Added.		471
\LWR@subcmidrule: Add: \\cmidrule trims.		470
\LWR@tabledatasinglecolumntag: Add: \\cmidrule trims.		467
Add: Mute < for \\bottomrule.		467
\LWR@tabularfinishrow: Unfinished tabular rows automatically filled.		448
\mcollrowcell: Added for \\multicolumn cells.		494
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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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