

# $\text{\LaTeX}$ 2 $\epsilon$ Classes for the Journal of Machine Learning Research (JMLR) and Proceedings of Machine Learning Research (PMLR)

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# 1 Introduction

The `jmlr` class is for articles that need to be formatted according to the Journal of Machine Learning Research style. This class is based on the `jmlr2e` and `jmlrwcp2e` packages but has been adapted to enable it to work better with the `combine` class to collate the articles into a book. Section 2 describes how to use the `jmlr` class. Note that JMLR W&CP (JMLR: Workshop and Conference Proceedings) has been renamed PMLR (Proceedings of Machine Learning Research). Articles for new proceedings should use the `pmlr` class option.

The `jmlrbook` class is for combining articles that use the `jmlr` class into a book. The `jmlrbook` class uses `combine` and `hyperref`, which are troublesome enough on their own but together are quite fragile. The `jmlrbook` class redefines some internals to get `combine` and `hyperref` to work together but some packages (e.g. `subfig` and `pdfpages`) are likely to mess everything up and cause errors. This is why the guidelines to authors are fairly stringent and why the `jmlr` class will give an error message if certain packages are loaded.<sup>1</sup> The `jmlrbook` class works best with PDF $\LaTeX$  so authors should ensure that their articles can compile with PDF $\LaTeX$ . Section 3 describes how to use the `jmlrbook` class.

As from v1.24, some non-class dependent commands and environments have been moved to a new package `jmlrutils` (see Section 2.5). This package is automatically loaded by `jmlr`, but may be used with other classes. (Note that you will need to explicitly load `algorithm2e` if you want to use the `algorithm` environment.)

Note that the `jmlr` (and therefore `jmlrbook`) class automatically loads the `hyperref` package, but some packages need to be loaded before `hyperref`.

Anything that needs to be done before `hyperref` is loaded can be specified by defining the command

`\jmlrprehyperref`

*before* the class is loaded. For example, to load the packages `foo` and `bar` before `hyperref`, you can do:

```
\newcommand{\jmlrprehyperref}{\usepackage{foo,bar}}
\documentclass{jmlr}
```

There is a Java application called `makejmlrbookgui` that can compile all the individual papers from the book and generate the bib file for the proceedings (according to the PMLR specifications). It can also create a grey nonhyperlinked PDF/X compliant print version of

<sup>1</sup>Currently `jmlr` will check if `subfig`, `pdfpages`, `geometry`, `psfig`, `epsfig`, `theorem`, `tabularx`, `amsthm` and `ntheorem` are loaded and will throw an error. If other packages are found to be a problem, they will be added to the list.

the book. The application can be downloaded from <http://www.dickimaw-books.com/software/makejmlrbookgui/> where there is also a [troubleshooting section](#).

There is also a Perl script called `makejmlrbook`, which is distributed with the `jmlr` and `jmlrbook` bundle, however it is now deprecated and has been superseded by `makejmlrbookgui`. Note that PMLR (formerly JMLR W&CP) has new format guidelines that are followed by new versions of `makejmlrbookgui` but not by the Perl script `makejmlrbook`, so that script is no longer documented or supported and may be dropped from future versions of this bundle.

## 1.1 Required Packages

The `jmlr` class is based on the `article` class and loads the following packages: `jmlrutils` (see Section 2.5), `amsmath`, `amssymb`, `natbib`, `url`, `graphicx` and `algorithm2e`, `hyperref`, `nameref`, `xcolor` and `xkeyval`. Note that unlike the `jmlr2e` and `jmlrwcp2e` packages, this class file does not load the obsolete `epsfig` package.

The `jmlrbook` class additionally loads the `combine` class and the following packages: `comb-nat`, `setspace` and `fink`.

The `makejmlrbookgui` application requires Java and  $\text{\TeX}$ . (GhostScript is also required for the print-ready version of the book.)

## 2 Guidelines for Article Authors

Article authors should use the `jmlr` class. This class comes with example files `jmlr-sample.tex` and `jmlrwcp-sample.tex`, which can be used as templates.

The following class options are available:

**nowcp** The article is for the Journal of Machine Learning Research (default).

**pmlr** The article is for the Proceedings of Machine Learning Research (PMLR).

**wcp** The article is for JMLR Workshop and Conference Proceedings (JMLR W&CP).

**twocolumn** Use two-column style. The title and author information will span both columns through the use of the optional argument of `\twocolumn`. This means that no page break can occur in the title and author list.

**onecolumn** Use one-column style (default).

**color** Color version (see Section 2.6).

**gray** Grayscale version (see Section 2.6).

**tablecaption=top** in a table environment, `\floatconts` puts the caption at the top.

**tablecaption=bottom** in a table environment, `\floatconts` puts the caption at the bottom.

### 2.1 Title Information

The `jmlr` class uses different syntax from `jmlr2e` and `jmlrwcp2e` to specify the title information. In particular, it doesn't define `\jmlrheading` and `\ShortHeading`. Instead, the following commands should be used:

`\jmlrvolume`

`\jmlrvolume{\langle number \rangle}`

This specifies the volume number. For example:

`\jmlrvolume{2}`

`\jmlryear`

`\jmlryear{\langle year \rangle}`

This specifies the year. For example:

`\jmlryear{2010}`

`\jmlrsubmitted` `\jmlrsubmitted{<date>}`

This specifies the submission date.

`\jmlrpublished` `\jmlrpublished{<date>}`

This specifies the publication date.

`\jmlrworkshop` `\jmlrworkshop{<title>}`

This specifies the workshop title (for use with the wcp class option).

The title information is specified using the commands described below. These commands should typically go in the preamble. As with most class files, The title itself is produced using

`\maketitle` `\maketitle`

This command should go after `\begin{document}`. For example:

```
\begin{document}
\maketitle
```

Before `\maketitle`, you must specify the title information using the following commands:

`\title` `\title[<short title>]{<title>}`

This specifies the article's title. A short title for the page header can be supplied via the optional argument *<short title>*. If you want to force a line break in the title, use

`\titlebreak` `\titlebreak`

instead of `\newline` or `\\` as this will ensure that the line break doesn't also end up in the table of contents or bookmarks when the article is included in a book. If there is content within the title that should not appear in the page headings or table of contents (for example, a footnote) use

`\titletag` `\titletag{<title only stuff>}`

For example:

```
\title{An Interesting Paper\titlebreak
With a Line Break\titletag{\thanks{and an
acknowledgement}}}
```

`\editor` `\editor{<name>}`

This specifies the editor's name. If there is more than one editor, use:

`\editors` `\editors{<names>}`

`\author` `\author{<author specs>}`

This specifies the author. The specifications *<author specs>* are a bit different to jmlr2e and jmlrwcp2e. Use

`\Name` `\Name[<abbreviated name>]{<author's name>}`

to specify the author's name. Note that if the surname contains a space it must be grouped (enclosed in braces {}). Similarly if the initial letter of each forename is a diacritic it must be grouped. If the abbreviation of the name doesn't get parsed properly you can override the default using the optional argument. (See below for examples.)

If there is any content within *<author's name>* that shouldn't get copied to the header, footer or table of contents, it should be enclosed within the argument of

`\nametag` `\nametag{<title only stuff>}`

For example:

```
\Name{Ann Other\nametag{\thanks{formerly with some other
institute}}}
```

`\Email` `\Email{<author's email>}`

This specifies the author's email address. It should only be used within the argument to `\author`.

`\and` `\and`

This should be used to separate two authors with the same address.

`\AND` `\AND`

This should be used to separate authors with different addresses.

`\` `\`

This should be used before an author's address or between authors with the same address where there are more than two authors.

`\addr` `\addr`

This should be used at the start of the address.



**Example 1** Two authors with the same address:

```
\author{\Name{Jane Doe} \Email{abc@sample.com}\and
\Name{John {Basey Fisher}} \Email{xyz@sample.com}}\
\addr Address}
```

In this example, the second author has a space in his surname so the surname needs to be grouped.

**Example 2** Three authors with the same address:

```
\author{\Name{Fred Arnold {de la Cour}} \Email{an1@sample.com}}\
\Name{Jack Jones} \Email{an3@sample.com}}\
\Name{{\'E}louise {\'E}abhla Finchley} \Email{an2@sample.com}}\
\addr Address}
```

In this example, the third author has an accent on her forename initials so grouping is required.

**Example 3** Authors with a different address:

```
\author{\Name{John Smith} \Email{abc@sample.com}}\
\addr Address 1
\AND
\Name{May Brown} \Email{xyz@sample.com}}\
\addr Address 2
}
```

**Example 4** The author is actually a company so there's no first name and surname:

```
\author{\Name[Some Company, Ltd]{Some Company, Ltd}\Email{xyz:some.com}}\
\addr Address
}
```

## 2.2 Font Changing Commands

Use the  $\text{\LaTeX 2}_{\epsilon}$  font changing commands, such as `\bfseries` or `\textbf{<text>}`, rather than the obsolete  $\text{\LaTeX 2.09}$  commands, such as `\bf`. (The obsolete font changing commands will produce a warning if used.)

`\url`

`\url{<address>}`

This will typeset `<address>` in a typewriter font. Special characters, such as `~`, are correctly displayed. Example:

```
\url{http://theoval.cmp.uea.ac.uk/~nlct/}
```

This command is provided by the url package which is automatically loaded.

`\mailto`     `\mailto{\textit{email address}}`

This will typeset the given email address in a typewriter font. Note that this is not the same as `\Email`, which should only be used in the argument of `\author`. This command is provided by the supplementary package `jmlrutils`. Other commands are described in Section 2.5.

## 2.3 Structure

`abstract`     `\begin{abstract}`  
                  `\textit{<text>}`  
                  `\end{abstract}`

The abstract text should be displayed using the abstract environment.

`keywords`     `\begin{keywords}\textit{keyword list}\end{keywords}`

The keywords should be displayed using the keywords environment.

`\acks`        `\acks{\textit{<text>}}`

This displays the acknowledgements.

`\section`     `\section{\textit{<title>}}`

Section titles are created using `\section`. The heading is automatically numbered and can be cross-referenced using `\label` and `\ref`. Unnumbered sections can be produced using:

`\section*`    `\section*{\textit{<title>}}`

`\subsection`   `\subsection{\textit{<title>}}`

Sub-section titles are created using `\subsection`. Unnumbered sub-sections can be produced using:

`\subsection*`   `\subsection*{\textit{<title>}}`

`\subsubsection`   `\subsubsection{\textit{<title>}}`

Sub-sub-section titles are created using `\subsubsection`. Unnumbered sub-sub-sections can be produced using:

`\subsubsection*`

```
\subsubsection*{\title}
```

Further sectioning levels can be obtained using `\paragraph` and `\subparagraph`, but these are unnumbered with running heads.

`\appendix`

```
\appendix
```

Use `\appendix` to switch to the appendices. This changes `\section` to produce an appendix. Example:

```
\appendix
\chapter{Proof of Theorems}
```

## 2.4 Citations and Bibliography

The `jmlr` class automatically loads `natbib` and sets the bibliography style to `plainnat`. References should be stored in a `.bib` file.

`\bibliography`

```
\bibliography{\bib file}
```

This displays the bibliography.

`\citep`

```
\citep[pre note][post note]{label}
```

Use `\citep` for a parenthetical citation.

`\citet`

```
\citet[note]{label}
```

Use `\citet` for a textual citation.

See the `natbib` documentation<sup>1</sup> for further details.

## 2.5 jmlrutils supplementary package

The `jmlrutils` package is automatically loaded by the `jmlr` class but may be used with other classes.

### 2.5.1 Package Options

The following options may be passed to the `jmlrutils` package if it is to be used without the `jmlr` class.

**maths** Define the commands `\set` and `\oldvec` and redefine `\vec`. This will also automatically load the `amsmath` package. (Default.)

---

<sup>1</sup><http://ctan.org/pkg/natbib>

**nomaths** Don't define `\set` and `\oldvec` and don't redefine `\vec`.

**theorems** Define the theorem commands and environments listed in Section 2.5.5. (Default.)

**notheorems** Don't define the theorem commands and environments.

**subfloats** Define the sub-figure and sub-table commands listed in Section 2.5.2. (Default.)

**nosubfloats** Don't define the sub-figure and sub-table commands.

The non-default options are provided when `jmlrutils` is loaded without the `jmlr` class. Don't try passing the non-default options to `jmlrutils` if you are using the `jmlr` class as this could interfere with the build process for the proceedings or book.

The `jmlrutils` package doesn't recognise any of the `jmlr` class options (such as `tablecaption`).

## 2.5.2 Figures and Tables

Floats, such as figures, tables and algorithms, are moving objects and are supposed to float to the nearest convenient location. Please don't force them to go in a particular place. In general it's best to use the `htbp` specifier and don't put the float in the middle of a paragraph (that is, make sure there's a paragraph break above and below the float). Floats are supposed to have a little extra space above and below them to make them stand out from the rest of the text. This extra space is put in automatically and shouldn't need modifying.

To ensure consistency, please *don't* try changing the format of the caption by doing something like:

```
\caption{\textit{A Sample Caption.}}
```

or

```
\caption{\em A Sample Caption.}
```

You can, of course, change the font for individual words or phrases. For example:

```
\caption{A Sample Caption With Some \emph{Emphasized Words}.}
```

The `jmlrutils` package provides the following command for displaying the contents of a figure or table:

`\floatconts`

```
\floatconts{<label>}{<caption command>}{<contents>}
```

This ensures that the caption is correctly positioned and that the contents are centred. For example:

```
\begin{table}[htbp]
\floatconts
{tab:example}% label
{\caption{An Example Table}}% caption command
{%
```

```

\begin{tabular}{ll}
\bfseries Dataset & \bfseries Result\\
Data1 & 0.123456
\end{tabular}
}
\end{table}

```

If the `jmlr` class is used, the table caption (when used with `\floatconts`) will obey the table-caption class option, otherwise it will be placed above the table contents. Within the figure environment, `\floatconts` will put the caption below the contents. This command may be used within other floats.

The `jmlr` class automatically loads `graphicx` which defines:

`\includegraphics`

```
\includegraphics[<options>]{<file name>}
```

where *<options>* is a comma-separated list of options. If you are using `jmlrutils` with another class you need to load `graphicx` in order to use this command. See the documentation for the `graphicx` package for further details of this command and other provided commands.

For example, suppose you have an image called `mypic.png` in a subdirectory called `images`:

```

\begin{figure}[htbp]
\floatconts
  {fig:example}% label
  {\caption{An Example Figure}}% caption command
  {\includegraphics[width=0.5\textwidth]{images/mypic}}
\end{figure}

```

Note that you shouldn't specify the file extension when including the image when using the `jmlr` class. It's helpful if you can also provide a grayscale version of colour images. This should be labelled as the colour image but with `-gray` immediately before the extension. (The extension need not be the same as that of the colour image.) For example, if you have an image called `mypic.pdf`, the grayscale can be called `mypic-gray.pdf`, `mypic-gray.png` or `mypic-gray.jpg`. See Section 2.6 for further details.

`\includeteximage`

```
\includeteximage[<options>]{<file name>}
```

If your image file is made up of  $\text{\LaTeX}$  code (e.g. `tikz` commands) the file can be included using `\includeteximage`. The optional argument is a key=value comma-separated list where the available keys are a subset of those provided by `graphicx`'s `\includegraphics`. The main keys are: `width`, `height`, `scale` and `angle`. Some of the keys specific to image files (such as the bounding box and type keys) do nothing with `\includeteximage`.

## Sub-Figures and Sub-Tables

The `subfig` package causes a problem for `jmlrbook` so the `jmlr` class will give an error if it is used. Therefore the `jmlr` class provides its own commands for including sub-figures and sub-

tables. If you aren't using the `jmlr` class, you can prevent `jmlrutils` from defining these commands with the `nosubfloats` package option.

`\subfigure` `\subfigure[ $\langle title \rangle$ ][ $\langle valign \rangle$ ]{ $\langle contents \rangle$ }`

This makes a sub-figure where  $\langle contents \rangle$  denotes the contents of the sub-figure. This should also include the `\label`. The first optional argument  $\langle title \rangle$  indicates a caption for the sub-figure. By default, the sub-figures are aligned at the base. This can be changed with the second optional argument  $\langle valign \rangle$ , which may be one of: `t` (top), `c` (centred) or `b` (base).

For example, suppose there are two image files, `mypic1.png` and `mypic2.png`, in the sub-directory `images`. Then they can be included as sub-figures as follows:

```
\begin{figure}[htbp]
\floatconts
{fig:example2}% label for whole figure
{\caption{An Example Figure.}}% caption for whole figure
{%
  \subfigure{%
    \label{fig:pic1}% label for this sub-figure
    \includegraphics{images/mypic1}
  }\quad % space out the images a bit
  \subfigure{%
    \label{fig:pic2}% label for this sub-figure
    \includegraphics{images/mypic2}
  }
}
\end{figure}
```

`\subtable` `\subtable[ $\langle title \rangle$ ][ $\langle valign \rangle$ ]{ $\langle contents \rangle$ }`

This is an analogous command for sub-tables. The default value for  $\langle valign \rangle$  is `t`.

### 2.5.3 Algorithms

The `jmlr` class automatically loads the `algorithm2e` package. If you are using `jmlrutils` with another class, you will need to load `algorithm2e` if you want to use the `algorithm` and `algorithm2e` environments described below.

`algorithm` `\begin{algorithm}[ $\langle placement \rangle$ ]`  
 `$\langle contents \rangle$`   
`\end{algorithm}`

Enumerated textual algorithms can be displayed using the `algorithm` environment. The optional argument is as for `figure` and `table`.

Within the body of the environment you can use the `enumerate` environment.

enumerate\*

```
\begin{enumerate*}
\item <text>
...
\end{enumerate*}
```

If you want to have nested enumerate environments but you want to keep the same numbering throughout the algorithm, you can use the `enumerate*` environment, provided by the `jmlrutils` package. For example:

```
\begin{algorithm}
\floatconts{alg:path}{%label
{\caption{Shortest Path}}}% caption
{% contents
\begin{enumerate*}
\item Set the label of vertex  $s$  to 0
\item Set  $i=0$ 
\begin{enumerate*}
\item \label{step:locate} Locate all unlabelled vertices
adjacent to a vertex labelled  $i$  and label them  $i+1$ 
\item If vertex  $t$  has been labelled,
\begin{enumerate*}
\item[] the shortest path can be found by backtracking, and
the length is given by the label of  $t$ .
\end{enumerate*}
\end{enumerate*}
otherwise
\begin{enumerate*}
\item[] increment  $i$  and return to step~\ref{step:locate}
\end{enumerate*}
\end{enumerate*}
\end{enumerate*}
}
\end{algorithm}
```

algorithm2e

```
\begin{algorithm2e}
<contents>
\end{algorithm2e}
```

Pseudo code can be displayed using the `algorithm2e` environment, provided by the `algorithm2e` package, which is automatically loaded. For example:

```
\begin{algorithm2e}
\caption{Computing Net Activation}
\label{alg:net}
\DontPrintSemicolon
\LinesNumbered
\KwIn{ $x_1, \dots, x_n, w_1, \dots, w_n$ }
\KwOut{ $y$ , the net activation}
 $y \leftarrow 0$ ;
```

```

\For{$i\leftarrow 1$ \KwTo $n$}{
  $y \leftarrow y + w_i*x_i$;
}
\end{algorithm2e}

```

See the algorithm2e documentation<sup>2</sup> for more details.

## 2.5.4 Description Lists

altdescription

```

\begin{altdescription}{\langle widest label \rangle}
\item[\langle label \rangle] \langle item text \rangle
\end{altdescription}

```

In addition to the standard description environment, the jmlr class also provides the altdescription environment. This has an argument that should be the widest label used in the list. For example:

```

\begin{altdescription}{differentiate}
\item[add] A method that adds two variables.
\item[differentiate] A method that differentiates a function.
\end{altdescription}

```

## 2.5.5 Theorems, Lemmas etc

The jmlrbook class doesn't work well with common theorem packages, so jmlrutils provides theorem code that won't conflict with jmlrbook. If you're using jmlrutils without the jmlr class, you can prevent the definition of these commands with the notheorems package option.

The jmlrutils package provides the following theorem-like environments: theorem, example, lemma, proposition, remark, corollary, definition, conjecture and axiom. Within the body of those environments, you can use the proof environment to display the proof if need be. The theorem-like environments all take an optional argument, which gives the environment a title. For example:

```

\begin{theorem}[An Example Theorem]
\label{thm:example}
This is the theorem.
\begin{proof}
This is the proof.
\end{proof}
\end{theorem}

```

You can define your own numbered theorem-like environment using:

\newtheorem

```

\newtheorem{\langle name \rangle}[\langle counter \rangle]{\langle title \rangle}[\langle outer counter \rangle]

```

<sup>2</sup><http://ctan.org/pkg/algorithm2e>



or you can define an unnumbered theorem-like environment using:

`\newtheorem*`

```
\newtheorem*{<name>}{<title>}
```

where  $\langle name \rangle$  is the name of the new environment and  $\langle title \rangle$  is the title tag at the start of the environment. In the case of the numbered theorems,  $\langle counter \rangle$  is a predefined counter to use with this theorem. If omitted, a new counter called  $\langle name \rangle$  will be defined. The final optional argument  $\langle outer counter \rangle$  is the name of a parent counter which, when incremented, should reset the theorem counter.

Both `\newtheorem` and `\newtheorem*` set the new theorem's style to the current defined style. The current style is set using the following commands:

`\theorembodyfont`

```
\theorembodyfont{<declarations>}
```

This sets the font declarations used in the body of the theorem. This defaults to `\itshape`.

`\theoremheaderfont`

```
\theoremheaderfont{<declarations>}
```

This sets the font declarations used for the theorem title. This defaults to `\bfseries`.

`\theorempostheader`

```
\theorempostheader{<text>}
```

This indicates what should occur at the end of the title. This defaults to nothing.

`\theoremsep`

```
\theoremsep{<text>}
```

This indicates what to put between the header and the body of the environment. This defaults to nothing.

For example, to define an unnumbered theorem-like environment called “note” with the title “Note” followed by a colon and a new line between the title and the body of the note environment:

```
\theorembodyfont{\upshape}
\theoremheaderfont{\scshape}
\theorempostheader{:}
\theoremsep{\newline}
\newtheorem*{note}{Note}
```

Now it can be used in the document environment:

```
\begin{note}
This is an unnumbered theorem-like environment.
\end{note}
```

### 2.5.6 Cross-Referencing

Always use `\label` when cross-referencing, rather than writing the number explicitly. The `jmlrutils` package provides some convenience commands to assist referencing. These com-

mands, described below, can all take a comma-separated list of labels.

`\sectionref`    `\sectionref{<label list>}`

Used to refer to a section or sections. For example, if you defined a section as follows:

```
\chapter{Results}\label{sec:results}
```

you can refer to it as follows:

The results are detailed in `\sectionref{sec:results}`.

This command may also be used for sub-sections and sub-sub-sections.

`\appendixref`    `\appendixref{<label list>}`

Used to refer to an appendix or multiple appendices.

`\equationref`    `\equationref{<label list>}`

Used to refer to an equation or multiple equations.

`\tableref`    `\tableref{<label list>}`

Used to refer to a table or multiple tables. This can also be used for sub-tables where the main table number is also required.

`\subtabref`    `\subtabref{<label list>}`

Used to refer to sub-tables without the main table number, e.g. (a) or (b).

`\figureref`    `\figureref{<label list>}`

Used to refer to a figure or multiple figures. This can also be used for sub-figures where the main figure number is also required, e.g. 2(a) or 4(b).

`\subfigref`    `\subfigref{<label list>}`

Used to refer to sub-figures without the main figure number, e.g. (a) or (b).

`\algorithmref`    `\algorithmref{<label list>}`

Used to refer to an algorithm or multiple algorithms.

`\theoremref`    `\theoremref{<label list>}`

Used to refer to a theorem or multiple theorems.

`\lemmaref` `\lemmaref{\label list}`

Used to refer to a lemma or multiple lemmas.

`\remarkref` `\remarkref{\label list}`

Used to refer to a remark or multiple remarks.

`\corollaryref` `\corollaryref{\label list}`

Used to refer to a corollary or multiple corollaries.

`\definitionref` `\definitionref{\label list}`

Used to refer to a definition or multiple definitions.

`\conjectureref` `\conjectureref{\label list}`

Used to refer to a conjecture or multiple conjectures.

`\axiomref` `\axiomref{\label list}`

Used to refer to an axiom or multiple axioms.

`\exempleref` `\exempleref{\label list}`

Used to refer to an example or multiple examples.

### 2.5.7 Mathematics

The `jmlr` class loads the `amsmath` package so you can use any of the commands and environments defined in that package. The `jmlrutils` package will load `amsmath` if the default `maths` package option is used but won't load `amsmath` if the `nomaths` option is used. A brief summary of some of the more common commands and environments is provided here. See the `amsmath` documentation<sup>3</sup> for further details.

`\set` `\set{\maths}`

In addition to the commands provided by `amsmath`, the `jmlrutils` package also provides the `\set` command which can be used to typeset a set. For example:

The universal set is denoted  $\set{U}$

This command won't be provided if the `nomaths` option is used.

---

<sup>3</sup><http://ctan.org/pkg/amsmath>

`\vec` `\vec{<maths>}`

The `\vec` command is redefined by `jmlrutils` to use `\boldsymbol`, which is provided by `amsmath`. (This command won't be redefined if the `nomaths` option is used.) If you require the original `\vec`, you can access it with:

`\orgvec` `\orgvec{<maths>}`

This command won't be provided if the `nomaths` option is used.

Unnumbered single-line equations should be displayed using `\[` and `\]`. For example:

```
\[E = m c^2\]
```

Numbered single-line equations should be displayed using the `equation` environment. For example:

```
\begin{equation}\label{eq:trigrule}
\cos^2\theta + \sin^2\theta \equiv 1
\end{equation}
```

The above are provided by the  $\text{\LaTeX}$  kernel but may be adjusted by packages such as `amsmath`. The commands and environments below are provided by `amsmath`.

Multi-lined numbered equations should be displayed using the `align` environment. For example:

```
\begin{align}
f(x) &= x^2 + x \label{eq:f} \\
f'(x) &= 2x + 1 \label{eq:df}
\end{align}
```

Unnumbered multi-lined equations should be displayed using the `align*` environment. For example:

```
\begin{align*}
f(x) &= (x+1)(x-1) \\
&= x^2 - 1
\end{align*}
```

If you want to mix numbered with unnumbered lines use the `align` environment and suppress unwanted line numbers with `\nonumber`. For example:

```
\begin{align}
y &= x^2 + 3x - 2x + 1 \nonumber \\
&= x^2 + x + 1 \label{eq:y}
\end{align}
```

An equation that is too long to fit on a single line can be displayed using the `split` environment.

Text can be embedded in an equation using `\text{<text>}` or you can use `\intertext{<text>}` to interrupt a multi-line environment such as `align`.

Predefined operator names are listed in [table 2.1](#). For additional operators, either use

`\operatorname`

`\operatorname{\langle name \rangle}`

for example

If  $X$  and  $Y$  are independent,  
 $\operatorname{var}(X+Y) =$   
 $\operatorname{var}(X) + \operatorname{var}(Y)$

or declare it with

`\DeclareMathOperator`

`\DeclareMathOperator{\command}{\langle name \rangle}`

for example

`\DeclareMathOperator{\var}{var}`

and then use this new command:

If  $X$  and  $Y$  are independent,  
 $\var(X+Y) = \var(X) + \var(Y)$

If you want limits that go above and below the operator (like `\sum`) use the starred versions (`\operatorname*` or `\DeclareMathOperator*`).

Table 2.1: Predefined Operator Names (taken from amsmath documentation)

<code>\arccos</code>	<code>arccos</code>	<code>\deg</code>	<code>deg</code>	<code>\lg</code>	<code>lg</code>	<code>\projlim</code>	<code>projlim</code>
<code>\arcsin</code>	<code>arcsin</code>	<code>\det</code>	<code>det</code>	<code>\lim</code>	<code>lim</code>	<code>\sec</code>	<code>sec</code>
<code>\arctan</code>	<code>arctan</code>	<code>\dim</code>	<code>dim</code>	<code>\liminf</code>	<code>liminf</code>	<code>\sin</code>	<code>sin</code>
<code>\arg</code>	<code>arg</code>	<code>\exp</code>	<code>exp</code>	<code>\limsup</code>	<code>limsup</code>	<code>\sinh</code>	<code>sinh</code>
<code>\cos</code>	<code>cos</code>	<code>\gcd</code>	<code>gcd</code>	<code>\ln</code>	<code>ln</code>	<code>\sup</code>	<code>sup</code>
<code>\cosh</code>	<code>cosh</code>	<code>\hom</code>	<code>hom</code>	<code>\log</code>	<code>log</code>	<code>\tan</code>	<code>tan</code>
<code>\cot</code>	<code>cot</code>	<code>\inf</code>	<code>inf</code>	<code>\max</code>	<code>max</code>	<code>\tanh</code>	<code>tanh</code>
<code>\coth</code>	<code>coth</code>	<code>\injlim</code>	<code>injlim</code>	<code>\min</code>	<code>min</code>		
<code>\csc</code>	<code>csc</code>	<code>\ker</code>	<code>ker</code>	<code>\Pr</code>	<code>Pr</code>		
		<code>\varlimsup</code>	$\varlimsup$	<code>\varinjlim</code>	$\varinjlim$		
		<code>\varliminf</code>	$\varliminf$	<code>\varprojlim</code>	$\varprojlim$		

## 2.6 Color vs Grayscale

It's helpful if authors supply grayscale versions of their articles in the event that the article is to be incorporated into a black and white printed book. With external PDF, PNG or JPG graphic files, you just need to supply a grayscale version of the file. For example, if the file is called

myimage.png, then the gray version should be myimage-gray.png or myimage-gray.pdf or myimage-gray.jpg. You don't need to modify your code. The jmlr class checks for the existence of the grayscale version if it is print mode (provided you have used `\includegraphics` and haven't specified the file extension). This check is performed by code provided by the jmlr class not the jmlrutils package.

`\ifprint`

```
\ifprint{<true part>}{<false part>}
```

You can use `\ifprint` to determine which mode you are in. For example:

```
in \figureref{fig:nodes}, the
\ifprint{dark gray}{purple}
ellipse represents an input and the
\ifprint{light gray}{yellow} ellipse
represents an output.
```

Another example:

```
{\ifprint{\bfseries}{\color{red}}important text!}
```

You can use the class option `gray` to see how the document will appear in gray scale mode.

The `xcolor` class is loaded with the `x11names` option, so you can use any of the x11 predefined colors (listed in the `xcolor` documentation<sup>4</sup>).

## 2.7 Where To Go For Help

If you have a general  $\text{\LaTeX}$  query, the first place to go to is the  $\text{\TeX}$  FAQ<sup>5</sup>.

If you are unfamiliar or just getting started with  $\text{\LaTeX}$ , there's a list of on-line introductions to  $\text{\LaTeX}$  at <https://texfaq.org/FAQ-man-latex> or have a look at  [\$\text{\LaTeX}\$  for Complete Novices](#).

There are also forums, mailing lists and newsgroups. For example,  $\text{\TeX}$  on StackExchange (<http://tex.stackexchange.com/>), the  $\text{\LaTeX}$  Community (<http://www.latex-community.org/>), the texhax mailing list (<http://tug.org/mailman/listinfo/texhax>) and `comp.text.tex` (archives available at <http://groups.google.com/group/comp.text.tex/>).

Documentation for packages or classes can be found using the `texdoc` application. For example:

```
texdoc natbib
```

Alternatively, you can go to <http://www.ctan.org/pkg/<name>> where `<name>` is the name of the package. For example: <http://www.ctan.org/pkg/natbib>

For a general guide to preparing papers (regardless of whether you are using  $\text{\LaTeX}$  or a word processor), see Kate L. Turabian, "A manual for writers of term papers, theses, and dissertations", The University of Chicago Press, 1996.

<sup>4</sup><http://ctan.org/pkg/xcolor>

<sup>5</sup><https://texfaq.org/>

## 3 Guidelines for Production Editors

The `jmlrbook` class can be used to combine articles that use the `jmlr` document class into a book. The following sample files are provided: `paper1/paper1.tex`, `paper2/paper2.tex`, `paper3/paper3.tex`, `jmlr-sample.tex`, `jmlrwcp-sample.tex`, `jmlrbook-sample.tex` and `proceedings-sample.tex`. All but the last two are articles using the `jmlr` class. The last two (`jmlrbook-sample.tex` and `proceedings-sample.tex`) uses the `jmlrbook` class file to combine the articles into a book. Note that no modifications are needed to the files using the `jmlr` class when they are imported into the book. They can either be compiled as stand-alone articles or with the entire book.

Before you compile the book, make sure that all the articles compile as stand-alone documents (and run BibTeX where necessary). You can use the `makejmlrbookgui` application to compile the book. See <http://www.dickimaw-books.com/software/makejmlrbookgui/> for details.

### 3.1 `jmlrbook` Class Options

**nowcp** The imported pre-published articles were published in the Journal of Machine Learning Research (default).

**pmlr** The imported pre-published articles were published in the Proceedings of Machine Learning Research (PMLR).

**wcp** The imported pre-published articles were published in the JMLR Workshop and Conference Proceedings (JMLR W&CP).

If the book has a mixture of JMLR, JMLR W&CP or PMLR articles, you can switch between them using

`\jmlrnowcp`

`\jmlrnowcp`

(for JMLR) or

`\jmlrwcp`

`\jmlrwcp`

(for JMLR W&CP) or

`\jmlrpmlr`

`\jmlrpmlr`

(for PMLR). Alternatively, you can set the name of the journal or conference proceedings using:

jmlrproceedings

```
\jmlrproceedings{\short title}{\long title}
```

**color** Color version (see Section 2.6). Use this option for the on-line version with hyperlinks enabled (default).

**gray** Grayscale version (see Section 2.6). Use this option for the print version without hyperlinks.

**tablecaption=top** in a table environment, `\floatconts` puts the caption at the top.

**tablecaption=bottom** in a table environment, `\floatconts` puts the caption at the bottom.

**letterpaper** Set the paper size to letter (default).

**7x10** Set the paper size to 7 × 10 inches.

**10pt** Use 10pt as the normal text size.

**11pt** Use 11pt as the normal text size (default).

**12pt** Use 12pt as the normal text size.

## 3.2 The Preamble

Any packages that the imported articles load (which aren't automatically loaded by `jmlr`) must be loaded in the book's preamble. For example, if one or more of the articles load the `siunitx` package, this package must be loaded in the book.

Commands that are defined in the imported articles will be local to that article unless they have been globally defined using `\gdef` or `\global`. Since most authors use `\newcommand` and `\newenvironment` (or `\renewcommand` and `\renewenvironment`) this shouldn't cause a conflict if more than one article has defined the same command or environment. For example, in the sample files supplied, both `paper1/paper1.tex` and `paper2/paper2.tex` have defined the command `\samplecommand` using `\newcommand`. As long as this command isn't also defined in the book, there won't be a conflict.

`\title`

```
\title[PDF title]{book title}
```

In the book preamble, `\title` sets the book title and the optional argument is used for the PDF title, which will be displayed when the reader views the PDF file's properties in their PDF viewer. (Note that in the imported articles, `\title` sets the article's title and the optional argument sets the short title for the page header and table of contents.)

`\author`

```
\author[PDF author(s)]{book author(s)}
```



In the book preamble, `\author` sets the book's author (or editor) and the optional argument is used for the PDF author, which will be displayed when the reader views the PDF file's properties in their PDF viewer. (Note that in the imported articles, `\author` sets the article's author and the optional argument sets the short author list for the page header.)

`\volume` `\volume{<number>}`

This command sets the book's volume number. Omit if the book has no volume number.

`\subtitle` `\subtitle{<sub-title>}`

This command sets the book's subtitle. Omit if the book has no sub-title.

`\logo` `\logo[<url>]{<image command>}`

This sets the book's title image. Use `\includegraphics` and omit the file extension. If you provide a grayscale version as well as a color version, the grayscale version will be used for the print version of the book. (See Section 2.6 for further details.) The optional argument, if present, was formerly used by `makejmlrbookgui` to make the logo a link to `<url>` on the index HTML page. (The HTML pages are no longer generated by the application as PMLR now generate the HTML from the .bib file for the proceedings.)

`\team` `\team{<team title>}`

This can be used to set the name of the editorial team. This command may be omitted if not required.

`\productioneditor` `\productioneditor{<name>}`

This command may be used to name the production editor. The command may be omitted if not required.

`\jmlrlocation` `\jmlrlocation{<location>}`

This specifies the workshop location. By default this doesn't appear on the title page. See Section 3.4 for details on how to modify the layout of the title page.

### 3.3 Main Book Commands

All commands that are provided by the `jmlr` class are also available with the `jmlrbook` class, but some commands might behave differently depending on whether they are in the main part of the book or within the imported articles.

In the main part of the book you can use the following commands:

`\maketitle` `\maketitle`

This displays the book's title page. Note that `\maketitle` has a different effect when used in imported articles.

`\frontmatter`

```
\frontmatter
```

Use this command at the start of the front matter (e.g. before the foreword or preface). This will make chapters unnumbered even if you use `\chapter` instead of `\chapter*`. It also sets the page style and sets the page numbering to lower case Roman numerals.

`authorsignoff`

```
\begin{authorsignoff}
<author list>
\end{authorsignoff}
```

This environment may be used by the author signing off at the end of a chapter such as the foreword. Within the environment use:

`\Author`

```
\Author{<details>}
```

for the author's details. More than one `\Author` should be used if there is more than one author. Example:

```
\begin{authorsignoff}
\Author{Nicola Talbot\
University of East Anglia}
\Author{Anne Author\
University of No Where}
\end{authorsignoff}
```

`preface`

```
\begin{preface}[<filename>]
```

This environment may be used to typeset the preface. This starts a new chapter using `\chapter{\prefacename}`

`\prefacename`

where `\prefacename` defaults to "Preface". This environment should typically go in the front matter and is provided to allow `makejmlrbookgui` create a standalone document for the preface. The optional argument is the filename (without any extension or path) that will be used by `makejmlrbookgui`. This defaults to `preface` but, to conform with PMLR guidelines, should be changed to the surname of the first author (editor) followed by the final two digits of the year. See the PMLR website for further details of the guidelines.

`signoff`

```
\begin{signoff}[<team name>]{<date>}
<editor list>
\end{signoff}
```

This environment may be used by the editorial team when signing off a chapter such as the preface. If the optional argument is omitted, "The Editorial Team" is used. If you are using

the preface environment described above, the signoff environment must go inside the preface environment.

Within the signoff environment use:

`\Editor`

`\Editor{<details>}`

for each editor. Example:

```
\begin{signoff}{March 2010}
% First editor:
\Editor{Nicola Talbot\\
University of East Anglia\\
\mailto{N.Talbot@uea.ac.uk}}
% Second editor:
\Editor{Anne Editor\\
University of Nowhere\\
\mailto{ae@sample.com}}
\end{signoff}
```

`\tableofcontents`

`\tableofcontents`

This command displays the book's table of contents. Note that it has a different effect if used in an imported article.

`\mainmatter`

`\mainmatter`

Use this command to switch to the book's main matter. This will switch the chapter numbering back on, reset the page numbering to Arabic and set up the main page style.

`\part`

`\part[<short title>]{<title>}`

If used in the main part of the book, this command will start a new part and issue a clear double page. Note that this command has a different effect if used in an imported article (or inside the `jmlrpapers` environment).

`\addtocpart`

`\addtocpart{<title>}`

This adds *<title>* to the table of contents, issues a clear double page, but doesn't display any text or affect the part numbering.

`\chapter`

`\chapter[<short title>]{<title>}`

This command may be used in the main body of the book but will cause an error if used within an imported article (or inside the `jmlrpapers` environment).

`\section`

`\section[<short title>]{<title>}`

`\subsection` `\subsection[<short title>]{<title>}`

`\subsubsection` `\subsubsection[<short title>]{<title>}`

`\paragraph` `\paragraph[<short title>]{<title>}`

`\subparagraph` `\subparagraph[<short title>]{<title>}`

These commands may be used in the main body of the book or within imported articles. In the main body of the book (outside of the `jmlrpapers` environment) they need to be within a chapter and will be numbered according to the chapter.

`\appendix`

If used in the main body of the book (*outside* of the `jmlrpapers` environment) this will switch to the book appendices. Subsequent `\chapter` commands will produce the appendices. (Any imported articles in the appendix will be identified by `makejmlrbookgui` as supplemental material.) If used within an imported article (or within the `jmlrpapers` environment) `\appendix` will switch to the article appendices and won't affect the main part of the book.

`jmlrpapers` `\begin{jmlrpapers}`  
`<imported papers>`  
`\end{jmlrpapers}`

This environment must be used when importing articles and may be used as often as required. Take care not to include book sectioning commands, such as `\chapter`, in this environment. Within the `jmlrpapers` environment, use the following commands to import articles:

`\importpubpaper` `\importpubpaper[<label>]{<directory>}{<file>}{<pages>}`

This imports an article that has already been published elsewhere. The *<pages>* argument should be the page range from the *previously published* version of this article. This may not necessarily be the same as the page range of the article in the book. The directory the imported file is contained in is given by *<directory>*. If the file is in the same directory as the book, use a dot. The file name is given by *<file>*. The article is also given a label, specified by the optional argument. This is *<directory>/<file>* by default. The label is used as a prefix to labels in the imported articles which ensures that cross-references are unique. You can also use this label to reference the article elsewhere in the book (see Section 3.3.2).

`\importpaper` `\importpaper[<label>]{<directory>}{<file>}`

Imports an article that is being published in the book. The arguments are the same as above except that there is no page range (the page range is computed automatically).

`\importarticle` `\importarticle[<label>]{<directory>}{<file>}`

This imports an article that hasn't been published elsewhere. There is no page range, but the other arguments are the same as those describe above for `\importpubpaper`.

Example: to import a previously published paper `paper1/paper1.tex` and an unpublished paper `paper2/paper2.tex`:

```
\begin{jmlrpapers}
\importpubpaper{paper1}{paper1}{23--45}
\importarticle{paper2}{paper2}
\end{jmlrpapers}
```

### 3.3.1 Two Column Articles in a One Column Book

The `jmlrbook` class `column` style will override the column style of the imported articles. You can use the `twocolumn` class option to `jmlrbook`, but this will make the whole book with two columns. If you only want the imported articles to be in two columns, then put `\twocolumn` in the `jmlrpapers` environment to switch on two column formatting. The effect will be localised to the end of the environment.

### 3.3.2 Cross-Referencing

You can cross-reference other parts of the book using the standard `\label/\ref` mechanism, but if you want to reference something within an imported article, you must prefix the label with the label given when importing the article (that is, the optional argument to `\importpubpaper`, `\importpaper` or `\importarticle`). For example, if you want to reference a section labelled `sec:results` in the imported paper `paper1/paper1.tex`, you would need to do:

```
see Section~\ref{paper1/paper1sec:results}
```

or

```
see \sectionref{paper1/paper1sec:results}
```

In addition to the commands described in Section 2.5.6, the `jmlrbook` class also provides the following cross-referencing commands:

`\chapterref` `\chapterref{<label list>}`

Reference a chapter or chapters. The argument is a comma-separated list of labels.

`\articlepageref` `\articlepageref{<label>}`

This displays the starting page number of the article whose label is given by  $\langle label \rangle$ . Note that this must be a single label, not a list. For example:

An interesting article starts on page~\articlepageref{paper1/paper1}

\articlepagesref

\articlepagesref{\langle label \rangle}

This displays the page range of the article whose label is given by  $\langle label \rangle$ . Again, this must be a single label, not a list. This page range is unrelated to the  $\langle pages \rangle$  argument of \importpubarticle.

\articletitleref

\articletitleref{\langle label \rangle}

This displays the short title for the article whose label is given by  $\langle label \rangle$ . Again, this must be a single label, not a list.

\articleauthorref

\articleauthorref{\langle label \rangle}

This displays the author list for the article whose label is given by  $\langle label \rangle$ . Again, this must be a single label, not a list.

### 3.4 Altering the Layout of the Main Title Page

\titlebody

\titlebody

The main body of the book's title page is given by the command \titlebody. Within the definition of this command, you can use:

\SetTitleElement

\SetTitleElement{\langle element \rangle}{\langle pre \rangle}{\langle post \rangle}

where  $\langle element \rangle$  can be: title, volume, issue<sup>1</sup>, subtitle, logo, team, author, date, productioneditor. The  $\langle pre \rangle$  and  $\langle post \rangle$  arguments specify what to do before and after the element. Note that \SetTitleElement does nothing if that element hasn't been set. For example, if \volume has been omitted or \volume{} is used, then

\SetTitleElement{volume}{\mainvolume font}{\postmainvolume}

will do nothing (so you don't end up with **Volume** :).

\IfTitleElement

\IfTitleElement{\langle element \rangle}{\langle true part \rangle}{\langle false part \rangle}

This does  $\langle true part \rangle$  if  $\langle element \rangle$  has been set otherwise it does  $\langle false part \rangle$ . For example, \postmainvolume is defined as:

<sup>1</sup>The default title page layout doesn't use issue, but if required it can be set with \issue{\langle number \rangle}

```
\newcommand{\postmainvolume}{%
  \IfTitleElement{subtitle}{:}{\par\relax
}
```

This means that it will only print a colon after the volume number if the subtitle has been set. The default definition of `\titlebody` is:

```
\newcommand{\titlebody}{%
  \SetTitleElement{title}{\maintitlefont}{\postmaintitle}%
  \SetTitleElement{volume}{\mainvolumefont}{\postmainvolume}%
  \SetTitleElement{subtitle}{\mainsubtitlefont}{\postmainsubtitle}%
  \SetTitleElement{logo}{\mainlogofont}{\postmainlogo}%
  \SetTitleElement{team}{\mainteamfont}{\postmainteam}%
  \SetTitleElement{author}{\mainauthorfont}{\postmainauthor}%
  \SetTitleElement{productioneditor}{\mainproductioneditorfont}{%
    {\postmainproductioneditor}%
  }
}
```

### 3.5 Potential Pitfalls

The `combine` class and `hyperref` package are individually both easily broken by packages that change certain internals and they don't ordinarily work together. The `jmlrbook` class applies patches to the internal referencing mechanism to make them work together, but it's a fairly fragile alliance. Some packages are known to break it, for example `subfig`, `pdfpages` and `geometry`. This is why the `jmlr` class checks for known problem packages and generates an error message to dissuade authors from using them. It's likely that there are other packages that may cause a problem and, as they are found, they will be added to the check list. Also, it's possible for an author to disable the package checking mechanism if they are determined to use a particular package.

In the event that an article has loaded a problem package, the editors will have to decide whether to ask the author to change the article so that it doesn't cause a problem or to make the changes themselves or to find a way of fudging things to get it to work. It depends on the level of  $\text{\LaTeX}$  expertise amongst the editors and the time available.

Another problem that can arise is when different articles use packages that conflict. For example, one article uses package `foo` and another uses package `bar`. Each article compiles okay as a stand-alone article, but when combined `foo` and `bar` conflict. Another problem may occur when articles load the same package but with conflicting package options. To reduce the chance of this occurring, the `jmlr` class loads some commonly used packages. For example, it loads the `algorithm2e` package with the `algo2e` and `ruled` options and provides the `algorithm` environment in addition to `algorithm2e`'s `algorithm2e` environment. Different versions of the same package can also be a problem. To help counteract the problem caused by different papers using different versions of the `algorithm2e` package, `jmlrbook` defines most of the old style commands if they don't exist.

Articles that use different input encodings can also cause a problem. For example, if one article uses `utf8` and another uses `latin1`. If the authors have directly entered a diacritic or ligature, such as `é` or `æ`, instead of using a  $\text{\LaTeX}$  command, such as `\'e` or `\ae`, then this will

cause an error on compiling the book.<sup>2</sup> The choice then is to either change all non-keyboard characters with the appropriate  $\text{\LaTeX}$  commands or to use the `\inputencoding` command, supplied by the `inputenc` package, to switch the encoding at the start of each article. One thing to watch out for are bib files that contain a mixture of encodings caused by copying and pasting from different sources. Version 0.4.2b of `makejmlrbookgui` provides a function to search for characters outside the range 0x20 (space) and 0x7E (tilde).

Authors who use `\nonumber` within an equation environment can mess up the hyperlinks. Remove `\nonumber` and change the equation environment to `\[ ... \]` (or just make it a numbered equation).

If the article changes the graphics path using `\graphicspath`, `jmlrbook` won't find the graphics if the imported articles aren't in the same directory as the book.

The `makejmlrbookgui` application provides some diagnostic tools, which can help detect some common problems. It's manual also has a [troubleshooting section](#).

---

<sup>2</sup>and may also cause a problem for the editor's text editor.



## 4 The Code

### 4.1 jmlrutils.sty Code

Non-class dependent code. This package is automatically loaded by jmlr but may be used with other classes.

```
1 \ProvidesPackage{jmlrutils}[2020/03/26 v1.27 (NLCT)]
```

Package options:

fjmlrutilsmaths Determine if the maths commands should be provided.

```
2 \newif\ifjmlrutilsmaths
3 \jmlrutilsmathstrue

4 \DeclareOption{maths}{\jmlrutilsmathstrue}
5 \DeclareOption{nomaths}{\jmlrutilsmathsfalse}
```

lutilstheorems Determine if the theorem environments should be provided.

```
6 \newif\ifjmlrutilstheorems
7 \jmlrutilstheoremstrue

8 \DeclareOption{theorems}{\jmlrutilstheoremstrue}
9 \DeclareOption{notheorems}{\jmlrutilstheoremsfalse}
```

rutilssubfloats Determine if the sub-floats should be provided.

```
10 \newif\ifjmlrutilssubfloats
11 \jmlrutilssubfloatstrue

12 \DeclareOption{subfloats}{\jmlrutilssubfloatstrue}
13 \DeclareOption{nosubfloats}{\jmlrutilssubfloatsfalse}

14 \ProcessOptions
```

Requires etoolbox:

```
15 \RequirePackage{etoolbox}
```

If the maths commands are needed, load amsmath.

```
16 \ifjmlrutilsmaths
17   \RequirePackage{amsmath}
18 \fi
```

The conditional `\iftablecaptiontop` will already have been defined by the jmlr class, so only needs to be defined if not already done.

tablecaptiontop

```

19 \ifundefined{iftablecaptiontop}
20 {\newif\iftablecaptiontop
21 \tablecaptiontoptrue}
22 {}

```

### 4.1.1 Cross-Referencing

Convenient macros for cross-referencing.

```

23 \newcommand*{\@jmlr@reflistsep}{, }
24 \newcommand*{\@jmlr@reflistlastsep}{ and }
25 \newcommand*{\sectionrefname}{Section}
26 \newcommand*{\sectionsrefname}{Sections}
27 \newcommand*{\equationrefname}{Equation}
28 \newcommand*{\equationsrefname}{Equations}
29 \newcommand*{\tablerefname}{Table}
30 \newcommand*{\tablesrefname}{Tables}
31 \newcommand*{\figurerefname}{Figure}
32 \newcommand*{\figuresrefname}{Figures}
33 \newcommand*{\algorithmrefname}{Algorithm}
34 \newcommand*{\algorithmsrefname}{Algorithms}
35 \newcommand*{\theoremrefname}{Theorem}
36 \newcommand*{\theoremsrefname}{Theorems}
37 \newcommand*{\lemmarefname}{Lemma}
38 \newcommand*{\lemmasrefname}{Lemmas}
39 \newcommand*{\remarkrefname}{Remark}
40 \newcommand*{\remarksrefname}{Remarks}
41 \newcommand*{\corollaryrefname}{Corollary}
42 \newcommand*{\corollarysrefname}{Corollaries}
43 \newcommand*{\definitionrefname}{Definition}
44 \newcommand*{\definitionsrefname}{Definitions}
45 \newcommand*{\conjecturerefname}{Conjecture}
46 \newcommand*{\conjecturesrefname}{Conjectures}
47 \newcommand*{\axiomrefname}{Axiom}
48 \newcommand*{\axiomsrefname}{Axioms}
49 \newcommand*{\examplerefname}{Example}
50 \newcommand*{\examplesrefname}{Examples}
51 \newcommand*{\appendixrefname}{Appendix}
52 \newcommand*{\appendixsrefname}{Appendices}
53 \newcommand*{\partrefname}{Part}
54 \newcommand*{\partsrefname}{Parts}

```

`\objectref` Cross-reference a particular structural element. The first argument is the list of labels, the second argument is a control sequence containing the singular tag, the third argument a control sequence containing the plural tag, the fourth argument is text to go before the reference number, e.g. an opening bracket, and the fifth argument is text to go after the reference number, e.g. a closing bracket.

```

55 \newrobustcmd*{\objectref}[5]{%

```

```

56 \let\@objectname\@empty
57 \def\@objectref{}%
58 \let\@prevsep\@empty
59 \@for\@thislabel:=#1\do{%
60   \toks@{\@prevsep}%
61   \protected@edef\@objectref{\@objectref\the\toks@
62     #4\ref{\@thislabel}#5}%
63   \ifx\@objectname\@empty
64     \let\@objectname#2% singular tag
65   \else
66     \let\@objectname#3% plural tag
67     \let\@prevsep\@jmlr@reflistsep
68   \fi
69 }%
70 \ifx\@objectname#3% plural tag
71   \let\@prevsep\@jmlr@reflistlastsep
72 \fi
73 \@objectname~\@objectref
74 }

```

\sectionref

```

75 \newcommand*\sectionref[1]{%
76   \objectref{#1}{\sectionrefname}{\sectionsrefname}{}}

```

\equationref

```

77 \newcommand*\equationref[1]{%
78   \objectref{#1}{\equationrefname}{\equationsrefname}()}

```

\tableref

```

79 \newcommand*\tableref[1]{%
80   \objectref{#1}{\tablerefname}{\tablesrefname}{}}

```

\figureref

```

81 \newcommand*\figureref[1]{%
82   \objectref{#1}{\figurerefname}{\figuresrefname}{}}

```

\algorithmref

```

83 \newcommand*\algorithmref[1]{%
84   \objectref{#1}{\algorithmrefname}{\algorithmsrefname}{}}

```

\theoremref

```

85 \newcommand*\theoremref[1]{%
86   \objectref{#1}{\theoremrefname}{\theoremsrefname}{}}

```

\lemmaref

```

87 \newcommand*\lemmaref[1]{%
88   \objectref{#1}{\lemmarefname}{\lemmasrefname}{}}

```

```

\remarkref
89 \newcommand*{\remarkref}[1]{%
90   \objectref{#1}{\remarkrefname}{\remarksrefname}{}}{}

\corollaryref
91 \newcommand*{\corollaryref}[1]{%
92   \objectref{#1}{\corollaryrefname}{\corollarysrefname}{}}{}

\definitionref
93 \newcommand*{\definitionref}[1]{%
94   \objectref{#1}{\definitionrefname}{\definitionsrefname}{}}{}

\conjectureref
95 \newcommand*{\conjectureref}[1]{%
96   \objectref{#1}{\conjecturerefname}{\conjecturesrefname}{}}{}

\axiomref
97 \newcommand*{\axiomref}[1]{%
98   \objectref{#1}{\axiomrefname}{\axiomsrefname}{}}{}

\exampleref
99 \newcommand*{\exampleref}[1]{%
100   \objectref{#1}{\examplerefname}{\examplesrefname}{}}{}

\appendixref
101 \newcommand*{\appendixref}[1]{%
102   \objectref{#1}{\appendixrefname}{\appendixsrefname}{}}{}

\partref
103 \newcommand*{\partref}[1]{%
104   \objectref{#1}{\partrefname}{\partsrefname}{}}{}

```

#### 4.1.2 Figures, Tables and Algorithms

```

\floatconts The first argument is the label, the second argument contains the caption (using \caption)
and the third argument contains the contents of the float
105 \newcommand{\floatconts}[3]{%
106   \@ifundefined{\@capttype conts}{\tableconts{#1}{#2}{#3}}%
107   {\csname\@capttype conts\endcsname{#1}{#2}{#3}}%
108 }

\tableconts This will already have been defined if the jmlr class was loaded.
109 \providecommand{\tableconts}[3]{%
110   #2\label{#1}\vskip\baselineskip
111   {\centering #3\par}%
112 }

```

`\figureconts`

```
113 \newcommand{\figureconts}[3]{%
114   {\centering #3\par}%
115   \vskip\baselineskip
116   #2\label{#1}%
117 }
```

The following macro and environment assume that `algorithm2e` has been loaded (which is done by the `jmlr` class). If the `jmlrutils` package is loaded without the `jmlr` class, the `algorithm2e` package will have to be explicitly loaded.

`\algocfconts` Command used by `\floatconts` to display the caption contents.

```
118 \newcommand{\algocfconts}[3]{%
119   \@algocf@pre@ruled
120   #2\label{#1}\kern2pt\hrule height.8pt depth0pt\kern2pt%
121   #3\@algocf@pre@ruled
122 }
```

The `algorithm` environment should float like a figure or table. It should use the same counter as the `algorithm2e` environment.

```
123 \newenvironment{algorithm}[1][htbp]%
124 {%
125   \ifundef{\algocf}%
126   {'algorithm2e' package is required if you want to
127    use the algorithm environment}%
128   {}%
129   \begin{algocf}[#1]%
130   \renewcommand\@makecaption[2]{%
131     \hskip\AlCapHSkip
132     \parbox[t]{\hsize}{\algocf@captiontext{##1}{##2}}%
133   }%
134 }%
135 {%
136   \end{algocf}%
137 }
```

`fgraphicxloaded`

```
138 \AtBeginDocument{%
139   \@ifpackageloaded{graphicx}%
140   {\let\@jmlr@ifgraphicxloaded\@firstoftwo}%
141   {\let\@jmlr@ifgraphicxloaded\@secondoftwo}%
142 }
```

`\includeteximage` Provide a command like `\includegraphics` that includes a file containing  $\TeX$  picture code (e.g. `pgf`).

```
143 \newcommand*\includeteximage[2][ ]{%
144   \@jmlr@ifgraphicxloaded
145   {%
```

```

146 \def\Gin@req@sizes{%
147   \Gin@req@height\Gin@nat@height
148   \Gin@req@width\Gin@nat@width}%
149 \begingroup
150   \let\input@path\Ginput@path
151   \IfFileExists{#2}%
152   {%
153     \toks@{\input{#2}}%
154     \ifstrempy{#1}
155     {}%
156     {%
157       \@tempswatrue
158       \setkeys{Gin}{#1}%
159       \Gin@esetsize
160     }%
161     \the\toks@
162   }%
163   {\@warning{File ‘#2’ not found}}}%
164 \endgroup
165 }%
166 {\PackageError{jmlrutils}{'graphicx' package is required
167  if you want to use \string\includeteximage}{}}}%
168 }

```

Sub floats.

```
169 \ifjmlrutilssubfloats
```

The subfig package breaks jmlrbook.cls, so define \subfig here. (This is fairly primitive.)

\c@subfigure Define subfigure counter:

```

170 \newcounter{subfigure}
171 \@addtoreset{subfigure}{figure}

```

\thesubfigure

```
172 \renewcommand*{\thesubfigure}{\alph{subfigure}}
```

\p@subfigure

```

173 \renewcommand*{\p@subfigure}{\expandafter\@p@subfigure}
174 \newcommand*{\@p@subfigure}[1]{%
175   \protect\@subfigurelabel{\thefigure}{\thesubfigure}%
176 }

```

The LaTeX kernel changed the definition of \refstepcounter to allow \p@. . . to have an argument. This means we need to check the kernel version and pick up that extra argument if present.

```

177 \@ifl@t@r\fmtversion{2019/08/22}%
178 {

```

Newer kernel versions.

`@subfigurelabel` Define how label appears.

```
179 \newcommand*{@subfigurelabel[3]{#1\subfigurelabel{#2}}}
```

`\@subfigref`

```
180 \newcommand*{@subfigref[1]{%
181   {%
182     \def\@subfigurelabel##1##2##3{\subfigurelabel{##2}}}%
183     \ref{#1}%
184   }%
185   }

186 }%
187 {
```

Older kernel versions.

`@subfigurelabel` Define how label appears.

```
188 \newcommand*{@subfigurelabel[2]{#1\subfigurelabel{#2}}}
```

`\@subfigref`

```
189 \newcommand*{@subfigref[1]{%
190   {%
191     \def\@subfigurelabel##1##2{\subfigurelabel{##2}}}%
192     \ref{#1}%
193   }%
194   }

195 }
```

`\subfigref` Reference the sub-figure without including the figure number.

```
196 \newcommand*{\subfigref}[1]{%
197   \let\@objectname\@empty
198   \def\@objectref{}%
199   \let\@prevsep\@empty
200   \@for\@thislabel:=#1\do{%
201     \toks@{\@prevsep}%
202     \protected@edef\@objectref{\@objectref\the\toks@
203       \protect\@subfigref{\@thislabel}}}%
204     \ifx\@objectname\@empty
205 \let\@objectname\@nil
206   \else
207 \let\@objectname\relax
208     \let\@prevsep\@jmlr@reflistsep
209     \fi
210   }%
211   \ifx\@objectname\relax
212     \let\@prevsep\@jmlr@reflistlastsep
213   \fi
214   \@objectref
215 }
```

```

\subfigurelabel
216 \newcommand*{\subfigurelabel}[1]{(\emph{#1})}

@subfloatcapbox  Box to store subfloat caption.
217 \newsavebox\@subfloatcapbox

subfloatcontsbox  Box to store subfloat contents.
218 \newsavebox\@subfloatcontsbox

\subfigure
219 \newcommand*{\subfigure}[1][b]{%
220   \bgroup
221   \def\@subfigcap{#1}%
222   \@subfigure
223 }

224 \newcommand*{\@subfigure}[2][b]{%
225   \advance\c@figure by 1\relax
226   \refstepcounter{subfigure}%
227   \sbox\@subfloatcapbox{\subfigurelabel{\thesubfigure}}%
228   \ifx\@subfigcap\@empty
229   \else
230     \space\@subfigcap
231   \fi}%
232   \sbox\@subfloatcontsbox{#2}%
233   \settowidth{\@tempdima}{\usebox\@subfloatcontsbox}%
234   \settowidth{\@tempdimb}{\usebox\@subfloatcapbox}%
235   \ifdim\@tempdimb>\@tempdima
236     \settowidth\@tempdimb{\subfigurelabel{\thesubfigure}\space}%
237     \addtolength{\@tempdima}{-\@tempdimb}%
238     \sbox\@subfloatcapbox{\subfigurelabel{\thesubfigure}\space
239       \parbox[t]{\@tempdima}{\@subfigcap}}%
240   \fi
241   \begin{tabular}[#1]{@{}c@{}}%
242     \usebox\@subfloatcontsbox\\
243     \usebox\@subfloatcapbox
244   \end{tabular}%
245 }

```

Sub-tables:

```

\c@subtable  Define subtable counter:
246 \newcounter{subtable}
247 \@addtoreset{subtable}{table}

\thesubtable
248 \renewcommand*{\thesubtable}{\alph{subtable}}

```



`\p@subtable`

```
249 \renewcommand*{\p@subtable}{\expandafter\@p@subtable}
250 \newcommand*{\@p@subtable}[1]{%
251   \protect\@subtablelabel{\thetable}{\thesubtable}%
252 }
```

As with `\@subfigure` we again need to check L<sup>A</sup>T<sub>E</sub>X kernel version.

```
253 \@ifl@t@r\fmtversion{2019/08/22}%
254 {
```

Newer kernel versions.

`\@subtablelabel` Define how label appears.

```
255 \newcommand*\@subtablelabel[3]{#1\subtablelabel{#2}}
```

`\@subtabref`

```
256 \newcommand*\@subtabref[1]{%
257   {%
258     \def\@subtablelabel##1##2##3{\subtablelabel{##2}}%
259     \ref{#1}%
260   }%
261 }

262 }%
263 {
```

Older kernel versions.

`\@subtablelabel` Define how label appears.

```
264 \newcommand*\@subtablelabel[2]{#1\subtablelabel{#2}}
```

`\@subtabref`

```
265 \newcommand*\@subtabref[1]{%
266   {%
267     \def\@subtablelabel##1##2{\subtablelabel{##2}}%
268     \ref{#1}%
269   }%
270 }

271 }%
```

`\subtabref` Reference the sub-table without including the table number.

```
272 \newcommand*\subtabref[1]{%
273   \let\@objectname\@empty
274   \def\@objectref{}%
275   \let\@prevsep\@empty
276   \@for\@thislabel:=#1\do{%
277     \toks@{\@prevsep}%
278     \protected@edef\@objectref{\@objectref\the\toks@
279       \protect\@subtabref{\@thislabel}}%
```

```

280      \ifx\@objectname\@empty
281 \let\@objectname\@nil
282      \else
283 \let\@objectname\relax
284      \let\@prevsep\@jmlr@reflistsep
285      \fi
286  }%
287  \ifx\@objectname\relax
288      \let\@prevsep\@jmlr@reflistlastsep
289  \fi
290  \@objectref
291  }

```

`\subtablelabel`

```

292  \newcommand*{\subtablelabel}[1]{(\emph{#1})}

```

`\subtable`

```

293  \newcommand*{\subtable}[1][t]{%
294    \def\@subtabcap{#1}%
295    \@subtable
296  }

297  \newcommand*{\@subtable}[2][t]{%
298    \refstepcounter{subtable}%
299    \sbox\@subfloatcapbox{\subtablelabel{\thesubtable}}%
300    \ifx\@subtabcap\@empty
301    \else
302      \space\@subtabcap
303    \fi}%
304    \sbox\@subfloatcontsbox{#2}%
305    \settowidth{\@tempdima}{\usebox\@subfloatcontsbox}%
306    \settowidth{\@tempdimb}{\usebox\@subfloatcapbox}%
307    \ifdim\@tempdimb>\@tempdima
308      \settowidth\@tempdimb{\subtablelabel{\thesubtable}\space}%
309      \addtolength{\@tempdima}{-\@tempdimb}%
310      \sbox\@subfloatcapbox{\subtablelabel{\thesubtable}\space
311        \parbox[t]{\@tempdima}{\@subtabcap}}%
312    \fi
313    \begin{tabular}[#1]{@{}c@{}}%
314      \usebox\@subfloatcapbox\\
315      \usebox\@subfloatcontsbox
316    \end{tabular}

```

End of sub-floats.

```

317 \fi

```

### 4.1.3 General Markup

Provide maths command if required.

```

318 \ifjmlrutilsmaths

```

`\set`

```
319 \newcommand*{\set}[1]{\ensuremath{\mathcal{#1}}}
```

`\orgvec` Keep a copy of original `\vec` in case it's wanted.

```
320 \let\orgvec\vec
```

`\vec` Redefine `\vec` to produce a bold symbol. The `amsmath` package is required for this.

```
321 \renewcommand*{\vec}[1]{\boldsymbol{#1}}
```

End of maths commands.

```
322 \fi
```

`enumerate*` Define an enumerate style environment where the nested environments all use the same counter. It uses the `enumi` counter.

```
323 \newenvironment{enumerate*}%
324 {%
325   \ifnum\@enumdepth=0\relax
326     \setcounter{enumi}{0}%
327   \fi
328   \ifnum\@enumdepth>\thr@@
329     \@toodeep
330   \else
331     \advance\@enumdepth\@ne
332     \def\@enumctr{enumi}%
333     \list
334       {\labelenumi}%
335       {\@nmblisttrue\def\@listctr{enumi}%
336        \def\makelabel##1{\hss\llap{##1}}}%
337   \fi
338 }%
339 {\endlist}
```

`altdescription` Define a description like environment where the indent is computed from the widest label. The optional argument is the widest label.

```
340 \newenvironment{altdescription}[1]%
341   {\list{}}%
342   {%
343     \settowidth{\labelwidth}{\altdescriptionlabel{#1}}%
344     \setlength{\labelsep}{15pt}%
345     \setlength{\leftmargin}{2\labelsep}%
346     \addtolength{\leftmargin}{\labelwidth}%
347     \setlength{\rightmargin}{\labelsep}%
348     \let\makelabel\altdescriptionlabel
349   }%
350 }%
351 {\endlist}
352
353 \newcommand*{\altdescriptionlabel}[1]{\normalfont\bfseries #1\hfill}
```

`\mailto` Syntax: `\mailto{<address>}`  
 354 `\newcommand*{\mailto}[1]{\texttt{#1}}`

#### 4.1.4 Proofs and Theorems

355 `\ifjmlrutilstheorems`

This code is taken from `jmlr2e.sty`

`\jmlrBlackBox` End of proof marker. This command was formerly called `\BlackBox` but has been renamed in case of a clash with symbol packages.

356 `\newcommand{\jmlrBlackBox}{\rule{1.5ex}{1.5ex}}`

`\BlackBox` Backward compatibility in case it was used explicitly.

357 `\providecommand{\BlackBox}{\jmlrBlackBox}`

`\jmlrQED`

358 `\newcommand{\jmlrQED}{\hfill\jmlrBlackBox\par\bigskip}`

`\proofname`

359 `\providecommand{\proofname}{Proof}`

`proof` Proof environment

360 `\newenvironment{proof}%`

361 `{%`

362 `\par\noindent{\bfseries\upshape \proofname\ }%`

363 `}%`

364 `{\jmlrQED}`

Since `theorem`, `ntheorem` and `amsthm` all cause problems with the `jmlr` and `jmlrbook` classes, this package provides a simple alternative.

`theorembodyfont`

`\theorembodyfont{<font declarations>}`

365 `\newcommand*{\theorembodyfont}[1]{%`

366 `\renewcommand*{\@theorembodyfont}{#1}%`

367 `}`

368 `\newcommand*{\@theorembodyfont}{\normalfont\itshape}%`

`theoremheaderfont`

`\theoremheaderfont{<font declarations>}`

369 `\newcommand*{\theoremheaderfont}[1]{%`

370 `\renewcommand*{\@theoremheaderfont}{#1}%`

371 `}`

372 `\newcommand*{\@theoremheaderfont}{\normalfont\bfseries }%`

`\theoremsep` `\theoremsep{<separation code>}`

```

373 \newcommand*{\theoremsep}[1]{%
374   \renewcommand*{\@theoremsep}{#1}%
375 }
376 \newcommand*{\@theoremsep}{}%
```

`theorempostheader` `\theorempostheader{<text>}`

```

377 \newcommand*{\theorempostheader}[1]{%
378   \renewcommand*{\@theorempostheader}{#1}%
379 }
380 \newcommand*{\@theorempostheader}{}%
```

`\newtheorem`

```

381 \let\jmlr@org@newtheorem\newtheorem
382 \renewcommand*{\newtheorem}{\@ifstar\jmlr@snewtheorem\jmlr@newtheorem}
```

Define starred version:

`\newtheorem*{<env-name>}{<title tag>}`

```

383 \newcommand*{\jmlr@snewtheorem}[2]{%
384   \cslet{jmlr@thm@#1@body@font}{\@theorembodyfont}%
385   \cslet{jmlr@thm@#1@header@font}{\@theoremheaderfont}%
386   \cslet{jmlr@thm@#1@sep}{\@theoremsep}%
387   \cslet{jmlr@thm@#1@postheader}{\@theorempostheader}%
388   \newenvironment{#1}%
389   {%
390     \trivlist
391     \item
392     [%
393       \hskip\labelsep{\csuse{jmlr@thm@#1@header@font}#2}%
394       \csuse{jmlr@thm@#1@postheader}%
395     ]%
396     \mbox{}{\csuse{jmlr@thm@#1@sep}%
397     \csuse{jmlr@thm@#1@body@font}%
398     }%
399   }%
400   {%
401     \endtrivlist
402   }%
403 }
```

Unstarred version needs adjusting to take the style into account:

`\@othm`

```

404 \newcommand{\jmlr@newtheorem}[1]{%
```

```

405 \cslet{jmlr@thm@#1@body@font}{\@theorembodyfont}%
406 \cslet{jmlr@thm@#1@header@font}{\@theoremheaderfont}%
407 \cslet{jmlr@thm@#1@sep}{\@theoremsep}%
408 \cslet{jmlr@thm@#1@postheader}{\@theorempostheader}%
409 \jmlr@org@newtheorem{#1}%
410 }

```

\@xthm

```

411 \renewcommand*{\@xthm}[2]{%
412 \def\@jmlr@currentthm{#1}%
413 \@begintheorem{#2}{\csname the#1\endcsname}%
414 \ignorespaces
415 }

```

\@ythm

```

416 \def\@ythm#1#2[#3]{%
417 \def\@jmlr@currentthm{#1}%
418 \@opargbegintheorem{#2}{\csname the#1\endcsname}{#3}%
419 \ignorespaces
420 }

```

\@begintheorem

```

421 \renewcommand*{\@begintheorem}[2]{%
422 \ifdef\@jmlr@currentthm{%
423 {%
424 \letcs{\jmlr@this@theoremheader}{\jmlr@thm@\@jmlr@currentthm @header@font}%
425 \letcs{\jmlr@this@theorembody}{\jmlr@thm@\@jmlr@currentthm @body@font}%
426 \letcs{\jmlr@this@theoremsep}{\jmlr@thm@\@jmlr@currentthm @sep}%
427 \letcs{\jmlr@this@theorempostheader}{%
428 {\jmlr@thm@\@jmlr@currentthm @postheader}%
429 }%
430 {%
431 \let\jmlr@this@theorembody\@theorembodyfont
432 \let\jmlr@this@theoremheader\@theoremheaderfont
433 \let\jmlr@this@theoremsep\@theoremsep
434 \let\jmlr@this@theorempostheader\@theorempostheader
435 }%
436 \trivlist
437 \item
438 [%
439 \hskip\labelsep{\jmlr@this@theoremheader #1\ #2%
440 \jmlr@this@theorempostheader}%
441 ]%
442 \mbox{}{\jmlr@this@theoremsep
443 \jmlr@this@theorembody
444 }

```

argbegintheorem

```

445 \renewcommand*{\@opargbegintheorem}[3]{%

```

```

446 \ifdef{\@jmlr@currentthm}%
447 {%
448 \letcs{\jmlr@this@theoremheader}{\jmlr@thm@\@jmlr@currentthm @header@font}%
449 \letcs{\jmlr@this@theorembody}{\jmlr@thm@\@jmlr@currentthm @body@font}%
450 \letcs{\jmlr@this@theoremsep}{\jmlr@thm@\@jmlr@currentthm @sep}%
451 \letcs{\jmlr@this@theorempostheader}%
452 {\jmlr@thm@\@jmlr@currentthm @postheader}%
453 }%
454 {%
455 \let\jmlr@this@theorembody\@theorembodyfont
456 \let\jmlr@this@theoremheader\@theoremheaderfont
457 \let\jmlr@this@theoremsep\@theoremsep
458 \let\jmlr@this@theorempostheader\@theorempostheader
459 }%
460 \trivlist
461 \item[\hskip\labelsep{\jmlr@this@theoremheader #1\ #2\ (#3)%
462 \jmlr@this@theorempostheader}]{%
463 \mbox{}{\jmlr@this@theoremsep
464 \jmlr@this@theorembody
465 }

```

example

```
466 \newtheorem{example}{Example}
```

theorem

```
467 \newtheorem{theorem}{Theorem}
```

lemma

```
468 \newtheorem{lemma}[theorem]{Lemma}
```

proposition

```
469 \newtheorem{proposition}[theorem]{Proposition}
```

remark

```
470 \newtheorem{remark}[theorem]{Remark}
```

corollary

```
471 \newtheorem{corollary}[theorem]{Corollary}
```

definition

```
472 \newtheorem{definition}[theorem]{Definition}
```

conjecture

```
473 \newtheorem{conjecture}[theorem]{Conjecture}
```

axiom

```
474 \newtheorem{axiom}[theorem]{Axiom}
```

End of theorem definitions.

```
475 \fi
```

## 4.2 jmlr.cls Code

This class is based on the jmlr2e package but was modified to make sure it works with jmlr-book which uses both combine and hyperref.

Declare class and required TeX format:

```
476 \NeedsTeXFormat{LaTeX2e}
477 \ProvidesClass{jmlr}[2020/03/26 v1.27 (NLCT) Journal of Machine Learning Research]
```

Need xkeyval package to have key=value class options

```
478 \RequirePackage{xkeyval}

479 \RequirePackage{calc}
```

```
480 \RequirePackage{etoolbox}
```

Some packages need to be loaded before hyperref so provide a hook to do this:

jmlrprehyperref

```
481 \providecommand*{\jmlrprehyperref}{{}
```

The following conditionals are provided to make this class play nicely with combine and aren't required for articles.

```
482 \newif\if@openright
483 \newif\if@mainmatter \@mainmattertrue
```

\ifgrayscale Determine whether to select grayscale alternatives

```
484 \@ifundefined{ifgrayscale}{
485   \newif\ifgrayscale
486   \grayscalefalse
487 }{}
488 \DeclareOptionX{color}{\grayscalefalse
489   \PassOptionsToPackage{color}{xcolor}}
490 \DeclareOptionX{gray}{\grayscaletrue
491   \PassOptionsToPackage{gray}{xcolor}}
```

draft

```
492 \DeclareOptionX{draft}{\setlength\overfullrule{5pt}}
```

final

```
493 \DeclareOptionX{final}{\setlength\overfullrule{0pt}}
```

Can't load jmlrutils here but need the \iftablecaptiontop conditional for the class options.

tablecaptiontop

```
494 \newif\iftablecaptiontop
495 \tablecaptiontoptrue
```

Provide table contents command that uses this conditional. (The jmlrutils package doesn't use it.)



`\tablecnts`

```
496 \newcommand{\tablecnts}[3]{%
497   \iftablecaptiontop
498     #2\label{#1}\vskip\baselineskip
499     {\centering #3\par}%
500   \else
501     {\centering #3\par}%
502     \vskip\baselineskip
503     #2\label{#1}%
504   \fi
505 }
```

Determine if the table captions should go at the top.

`tablecaptiontop`

```
506 \DeclareOptionX{tablecaptiontop}{\tablecaptiontoptrue}
```

`tablecaptiontop`

```
507 \DeclareOptionX{tablecaptionbottom}{\tablecaptiontopfalse}
```

`tablecaption`    Key=value interface.

```
508 \define@choicekey{jmlr.cls}{tablecaption}[\val\nr]{top,bottom}{%
509   \ifcase\nr\relax
510     \tablecaptiontoptrue
511   \or
512     \tablecaptiontopfalse
513   \fi
514 }
```

`\ifjmlrhtml`    Determine if we are using TeX4ht. (Deprecated.) This option should no longer be used. The PMLR have changed the submission guidelines and the production editor should no longer supply HTML files.

```
515 \newif\ifjmlrhtml
516 \jmlrhtmlfalse
517 \DeclareOptionX{html}{%
518   \ClassWarning{jmlr}{html option is now deprecated}%
519   \jmlrhtmltrue}
520 \DeclareOptionX{nohtml}{\jmlrhtmlfalse}
```

Normal font size (default is 11pt).

```
521 \def\pt@size{11pt}
522 \DeclareOptionX{10pt}{\renewcommand{\pt@size}{10pt}}
523 \DeclareOptionX{11pt}{\renewcommand{\pt@size}{11pt}}
524 \DeclareOptionX{12pt}{\renewcommand{\pt@size}{12pt}}
```

`jmlrproceedings`    The name of the proceedings.

```
525 \newcommand*{@jmlrproceedings}{Journal of Machine Learning Research}
```

bbrevproceedings The abbreviated name of the proceedings.  
526 \newcommand\*{\@jmlrabbrvproceedings}{JMLR}

jmlrproceedings Sets the title and abbreviation of the proceedings  
527 \newcommand\*{\jmlrproceedings}[2]{%  
528 \renewcommand\*{\@jmlrabbrvproceedings}{#1}%  
529 \renewcommand\*{\@jmlrproceedings}{#2}%  
530 }

\jmlrnowcp  
531 \newcommand\*{\jmlrnowcp}{%  
532 \jmlrproceedings{JMLR}{Journal of Machine Learning Research}%  
533 }

\jmlrwcp  
534 \newcommand\*{\jmlrwcp}{%  
535 \jmlrproceedings{JMLR W&CP}{JMLR: Workshop and Conference Proceedings}%  
536 }

\jmlrpmlr The JMLR W&CP has been renamed PMLR, so provide code to switch to this instead,  
537 \newcommand\*{\jmlrpmlr}{%  
538 \jmlrproceedings{PMLR}{Proceedings of Machine Learning Research}%  
539 }

This is a journal (non JMLR W&CP/PMLR) article:  
540 \DeclareOptionX{nowcp}{\jmlrnowcp}

This is an article for JMLR W&CP  
541 \DeclareOptionX{wcp}{\jmlrwcp}

This is an article for PMLR  
542 \DeclareOptionX{pmlr}{\jmlrpmlr}

oneside  
543 \DeclareOptionX{oneside}{\@twosidefalse \@mparswitchfalse}

twoside  
544 \DeclareOptionX{twoside}{\@twosidetrue \@mparswitchtrue}

Set two-sided format  
545 \@twosidetrue

The default paper size is letter, but provide 7 × 10in alternative:  
546 \newif\ifviiXx  
547 \viiXxfalse  
548 \DeclareOptionX{7x10}{\viiXxtrue}  
549 \DeclareOptionX{letterpaper}{\PassOptionsToPackage{letterpaper}{typearea}}

Pass all remaining options to article class:  
550 \DeclareOptionX\*{\PassOptionsToClass{\CurrentOption}{article}}

Execute required options:

```
551 \ExecuteOptions{letterpaper}
```

Process options:

```
552 \ProcessOptionsX
```

Load article class.

```
553 \LoadClass[\pt@size]{article}
```

Can't use geometry package because it doesn't play nicely with the combine class.

```
554 \ifviiXx
555   \setlength{\paperwidth}{7in}
556   \setlength{\paperheight}{10in}
557   \setlength{\textwidth}{5.25in}
558   \setlength{\textheight}{8.2in}
559   \setlength{\topmargin}{0.4in}
560   \setlength{\headheight}{0.2in}
561   \setlength{\headsep}{0.2in}
562   \setlength{\hoffset}{-1in}
563   \setlength{\voffset}{-1in}
564   \setlength{\evensidemargin}{0.75in}
565   \setlength{\oddsidemargin}{1.0in}
566 \else
567   \setlength{\oddsidemargin}{0.25in}
568   \setlength{\evensidemargin}{0.25in}
569   \setlength{\marginparwidth}{0.07 true in}
570   \setlength{\topmargin}{-0.5in}
571   \addtolength{\headsep}{0.25in}
572   \setlength{\textheight}{8.5 true in}
573   \setlength{\textwidth}{6.0 true in}
574 \fi
```

Need to add jmlr end document hook before natbib adds a \clearpage to it.

```
575 \AtEndDocument{\@jmlrenddoc}
```

Required packages:

```
576 \RequirePackage{amsmath}
577 \RequirePackage{amssymb}
578 \RequirePackage{natbib}
579 \RequirePackage{graphicx}
580 \RequirePackage{url}
581 \PassOptionsToPackage{x11names}{xcolor}
582 \RequirePackage{xcolor}
```

Allow old command names in the event that the proceedings contains a mixture of papers that use old and new versions. (This means that editors need to install the newer version.)

For some reason, loading algorithm2e causes the message

(\end occurred inside a group at level 1)

I don't know why, but it's outside the control of this class.

```
583 \PassOptionsToPackage{algo2e,ruled}{algorithm2e}
584 \RequirePackage{algorithm2e}
```

Set the algorithm margin to zero.

```
585 \setlength\algomargin{0pt}
```

Load jmlrutils before hyperref.

```
586 \RequirePackage{jmlrutils}
```

Do all the stuff that needs to be done before hyperref is loaded:

```
587 \jmlrprehyperref
```

Do stuff that has to come immediately before hyperref is loaded:

```
588 \@ifundefined{pre@hyperref}{}{\pre@hyperref}
```

Load hyperref:

```
589 \RequirePackage{hyperref}
```

```
590 \RequirePackage{nameref}
```

```
591 % Do stuff that has to come immediately after \sty{hyperref} and
592 % \sty{nameref} are loaded:
```

```
593 %\changes{1.16}{2012/05/15}{added \cs{@post@hyperref}}
```

```
594 \@ifundefined{@post@hyperref}{}{\@post@hyperref}
```

Set up hyperref options:

```
595 \hypersetup{colorlinks,
596             linkcolor=blue,
597             citecolor=blue,
598             urlcolor=magenta,
599             linktocpage,
600             plainpages=false}
```

```
601 \ifgrayscale
```

If this is the print version, need to disable the hyperlinks:

```
602 \hypersetup{draft}
```

```
603 \fi
```

Float parameters: the following settings were copied from jmlr2e.sty

```
604 \renewcommand{\topfraction}{0.95} % let figure take up nearly whole page
```

```
605 \renewcommand{\textfraction}{0.05} % let figure take up nearly whole page
```

widows/orphans

```
606 \widowpenalty=10000\relax
```

```
607 \clubpenalty=10000\relax
```

Put marginal notes on the outside of the page

```
608 \@mparswitchtrue
```

Use the plainnat bibliography style and set up the required punctuation.

```
609 \bibliographystyle{plainnat}
```

```
610 \bibpunct{(}{)}{;}{a}{,}{,}
```

### 4.2.1 Sections

`\section`

```
611 \renewcommand{\section}{\@startsection{section}{1}{\z@}%
612   {-0.24in \@plus -1ex \@minus -.2ex}%
613   {0.10in \@plus .2ex}%
614   {\normalfont\rmfamily\bfseries\large\raggedright}%
615 }
```

`\subsection`

```
616 \renewcommand\subsection{\@startsection{subsection}{2}{\z@}%
617   {-0.20in \@plus -1ex \@minus -.2ex}%
618   {0.08in \@plus .2ex}%
619   {\normalfont\rmfamily\bfseries\normalsize\raggedright}%
620 }
```

`\subsubsection`

```
621 \renewcommand\subsubsection{\@startsection{subsubsection}{3}{\z@}%
622   {-0.18in \@plus -1ex \@minus -.2ex}%
623   {0.08in \@plus .2ex}%
624   {\normalfont\normalsize\rmfamily\mdseries\scshape\raggedright}%
625 }
```

`\paragraph`

```
626 \renewcommand\paragraph{\@startsection{paragraph}{4}{\z@}%
627   {1.5ex plus 0.5ex minus .2ex}%
628   {-1em}%
629   {\normalfont\normalsize\rmfamily\bfseries}%
630 }
```

`\subparagraph`

```
631 \renewcommand\subparagraph{\@startsection{subparagraph}{5}{\z@}%
632   {1.5ex plus 0.5ex minus .2ex}%
633   {-1em}%
634   {\normalfont\normalsize\rmfamily\bfseries\itshape}}
```

`\@secntformat`   Redefine the way the section number appears in the section heading.

```
635 \renewcommand*\@secntformat[1]{%
636   \csname pre#1num\endcsname
637   \csname the#1\endcsname.\enskip
638 }
```

### 4.2.2 Footnotes

`\@makefnstext`   Redefine `\@makefnstext` so that the text between the footnote symbol and the footnote text can be redefined. (It looks odd having a full stop after a symbol.)

```
639 \renewcommand*\@makefnstext[1]{%
640   \@setpar
```

```

641 {%
642   \@@par
643   \@tempdima\hsize
644   \advance \@tempdima -15pt\relax
645   \parshape \@ne 15pt \@tempdima
646 }%
647 \par
648 \parindent 2em\noindent
649 \hbox to \z@ {\hss {\@thefnmark }\footnoteseptext\hfil }#1%
650 }

```

`\footnoteseptext` The separation text between the footnote symbol and the footnote text.

```

651 \newcommand*{\footnoteseptext}{. }

```

`\thanks` Added optional argument to `\footnotetext` as per <http://tex.stackexchange.com/questions/229295>.

```

652 \renewcommand*{\thanks}[1]{%
653   \footnotemark
654   \protected@xdef\@thanks{\@thanks
655     \protect\footnotetext[\arabic{footnote}]{#1}}%
656 }

```

### 4.2.3 Article abstract

This code has been taken from `jmlr2e.sty` but with `\bf` updated to `\bfseries`

`abstract`

```

657 \ifjmlrhtml
658   \renewenvironment{abstract}{\HCode{<h3>}Abstract\HCode{</h3>}}{%
659   \else
660     \renewenvironment{abstract}

661     {{\centering\large\bfseries Abstract\par}\vspace{0.7ex}%
662       \bgroup
663         \leftskip 20pt\rightskip 20pt\small\noindent\ignorespaces}%
664     {\par\egroup\vskip 0.25ex}
665 \fi

```

### 4.2.4 Keywords

This code has been taken from `jmlr2e.sty` but with `\bf` updated to `\bfseries`.

`keywords`

```

666 \newenvironment{keywords}
667 {\bgroup\leftskip 20pt\rightskip 20pt \small\noindent{\bfseries
668 Keywords:} \ignorespaces}%
669 {\par\egroup\vskip 0.25ex}

```

## 4.2.5 Title Page Information

This code has been taken from jmlr2e.sty.

Title stuff, borrowed in part from aaai92.sty

```
670 \newlength\aftertitskip      \newlength\beforetitskip
671 \newlength\interauthorskip   \newlength\aftermaketitskip
```

Changeable parameters.

```
672 \setlength\aftertitskip{0.1in plus 0.2in minus 0.2in}
673 \setlength\beforetitskip{0.05in plus 0.08in minus 0.08in}
674 \setlength\interauthorskip{0.08in plus 0.1in minus 0.1in}
675 \setlength\aftermaketitskip{0.3in plus 0.1in minus 0.1in}
```

`\titlebreak` Acts like new line in the paper title, but with jmlrbook acts like a space in the table of contents and bookmarks.

```
676 \newcommand*{\titlebreak}{\newline}
```

`\titletag`

```
677 \newcommand*{\titletag}[1]{}
```

`\title` Override definition of `\title` to allow for an optional argument (short title)

```
678 \renewcommand*{\title}[2][\@title]{%
679   \def\@shorttitle{#1}%
680   \def\@title{#2}%
681   \protected@write\@auxout{}{\string\jmlr@title{#1}{#2}}%
682   \jmlrtitlehook
683 }
```

`\@shorttitle` The short title of the document is initialised to `\jobname` to ensure a basic document will compile even if no title is set.

```
684 \newcommand*{\@shorttitle}{\jobname}
```

`\jmlrtitlehook`

```
685 \newcommand*{\jmlrtitlehook}{}%
```

`\jmlr@title` AUX command provided for MakeJmlrBookGUI

```
686 \newcommand*{\jmlr@title}[2]{}
```

`\author` Override definition of `\author` to allow for an optional argument (list of authors for page heading)

```
687 \renewcommand*{\author}[2][{}]{%
688   \def\@author{#2}%
689   \def\@sauthor{#1}%
690   \def\@jmlr@aux@author{#2}\@onelevel@sanitize\@jmlr@aux@author
691   \ifx\@sauthor\@empty
692     \let\@jmlr@aux@sauthor\@jmlr@aux@author
693   \else
694     \let\@shortauthor\@sauthor
```

```

695 \def\@jmlr@aux@sauthor{#1}\@onelevel@sanitize\@jmlr@aux@sauthor
696 \fi
697 \jmlrauthorhook
698 \protected@write\@auxout
699 {}{\string\jmlr@author{\@jmlr@aux@sauthor}{\@jmlr@aux@author}}%
700 }

```

\jmlrauthorhook

```
701 \newcommand*{\jmlrauthorhook}{}

```

\jmlr@author AUX command provided for MakeJmlrBookGUI

```
702 \newcommand*{\jmlr@author}[2]{}

```

\@shortauthor

```
703 \newcommand*{\@shortauthor}{}

```

\@firstauthor

```
704 \newcommand*{\@firstauthor}{}

```

\@firstsurname

```
705 \newcommand*{\@firstsurname}{}

```

\jmlrlength

```
706 \newlength\jmlrlength

```

\jmlrmaketitle Make the title

```

707 \def\jmlrmaketitle{%
708 \jmlrpremaketitlehook
709 \def\@jmlr@authors@sep{, }%
710 \par
711 \begingroup

712 \def\footnotesep{ }%
713 \def\thempfn{\textsuperscript{\thefootnote}}%
714 \def\thefootnote{\fnsymbol{footnote}}%

715 \if@twocolumn
716 \twocolumn[\@jmlrmaketitle]%
717 \else
718 \@jmlrmaketitle
719 \fi
720 \@thanks
721 \endgroup
722 \label{jmlrstart}%
723 \ifx\@sauthor\@empty
724 \settowidth{\jmlrlength}{\@evenhead}%
725 \ifdim\jmlrlength>\textwidth
726 \def\@shortauthor{\@firstsurname\space et al.}%

```



```

727 \fi
728 \fi
729 \settowidth{\jmlrlength}{\@titlefoot}%
730 \ifdim\jmlrlength>\textwidth
731 \def\@jmlrauthors{\@firstauthor\space \emph{et al}}%
732 \fi
733 \jmlrmaketitlehook
734 \thispagestyle{jmlrtps}%
735 \setcounter{footnote}{0}%
736 \let\maketitle\relax \let\@maketitle\relax
737 \gdef\@thanks{}\gdef\@author{}\let\thanks\@gobble
738 \def\@jmlr@authors@sep{ \& }%
739 }

```

lrmaketitlehook

```
740 \newcommand*{\jmlrmaketitlehook}{}

```

remaketitlehook

```
741 \newcommand*{\jmlrpremaketitlehook}{}

```

Provide a different title layout for HTML

lrhtmlmaketitle

```

742 \newcommand{\jmlrhtmlmaketitle}{%
743 \ifx\@jmlr@authors\@empty
744 \sbox\jmlrbox{\let\addr\relax\@author}%
745 \fi
746 \noindent\HCode{<h2>}\@title\HCode{</h2>}
747 \noindent\@jmlr@authors
748 }

```

\jmlrbox Define a save box

```
749 \newsavebox\jmlrbox

```

\maketitle If we're creating HTML, set \maketitle to \jmlrhtmlmaketitle, otherwise set it to \jmlrmaketitle

```

750 \ifjmlrhtml
751 \let\maketitle\jmlrhtmlmaketitle
752 \else
753 \let\maketitle\jmlrmaketitle
754 \fi

```

Author and editor information.

```

755 \def\@startauthor{\noindent \normalsize\bfseries}
756 \def\@endauthor{}
757 \def\@starteditor{\noindent \small {\bfseries \@edname:~}}
758 \def\@endeditor{\normalsize}

```

Provide hooks to make it easier to adapted with combine class.

```

\jmlrprettitle
759 \def\jmlrprettitle{\vskip\beforetitskip\begin{center}\Large\bfseries}

\jmlrposttitle
760 \def\jmlrposttitle{\par\end{center}\vskip\aftertitskip}

\nametag
761 \newcommand*{\nametag}[1]{

\jmlrpreauthor
762 \def\jmlrpreauthor{%
763 \bgroup
764   \def\nametag##1{##1}%
765   \def\and{\unskip\enspace{\normalfont and}\enspace}%

766   \def\addr{\mdseries\small\itshape}%
767   \def\name{\ClassError{jmlr}{Use \string\Name{Author's Name} not \string\name}{}}%
768   \def\email{\ClassError{jmlr}{Use \string\Email{address} not \string\email}{}}%
769   \def\AND{\@endauthor\normalfont\hss \vskip \interauthorskip
770     \@startauthor}%
771   \@startauthor
772 }

\addr  Initialise to do nothing if used outside of \author
773 \newcommand{\addr}{}

\@email
774 \def\@email{\hfill\small\mdseries\scshape}%

\@name
775 \def\@name{\normalsize\upshape\bfseries}%

\@parsename  Parse a name. Appends forename to \@forenames and stores surname in \@surname.
776 \def\@parsename#1 #2\end@parsename{%
777   \def\@tmp{#2}%
778   \ifx\@tmp\@nnil
779     \def\@surname{#1}%
780     \let\@nextparsename\@parsenamenoop
781   \else
782     \@getinitial#1-\relax\relax\end@getinitial
783     \ifx\@forenames\@empty
784       \def\@forenames{#1}%
785       \protected@edef\@initials{\@initial}%
786     \else
787       \expandafter\toks@\expandafter{\@forenames}%
788       \edef\@forenames{\space\the\toks@}%
789       \expandafter\toks@\expandafter{\@initials}%
790       \protected@edef\@initials{\the\toks@\@initial}%

```

```

791 \fi
792 \let\@nextparsename\@parsename
793 \fi
794 \@nextparsename#2\end@parsename
795 }
796 \def\@parsenamenoop#1\end@parsename{}

```

\@getinitial

```

797 \def\@getinitial#1#2-#3#4\end@getinitial{%
798 \def\@jmlr@tmp{#3}%
799 \if\@jmlr@tmp\relax
800 \def\@initial{#1.}%
801 \else
802 \def\@initial{#1.-#3.}%
803 \fi
804 }

```

\Name Get the author's name and add surname to \@shortauthors. (Surnames with “von” parts or with spaces in should be enclosed in braces)

```

805 \newcommand*{\Name}[2][{}]{%
806 \def\@authorlist{#1}%
807 \def\@forenames{}%
808 \def\@surname{}%
809 \def\@nametag##1{}%
810 \@parsename#2 \@nil\end@parsename
811 \ifx\@shortauthor\@empty
812 \ifx\@sauthor\@empty
813 \global\let\@shortauthor\@surname
814 \global\let\@firstsurname\@surname
815 \fi
816 \ifx\@authorlist\@empty
817 \protected@xdef\@jmlrauthors{\@initials\space\@surname}%
818 \else
819 \protected@xdef\@jmlrauthors{\@authorlist}%
820 \fi
821 \global\let\@firstauthor\@jmlrauthors
822 \else
823 \ifx\@sauthor\@empty
824 \expandafter\toks@\expandafter{\@shortauthor}%
825 \protected@xdef\@shortauthor{\the\toks@\space\@surname}%
826 \fi
827 \ifx\@authorlist\@empty
828 \ifx\@jmlrauthors\@empty
829 \protected@xdef\@jmlrauthors{\@initials\space\@surname}%
830 \else
831 \protected@xdef\@jmlrauthors{\@jmlrauthors
832 \noexpand\@jmlr@authors@sep
833 \@initials\space\@surname}%
834 \fi

```

```

835 \else
836 \ifx\@jmlrauthors\@empty
837 \protected@xdef\@jmlrauthors{\@authorlist}%
838 \else
839 \protected@xdef\@jmlrauthors{\@jmlrauthors
840 \noexpand\@jmlr@authors@sep
841 \@authorlist
842 }%
843 \fi
844 \fi
845 \fi
846 \def\nametag##1{##1}%
847 \@name #2%
848 }

```

`jmlrabbrnamelist` Display list of names in abbreviated form. (Mainly designed for use with `makejmlrbook` for the preface authors.) The author should be grouped if the name contains a comma.

```

849 \newcommand*{\jmlrabbrnamelist}[1]{%
850 \def\nametag##1{%
851 \def\@jmlr@authors@sep{,}%
852 \def\@jmlr@namelist{%
853 \@for\@thisname:=#1\do{%
854 \expandafter\@jmlrabbrname\expandafter{\@thisname}%
855 \ifx\@jmlr@namelist\@empty
856 \protected@edef\@jmlr@namelist{%
857 \@initials\space\@surname
858 }%
859 \else
860 \protected@edef\@jmlr@namelist{%
861 \@jmlr@namelist
862 \noexpand\@jmlr@authors@sep
863 \@initials\space\@surname
864 }%
865 \fi
866 }%
867 \def\@jmlr@authors@sep{ \& }%
868 \@jmlr@namelist
869 }

```

`\@jmlrabbrname`

```

870 \newcommand*{\@jmlrabbrname}[1]{%
871 \def\@initials{%
872 \def\@surname{%
873 \def\@forenames{%
874 \@parsename#1 \@nil\end@parsename
875 }

```

`\Email`

```

876 \newcommand*{\Email}[1]{\@email #1}

```

`\jmlrpostauthor`

```
877 \def\jmlrpostauthor{\@endauthor\egroup
878   \par
879   \vskip \aftermaketitskip
880   \noindent
881   \ifx\@editor\@empty
882   \else
883     \@starteditor \@editor \@endeditor
884   \fi
885   \vskip \aftermaketitskip
886 }
```

`\@jmlrmaketitle` This used to enclose the title in a `\vbox` but this caused a problem for extremely long author/affiliation lists that spanned multiple pages, so the `\vbox` has been removed (in v1.26), but the grouping has been retained.

```
887 \def\@jmlrmaketitle{%
888   {%
889     \jmlrprettitle
890     {%
891       \def\titletag##1{##1}%
892       \@title
893     }%
894     \jmlrposttitle
```

Use `\ignorespaces` before `\@author` in case a space has been inserted at the start of `\author`. May occur with a long author list that's been spaced for clarity, but less likely to occur with `\title`. Trailing spaces are less likely to be noticeable.

```
895   \jmlrpreauthor \ignorespaces\@author \jmlrpostauthor
896   }%
897 }
```

`\kernelmachines` Convenience command

```
898 \newcommand*\kernelmachines{(for
899   {\textsc{http://www.kernel-machines.org}})}
```

`\editorname` Label for the editor

```
900 \newcommand*{\editorname}{Editor}
```

`\editorsname` Label for the editor

```
901 \newcommand*{\editorsname}{Editors}
```

`\@edname` This will either be Editor or Editors depending on whether `\editor` or `\editors` is used. Defaults to `\editorname`

```
902 \let\@edname\editorname
```

`\@editor` The editor or editors are stored in `\@editor`

```
903 \def\@editor{}
```

`\editor`    A single editor

```
904 \def\editor#1{%
905   \global\let\@edname\editorname
906   \gdef\@editor{#1}%
907 }
```

`\editors`   Multiple editors

```
908 \def\editors#1{%
909   \global\let\@edname\editorsname
910   \gdef\@editor{#1}%
911 }
```

## 4.2.6 Pagestyles

This is taken from `jmlr2e.sty`

`\firstpageno`   Set the page counter.

```
912 \def\firstpageno#1{\setcounter{page}{#1}}
```

`\startpage`    If `\startpage` has been defined, use its value for the first page.

```
913 \@ifundefined{startpage}{}{\firstpageno{\startpage}}
```

Label end page.

`\@jmlrenddoc`   Label end page

```
914 \newcommand*\@jmlrenddoc{%
915   \phantomsection
916   \protected@edef\@currentlabelname{end of \@shorttitle}%
917   \label{jmlrend}\null
918   \global\let\@reprint\@empty
919 }
```

`\@titlefoot`

```
920 \newcommand*\@titlefoot{\scriptsize\copyright\space\@jmlryear
921   \space\@jmlr@authors.\hfill
922   \@reprint
923 }
```

`\reprint`

```
924 \let\@reprint\@empty
925 \newcommand{\reprint}[1]{%
926   \gdef\@reprint{Reprinted with permission for JMLR#1}}
```

`\ps@jmlrtps`   Title page style

```
927 \newcommand\ps@jmlrtps{%
928   \let\@mkboth\@gobbletwo
929   \def\@oddhead{\scriptsize \@jmlrproceedings
930     \ifx\@jmlrvolume\@empty
```

```

931 \else
932 \space\@jmlrvolume
933 \ifx\@jmlrissue\@empty\else(\@jmlrissue)\fi
934 \ifx\@jmlrpages\@empty
935 \ifx\@jmlryear\@empty
936 \else
937 \if\@jmlrissue\@empty,\fi
938 \fi
939 \else
940 :%
941 \fi
942 \fi
943 \ifx\@jmlrpages\@empty
944 \else
945 \ifx\@jmlrvolume\@empty\space\fi
946 \@jmlrpages
947 \ifx\@jmlryear\@empty\else,\fi
948 \fi
949 \ifx\@jmlryear\@empty\else\space\@jmlryear\fi
950 \hfill
951 \ifx\@jmlrworkshop\@empty
952 \ifx\@jmlrsubmitted\@empty
953 \else
954 Submitted \@jmlrsubmitted
955 \ifx\@jmlrpublished\@empty\else;\fi
956 \fi
957 \ifx\@jmlrpublished\@empty
958 \else
959 \space Published \@jmlrpublished
960 \fi
961 \else
962 \space\@jmlrworkshop
963 \fi
964 }%
965 \let\@evenhead\@oddhead
966 \def\@oddfoot{\@titlefoot}%
967 \let\@evenfoot\@oddfoot
968 }

```

\ps@jmlrps Page style for subsequent pages

```

969 \def\ps@jmlrps{%
970 \let\@mkboth\@gobbletwo
971 \def\@oddhead{\hfill {\small\scshape \@shorttitle} \hfill}%
972 \def\@oddfoot{\hfill \small\rmfamily \thepage \hfill}%
973 \def\@evenhead{\hfill {\small\scshape \@shortauthor} \hfill}%
974 \def\@evenfoot{\hfill \small\rmfamily \thepage \hfill}%
975 }%

```

Set the page style:

```

976 \pagestyle{jmlrps}

```

Set the heading information:

```
\@jmlrvolume  The volume number:
977 \providecommand*{\@jmlrvolume}{}

\jmlrvolume
978 \newcommand*{\jmlrvolume}[1]{\renewcommand*{\@jmlrvolume}{#1}}

\@jmlrissue  The issue number:
979 \providecommand*{\@jmlrissue}{}

\jmlrissue
980 \newcommand*{\jmlrissue}[1]{\renewcommand*{\@jmlrissue}{#1}}

\@jmlryear  The year of publication:
981 \providecommand*{\@jmlryear}{}

\jmlryear
982 \newcommand*{\jmlryear}[1]{\renewcommand*{\@jmlryear}{#1}}

\@jmlrpages  The page range:
983 \providecommand*\@jmlrpages{\pageref{jmlrstart}--\pageref{jmlrend}}

\jmlrpages
984 \newcommand*{\jmlrpages}[1]{\renewcommand*{\@jmlrpages}{#1}}

\@jmlrsubmitted  The date the article was submitted:
985 \providecommand*\@jmlrsubmitted{}

\jmlrsubmitted
986 \newcommand*{\jmlrsubmitted}[1]{\renewcommand*{\@jmlrsubmitted}{#1}}

\@jmlrpublished  The date the article was published:
987 \providecommand*\@jmlrpublished{}

\jmlrpublished
988 \newcommand*{\jmlrpublished}[1]{\renewcommand*{\@jmlrpublished}{#1}}

\@jmlrworkshop  The name of the workshop:
989 \providecommand*\@jmlrworkshop{}

\jmlrworkshop
990 \newcommand*{\jmlrworkshop}[1]{%
991 \renewcommand*{\@jmlrworkshop}{#1}%
992 \protected@write\@auxout{}\string\jmlr@workshop{#1}}%
993 }
```



\jmlr@workshop

```
994 \newcommand*{\jmlr@workshop}[1]{}
```

\date

```
995 \renewcommand*{\date}[1]{%
996 \renewcommand*{\@date}{#1}%
997 \protected@write\@auxout{}\string\jmlr@date{#1}}%
998 }
```

\jmlr@date

```
999 \newcommand*{\jmlr@date}[1]{}
```

\@jmlrauthors

```
1000 \newcommand*{\@jmlrauthors}{}
```

\@jmlr@authors

```
1001 \newcommand*{\@jmlr@authors}{\@jmlrauthors}
```

\jmlrauthors This is provided in case \Name doesn't set \@jmlrauthors correctly.

```
1002 \newcommand*{\jmlrauthors}[1]{\global\def\@jmlr@authors{#1}}
```

## 4.2.7 Miscellany

This code was taken from jmlr2e.sty.

Define macros for figure captions and table titles

```
1003 \def\figurecaption#1#2{\noindent\hangindent 40pt
1004 \hbox to 36pt {\small\slshape #1 \hfil}
1005 \ignorespaces {\small #2}}
```

Figurecenter prints the caption title centered.

```
1006 \def\figurecenter#1#2{\centerline{{\slshape #1} #2}}
1007 \def\figurecenter#1#2{\centerline{{\small\slshape #1} {\small #2}}}
```

Allow “hanging indents” in long captions

\@makecaption

```
1008 \long\def\@makecaption#1#2{%
1009 \vskip 10pt
1010 \setbox\@tempboxa\hbox{#1: #2}%
1011 \ifdim \wd\@tempboxa >\hsize % IF longer than one line:
1012 \begin{list}{#1:}{%
1013 \settowidth{\labelwidth}{#1:}
1014 \setlength{\leftmargin}{\labelwidth}
1015 \addtolength{\leftmargin}{\labelsep}
1016 }\item #2 \end{list}\par % Output in quote mode
1017 \else % ELSE center.
1018 \hbox to\hsize{\hfil\box\@tempboxa\hfil}
1019 \fi}
```

Define strut macros for skipping spaces above and below text in a tabular environment.

```
1020 \def\abovestrut#1{\rule[0in]{0in}{#1}\ignorespaces}
1021 \def\belowstrut#1{\rule[-#1]{0in}{#1}\ignorespaces}
```

\acks Acknowledgements

```
1022 \newcommand{\acks}[1]{\section*{Acknowledgments}#1}
```

Research Note

\researchnote

```
1023 \newcommand{\researchnote}[1]{\noindent {\LARGE\itshape Research Note} #1}
```

Other macros now moved to jmlrutils.

\ifprint Provide command to check if this is the printed greyscale version or the online colour version.

```
1024 \providecommand{\ifprint}[2]{\ifgrayscale#1\else#2\fi}
```

Modify \includegraphics so that it can pick up the greyscale version of images if this is the print version. (Extension shouldn't be specified.)

```
1025 \ifjmlrhtml
1026 \else
1027 \let\@org@Gininclude@graphics\Gininclude@graphics
```

Since graphics 2019/07/01, the file name parsing has changed to allow for UTF-8 characters. So provide patches for the old and new versions and work out which one to use.

nclude@graphics This is a patched version of the old \Gininclude@graphics.

```
1028 \def\@jmlr@old@Gininclude@graphics#1{%
1029 \begingroup
1030 \let\input@path\Ginput@path
1031 \ifprint{\filename@parse{#1-gray}}{\filename@parse{#1}}%
1032 \ifx\filename@ext\relax
1033 \@for\Gin@temp:=\Gin@extensions\do{%
1034 \ifx\Gin@ext\relax
1035 \Gin@getbase\Gin@temp
1036 \fi}%
1037 \else
1038 \ifprint{\filename@parse{#1}}{\}%
1039 \Gin@getbase{\Gin@sepdefault\filename@ext}%
1040 \ifx\Gin@ext\relax
1041 \@warning{File ‘#1’ not found}%
1042 \def\Gin@base{\filename@area\filename@base}%
1043 \edef\Gin@ext{\Gin@sepdefault\filename@ext}%
1044 \fi
1045 \fi
1046 \ifx\Gin@ext\relax
1047 \ifprint{\@org@Gininclude@graphics{#1}}%
1048 {%
1049 \@latex@error{File ‘#1’ not found}%
```

```

1050         {I could not locate the file with any of these extensions:^^J%
1051         \Gin@extensions^^J\@ehc}%
1052     }%
1053 \else
1054     \ifundefined{Gin@rule@\Gin@ext}%
1055     {\ifx\Gin@rule@*\@undefined
1056         \@latex@error{Unknown graphics extension: \Gin@ext}\@ehc
1057     \else
1058         \expandafter\Gin@setfile\Gin@rule@*{\Gin@base\Gin@ext}%
1059         \fi}%
1060     {\expandafter\expandafter\expandafter\Gin@setfile
1061         \csname Gin@rule@\Gin@ext\endcsname{\Gin@base\Gin@ext}}%
1062 \fi
1063 \endgroup}

```

include@graphics This is a patch of the new version.

```

1064 \def\@jmlr@new@Gin@include@graphics#1{%
1065     \ifx\detokenize\@undefined\else
1066         \edef\Gin@extensions{\detokenize\expandafter{\Gin@extensions}}%
1067     \fi
1068     \begingroup
1069     \let\input@path\Gin@input@path
1070     \ifprint{\set@curr@file{#1-gray}}{\set@curr@file{#1}}%
1071     \expandafter\filename@parse\expandafter{\@curr@file}%
1072     \ifx\filename@ext\Gin@gzext
1073         \expandafter\filename@parse\expandafter{\filename@base}%
1074         \ifx\filename@ext\relax
1075             \let\filename@ext\Gin@gzext
1076         \else
1077             \edef\Gin@ext{\Gin@ext\Gin@sepdefault\Gin@gzext}%
1078         \fi
1079     \fi
1080     \let\@jmlr@filename@ext\filename@ext
1081     \ifx\filename@ext\relax
1082         \@for\Gin@temp:=\Gin@extensions\do{%
1083             \ifx\Gin@ext\relax
1084                 \Gin@getbase\Gin@temp
1085             \fi}%
1086     \ifprint
1087     {\ifx\Gin@ext\relax
1088         \set@curr@file{#1}%
1089         \expandafter\filename@parse\expandafter{\@curr@file}%
1090         \ifx\filename@ext\Gin@gzext
1091             \expandafter\filename@parse\expandafter{\filename@base}%
1092             \ifx\filename@ext\relax
1093                 \let\filename@ext\Gin@gzext
1094             \else
1095                 \edef\Gin@ext{\Gin@ext\Gin@sepdefault\Gin@gzext}%
1096             \fi

```

```

1097     \fi
1098     \let\@jmlr@filename@ext\filename@ext
1099     \ifx\filename@ext\relax
1100     \@for\Gin@temp:=\Gin@extensions\do{%
1101         \ifx\Gin@ext\relax
1102             \Gin@getbase\Gin@temp
1103         \fi}%
1104     \fi
1105     \fi}{}%
1106 \fi
1107 \ifx\@jmlr@filename@ext\relax
1108 \else
1109     \Gin@getbase{\Gin@sepdefault\filename@ext}%
1110     \ifx\Gin@ext\relax
1111         \let\Gin@savbase\filename@base
1112         \let\Gin@savext\filename@ext
1113         \edef\filename@base{\filename@base\Gin@sepdefault\filename@ext}%
1114         \let\filename@ext\relax
1115         \@for\Gin@temp:=\Gin@extensions\do{%
1116             \ifx\Gin@ext\relax
1117                 \Gin@getbase\Gin@temp
1118             \fi}%
1119         \ifx\Gin@ext\relax
1120             \let\filename@base\Gin@savbase
1121             \let\filename@ext\Gin@savext
1122         \fi
1123     \fi
1124     \ifx\Gin@ext\relax
1125         \@warning{File '#1' not found}%
1126         \def\Gin@base{\filename@area\filename@base}%
1127         \edef\Gin@ext{\Gin@sepdefault\filename@ext}%
1128     \fi
1129 \fi
1130 \ifx\Gin@ext\relax
1131     \@latex@error{File '#1' not found}%
1132     {I could not locate the file with any of these extensions:^^J%
1133     \Gin@extensions^^J\@ehc}%
1134 \else
1135     \@ifundefined{Gin@rule@\Gin@ext}%
1136     {\ifx\Gin@rule@\@undefined
1137         \@latex@error{Unknown graphics extension: \Gin@ext}\@ehc
1138     \else
1139         \expandafter\Gin@setfile\Gin@rule*{\Gin@base\Gin@ext}%
1140         \fi}%
1141     {\expandafter\expandafter\expandafter\Gin@setfile
1142     \csname Gin@rule@\Gin@ext\endcsname{\Gin@base\Gin@ext}}%
1143 \fi
1144 \endgroup
1145 }

```

Determine which one to use:

```
1146 \ifpackagelater{graphics}{2019/07/01}
1147 {\let\Ginclude@graphics\@jmlr@new@Ginclude@graphics}%
1148 {\let\Ginclude@graphics\@jmlr@old@Ginclude@graphics}%
1149 \fi
```

`\artappendix` Switch to appendices in an article

```
1150 \newcommand{\artappendix}{\par
1151 \setcounter{section}{0}
1152 \setcounter{subsection}{0}
1153 \def\thesection{\Alph{section}}

1154 \def\theHsection{\theHchapter.\Alph{section}}
1155 \def\presectionnum{Appendix~}%
1156 }
```

The default assumes a stand-alone article.

`\appendix`

```
1157 \let\appendix\artappendix
```

`\booklinebreak` Provided for book production editors to fine tune the book line breaking. Does nothing in the standalone article.

```
1158 \newcommand{\booklinebreak}[1][{}]{}
```

#### 4.2.8 Compatibility with combine.cls

Define chapters to make this class play nicely with combine. These definitions are just copied from book.cls

```
1159 \newcounter{chapter}
1160 \renewcommand\thechapter{\@arabic\c@chapter}
1161 \newcommand\@chapapp{\chaptername}
```

Add sections to the chapter reset.

```
1162 \@addtoreset{section}{chapter}
```

`\chaptermark`

```
1163 \newcommand*\chaptermark[1][{}]
```

Chapters should only be defined when we're combining documents into a book.

`\bookchapter`

```
1164 \newcommand\bookchapter{%
1165 \if@openright\cleardoublepage\else\clearpage\fi
1166 \thispagestyle{plain}%
1167 \global\@topnum\z@
1168 \@afterindentfalse
1169 \secdef\@chapter\@schapter}
```

`\artchapter` Disable chapters for articles.

```
1170 \newcommand\artchapter{%
1171   \ClassError{jmlr}{Chapters not permitted in articles}{} }
```

`\chapter` The default assumes a stand-alone document.

```
1172 \let\chapter\artchapter
```

Label for the chapter entries in the toc.

```
1173 \def\@chaptoclabel{chapter}
```

`\@chapter` Numbered chapters

```
1174 \def\@chapter[#1]#2{\ifnum \c@secnumdepth >\m@ne
1175   \refstepcounter{chapter}%
1176   \if@mainmatter
1177     \typeout{\@chapapp\space\thechapter.}%
1178     \addcontentsline{toc}{\@chaptoclabel}%
1179       {\protect\numberline{\thechapter}#1}%
1180   \else
1181     \addcontentsline{toc}{\@chaptoclabel}{#1}%
1182   \fi
1183 \else
1184   \addcontentsline{toc}{\@chaptoclabel}{#1}%
1185 \fi
1186 \chaptermark{#1}%
1187 \addtocontents{lof}{\protect\addvspace{10\p@}}%
1188 \addtocontents{lot}{\protect\addvspace{10\p@}}%
1189 \if@twocolumn
1190   \@topnewpage[\@makechapterhead{#2}]%
1191 \else
1192   \@makechapterhead{#2}%
1193   \@afterheading
1194 \fi}
```

`\chaptertitleformat` Formats the chapter title

```
1195 \newcommand{\chaptertitleformat}[1]{%
1196   \Huge\bfseries#1%
1197 }
```

`\chapternumberformat` Formats the chapter number

```
1198 \newcommand{\chapternumberformat}[1]{%
1199   \huge\bfseries \@chapapp\space#1\par\nobreak
1200   \vskip 20\p@
1201 }
```

`\chapterformat` Overall format for chapter headings

```
1202 \newcommand*{\chapterformat}{\raggedright}
```

```

postchapterskip  Vertical gap after chapter heading
1203 \newlength\postchapterskip
1204 \setlength\postchapterskip{40pt}

\prechapterskip  Vertical gap before chapter heading
1205 \newlength\prechapterskip
1206 \setlength\prechapterskip{50pt}

makechapterhead  Chapter heading for numbered chapters
1207 \def\@makechapterhead#1{%
1208   \null\vskip\prechapterskip
1209   {\parindent \z@ \normalfont\chapterformat
1210    \ifnum \c@secnumdepth >\m@ne
1211     \if@mainmatter
1212       \chapternumberformat{\thechapter}%
1213     \fi
1214    \fi
1215    \interlinepenalty\@M
1216    \chaptertitleformat{#1}\par\nobreak
1217    \vskip \postchapterskip
1218   }}

\@schapter  Unnumbered chapters.
1219 \def\@schapter#1{\if@twocolumn
1220   \topnewpage[\@makeschapterhead{#1}]%
1221   \else
1222     \@makeschapterhead{#1}%
1223     \@afterheading
1224   \fi}

makeschapterhead  Layout for unnumbered chapter headings
1225 \def\@makeschapterhead#1{%
1226   \vspace*{\prechapterskip}%
1227   {\parindent \z@
1228    \normalfont\chapterformat
1229    \interlinepenalty\@M
1230    \chaptertitleformat{#1}\par\nobreak
1231    \vskip \postchapterskip
1232   }}

\l@chapter  Format for chapter entry in toc
1233 \newcommand*\l@chapter[2]{%
1234   \ifnum \c@tocdepth >\m@ne
1235     \addpenalty{-\@highpenalty}%
1236     \vskip 1.0em \@plus\p@
1237     \setlength\@tempdima{1.5em}%
1238     \begingroup
1239     \parindent \z@ \rightskip \@pnumwidth

```

```

1240     \parfillskip -\@pnumwidth
1241     \leavevmode \large\bfseries
1242     \advance\leftskip\@tempdima
1243     \hskip -\leftskip
1244     #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
1245     \penalty\@highpenalty
1246   \endgroup
1247 \fi}

```

`\l@appendix` Make appendix entries in the toc the same as that for chapters by default

```
1248 \let\l@appendix\l@chapter
```

`\chaptername`

```
1249 \newcommand\chaptername{Chapter}
```

`\frontmatter` Start the front matter (in book)

```

1250 \newcommand\frontmatter{%
1251   \cleardoublepage
1252   \@mainmatterfalse
1253   \renewcommand*\theHchapter{front-\thechapter}%
1254   \pagenumbering{roman}%
1255   \morefrontmatter
1256 }
1257 \newcommand\morefrontmatter{}

```

`\mainmatter` Start the main matter (in book)

```

1258 \newcommand\mainmatter{%
1259   \cleardoublepage
1260   \@mainmattertrue
1261   \setcounter{chapter}{0}%
1262   \renewcommand*\theHchapter{\thechapter}%
1263   \pagenumbering{arabic}%
1264   \moremainmatter
1265 }
1266 \newcommand\moremainmatter{}

```

`\backmatter` Start the back matter (in book)

```

1267 \newcommand\backmatter{%
1268   \if@openright
1269     \cleardoublepage
1270   \else
1271     \clearpage
1272   \fi
1273   \@mainmatterfalse}

```

`booktocpreamble`

```
1274 \newcommand*\booktocpreamble{}
```



booktocpostamble

```
1275 \newcommand*{\booktocpostamble}{}%
```

tableofcontents This is for the main table of contents when using the combine class file, and is not for use in individual articles.

```
1276 \newcommand\booktableofcontents{%
1277   \if@twocolumn
1278     \@restonecoltrue\onecolumn
1279   \else
1280     \@restonecolfalse
1281   \fi
1282   \chapter*{\contentsname
1283     \@mkboth{\MakeUppercase\contentsname}{\MakeUppercase\contentsname}}%
1284   \booktocpreamble
1285   \@starttoc{toc}%
1286   \booktocpostamble
1287   \if@restonecol
1288     \twocolumn
1289   \else
1290     \clearpage
1291   \fi
1292   \@mkboth{}{}%
1293 }
```

tableofcontents Table of contents for individual articles.

```
1294 \let\arttableofcontents\tableofcontents
```

\artpart A part in an article

```
1295 \newcommand{\artpart}{%
1296   \def\toclevel@part{0}%
1297   \if@noskipsec \leavevmode\fi
1298   \par
1299   \addvspace{4ex}%
1300   \@afterindentfalse
1301   \secdef\@artpart\@sartpart
1302 }
1303 \let\@artpart\@part
1304 \let\@sartpart\@spart
```

\bookpart A part in a book forming a collection of articles

```
1305 \newcommand\bookpart{%
1306   \def\toclevel@part{-1}%
1307   \if@openright
1308     \cleardoublepage
1309   \else
1310     \clearpage
1311   \fi
```

```

1312 \thispagestyle{plain}%
1313 \if@twocolumn
1314   \onecolumn
1315   \@tempwattrue
1316 \else
1317   \@tempwafalse
1318 \fi
1319 \preparthook
1320 \secdef\@bookpart\@sbookpart}

parttitleformat  Format of the title for a part (in a book)
1321 \newcommand{\parttitleformat}[1]{%
1322   \Huge\bfseries#1%
1323 }

      Part labels
1324 \newcommand*{\@parttoclabel}{part}

\@partapp
1325 \def\@partapp{\partname}

artnumberformat  Format of the part number (in a book)
1326 \newcommand{\partnumberformat}[1]{%
1327   \Huge\bfseries \@partapp\nobreakspace#1\par\nobreak
1328   \vskip 20\p@
1329 }

\preparthook  Hook at the start of a part (in a book)
1330 \newcommand{\preparthook}{\null\vfil}

\partformat  Overall format of part
1331 \newcommand*{\partformat}{\centering}

\@bookpart  Numbered book part format
1332 \def\@bookpart[#1]#2{%
1333   \ifnum \c@secnumdepth >-2\relax
1334     \refstepcounter{part}%
1335     \addcontentsline{toc}{\@parttoclabel}{\protect\numberline{\thepart}#1}%
1336   \else
1337     \addcontentsline{toc}{\@parttoclabel}{#1}%
1338   \fi
1339   \markboth{}{}%
1340   {\interlinepenalty \@M
1341     \normalfont\partformat
1342     \ifnum \c@secnumdepth >-2\relax
1343       \partnumberformat{\thepart}%
1344     \fi
1345     \parttitleformat{#2}\par}%
1346   \postparthook}

```

`\@sbookpart`    Unnumbered book part format

```
1347 \def\@sbookpart#1{%
1348     {\interlinepenalty \@M
1349      \normalfont\partformat
1350      \parttitleformat{#1}\par}%
1351     \postparthook}
```

`\postparthook`    Hook after part heading

```
1352 \def\postparthook{\vfil\newpage
1353     \if@twoside
1354     \if@openright
1355     \null
1356     \thispagestyle{empty}%
1357     \newpage
1358     \fi
1359     \fi
1360     \if@tempswa
1361     \twocolumn
1362     \fi}
```

`\bookappendix`    Switch to appendices in book

```
1363 \newcommand\bookappendix{\par
1364     \setcounter{table}{0}%
1365     \setcounter{figure}{0}%
1366     \zeroextracounters
1367     \par
1368     \gdef\theHchapter{\Alph {chapter}}%
1369     \xdef\Hy@chapapp{\Hy@appendixstring}%
1370     \setcounter{chapter}{0}%
1371     \setcounter{section}{0}%
1372     \gdef\@chapapp{\appendixname}%
1373     \gdef\thechapter{\@Alph\c@chapter}%
1374     \def\@write@jmlr@import{\@write@jmlr@apdimport}%
1375     \csname appendixmore\endcsname
1376 }
```

Define commands to switch between book/article modes

`jmlrbookcommands`    Switch to book commands

```
1377 \newcommand*{\jmlrbookcommands}{%
1378     \let\part\bookpart
1379     \let\chapter\bookchapter
1380     \let\appendix\bookappendix
1381     \let\tableofcontents\booktableofcontents
1382     \def\thesection{\thechapter.\arabic{section}}%
1383 }
```

`articlecommands`    Switch to article commands

```
1384 \newcommand*{\jmlrarticlecommands}{%
```

```

1385 \let\part\artpart
1386 \let\chapter\artchapter
1387 \let\appendix\artappendix
1388 \let\tableofcontents\arttableofcontents
1389 \def\thesection{\arabic{section}}%
1390 }

```

Check for packages that are known to cause problems when combining articles into a book.

@check@packages

```

1391 \newcommand*{\@jmlr@check@packages}{%
1392   \@ifpackageloaded{epsfig}{%
1393     \ClassError{jmlr}{Obsolete package ‘epsfig’ detected.
1394       \MessageBreak
1395       Please use \string\includegraphics\space to include images
1396       instead}}{}{}%
1397   \@ifpackageloaded{psfig}{%
1398     \ClassError{jmlr}{Obsolete package ‘psfig’ detected.
1399       \MessageBreak
1400       Please use \string\includegraphics\space to include images
1401       instead}}{}{}%
1402   \@ifpackageloaded{subfig}{%
1403     \ClassError{jmlr}{Package ‘subfig’ detected.\MessageBreak
1404       This will cause a conflict if the article is incorporated
1405       \MessageBreak
1406       into a book using jmlbook.cls.
1407       \MessageBreak
1408       Please use \string\subfigure\space and
1409       \string\subtable\space instead}}{}{}%
1410   \@ifpackageloaded{theorem}{%
1411     \ClassError{jmlr}{Package ‘theorem’ detected.\MessageBreak
1412       This can cause a conflict with other packages used by jmlr}}{}{}%
1413   \@ifpackageloaded{ntheorem}{%
1414     \ClassError{jmlr}{Package ‘ntheorem’ detected.\MessageBreak
1415       This can cause a conflict with other packages used by jmlr}}{}{}%
1416   \@ifpackageloaded{amsthm}{%
1417     \ClassError{jmlr}{Package ‘amsthm’ detected.\MessageBreak
1418       This package conflicts with the jmlr class}}{}{}%
1419   \@ifpackageloaded{pdfpages}{Package ‘pdfpages’ detected.\MessageBreak
1420     This can cause a problem for jmlrbook}}{}{}%
1421   \@ifpackageloaded{geometry}{Package ‘geometry’ detected.\MessageBreak
1422     This can cause a problem for jmlrbook}}{}{}%
1423   \@ifpackageloaded{tabularx}{%
1424     \ClassError{jmlr}{Package ‘tabularx’ detected.\MessageBreak
1425       This will break footnote links}}{}{}%

1426   \@ifpackageloaded{jmlr2e}{%
1427     \ClassError{jmlr}{Package ‘jmlr2e’ detected.\MessageBreak
1428       This can’t be used with the jmlr class}}{}{}%
1429 }

```

```

1430 \AtBeginDocument{%
1431 \@jmlr@check@packages
1432 \let\@jmlr@check@packages\relax
1433 }

```

ssPackageChecks Don't check for potentially problematic packages. (If I find this in any paper sent to me for inclusion in a book, it will annoy me.)

```

1434 \newcommand*{\jmlrSuppressPackageChecks}{%
1435 \let\@jmlr@check@packages\relax
1436 }

```

Discourage authors from using obsolete commands:

\obsoletefontcs

```

1437 \DeclareRobustCommand*\obsoletefontcs[1]{%
1438 \ClassWarning{jmlr}{Obsolete command
1439 \expandafter\string\csname#1\endcsname\space detected}%
1440 \csname #1 \endcsname
1441 }

```

\bf

```

1442 \renewcommand*\bf{%
1443 \obsoletefontcs{bf}%
1444 }

```

\it

```

1445 \renewcommand*\it{%
1446 \obsoletefontcs{it}%
1447 }

```

\sc

```

1448 \renewcommand*\sc{%
1449 \obsoletefontcs{sc}%
1450 }

```

\rm

```

1451 \renewcommand*\rm{%
1452 \obsoletefontcs{rm}%
1453 }

```

\sf

```

1454 \renewcommand*\sf{%
1455 \obsoletefontcs{sf}%
1456 }

```

\tt

```

1457 \renewcommand*\tt{%
1458 \obsoletefontcs{tt}%
1459 }

```

ckforpseudocode Check for pseudocode package since it conflicts with the algorithm package and quite often both packages are used in the same book or proceedings.

```

1460 \providecommand*{\jmlrcheckforpseudocode}{%
1461   \@ifpackageloaded{pseudocode}%
1462   {%
1463     \let\pseudoRETURN\RETURN
1464     \let\pseudoTRUE\TRUE
1465     \let\pseudoFALSE\FALSE
1466     \let\pseudoAND\AND
1467     \let\pseudoOR\OR
1468     \let\pseudoNOT\NOT
1469     \let\pseudoTO\TO
1470     \let\pseudoCOMMENT\COMMENT
1471     \let\pseudoIF\IF
1472     \let\pseudoELSE\ELSE
1473     \let\pseudoFOR\FOR
1474     \let\pseudoFORALL\FORALL
1475     \let\pseudoWHILE\WHILE
1476     \let\pseudoREPEAT\REPEAT
1477     \let\pseudoUNTIL\UNTIL
1478     \let\pseudoENDFOR\ENDFOR
1479     \let\RETURN\undefined
1480     \let\TRUE\undefined
1481     \let\FALSE\undefined
1482     \let\AND\undefined
1483     \let\OR\undefined
1484     \let\NOT\undefined
1485     \let\TO\undefined
1486     \let\COMMENT\undefined
1487     \let\IF\undefined
1488     \let\ELSE\undefined
1489     \let\FOR\undefined
1490     \let\FORALL\undefined
1491     \let\WHILE\undefined
1492     \let\REPEAT\undefined
1493     \let\UNTIL\undefined
1494     \let\ENDFOR\undefined
1495     \pretoto\pseudocode{%
1496       \let\RETURN\pseudoRETURN
1497       \let\TRUE\pseudoTRUE
1498       \let\FALSE\pseudoFALSE
1499       \let\AND\pseudoAND
1500       \let\OR\pseudoOR
1501       \let\NOT\pseudoNOT
1502       \let\TO\pseudoTO
1503       \let\COMMENT\pseudoCOMMENT
1504       \let\IF\pseudoIF
1505       \let\ELSE\pseudoELSE
1506       \let\FOR\pseudoFOR

```

```

1507 \let\FORALL\pseudoFORALL
1508 \let\WHILE\pseudoWHILE
1509 \let\REPEAT\pseudoREPEAT
1510 \let\UNTIL\pseudoUNTIL
1511 \let\ENDFOR\pseudoENDFOR
1512 }%
1513 }%
1514 {}%
1515 }
1516 \jmlrcheckforpseudocode

```

### 4.3 jmlrbook.cls Code

Class file for books composed of articles using the jmlr class.

```
1517 \NeedsTeXFormat{LaTeX2e}
```

Declare class:

```
1518 \ProvidesClass{jmlrbook}[2020/03/26 v1.27 (NLCT) JMLR Book Style]
```

Need xkeyval package to have key=value class options

```
1519 \RequirePackage{xkeyval}
```

Requires double spacing for the title page

```
1520 \RequirePackage{setspace}
```

Path used to determine if the preface is in the main document or in a separate file.

jmlrprefacefile

```
1521 \newcommand*\jmlrprefacepath{}
```

The fink package is now deprecated, so only use it if currfile isn't installed.

```
1522 \IfFileExists{currfile.sty}%
```

```
1523 {
```

```
1524 \RequirePackage{currfile}
```

```
1525 \renewcommand*\jmlrprefacepath{\currfilepath}
```

```
1526 }%
```

```
1527 {%
```

```
1528 \RequirePackage{fink}
```

```
1529 \ifdef\finkpath
```

```
1530 {%
```

```
1531 \renewcommand*\jmlrprefacepath{\finkpath}%
```

```
1532 }
```

```
1533 {%
```

fink version too old.

```
1534 \ClassWarning{jmlrbook}{Install 'currfile' package or update
```

```
1535 'fink' package}
```

```
1536 }
```

```
1537 }
```

Some packages need to be loaded before hyperref so provide a hook to do this:

```
1538 \providecommand*\jmlrprehyperref{}
```

`\ifgrayscale` Determine whether to select color or grayscale

```
1539 \newif\ifgrayscale
```

```
1540 \grayscalefalse
```

`draft`

```
1541 \DeclareOptionX{draft}{\setlength\overfullrule{5pt}}
```

`final`

```
1542 \DeclareOptionX{final}{\setlength\overfullrule{0pt}}
```

`color`

```
1543 \DeclareOptionX{color}{\grayscalefalse}
```

`gray`

```
1544 \DeclareOptionX{gray}{\grayscaletrue}
```

Pass letterpaper and 7x10 to jmlr.

`letterpaper`

```
1545 \DeclareOptionX{letterpaper}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

`7x10`

```
1546 \DeclareOptionX{7x10}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

Pass html and nohtml to jmlr. (Used by makejmlrbookgui)

`html`

```
1547 \DeclareOptionX{html}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

`nohtml`

```
1548 \DeclareOptionX{nohtml}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

`lrprefaceheader`

```
1549 \newcommand*\jmlrprefaceheader{%
```

```
1550   \phantomsection
```

```
1551   \chapter*\prefacename}%
```

```
1552   \addcontentsline{toc}{chapter}{\prefacename}%
```

```
1553   \markboth{\prefacename}{\prefacename}%
```

```
1554 }
```

Pass wcp, pmlr and nowcp options to jmlr and set preface header.

`wcp`

```
1555 \DeclareOptionX{wcp}{%
```

```
1556   \PassOptionsToClass{\CurrentOption}{jmlr}%
```

```
1557 }
```



```
pmlr
1558 \DeclareOptionX{pmlr}{\%
1559   \PassOptionsToClass{\CurrentOption}{jmlr}%
1560 }
```

```
nowcp
1561 \DeclareOptionX{nowcp}{\%
1562   \PassOptionsToClass{\CurrentOption}{jmlr}%
1563 }
```

Pass tablecaptiontop and tablecaptionbottom options to jmlr.

```
tablecaptiontop
1564 \DeclareOptionX{tablecaptiontop}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

```
tablecaptionbottom
1565 \DeclareOptionX{tablecaptionbottom}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

Pass font size commands to jmlr

```
10pt
1566 \DeclareOptionX{10pt}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

```
11pt
1567 \DeclareOptionX{11pt}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

```
12pt
1568 \DeclareOptionX{12pt}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

Switch on two-side mode by default

```
1569 \@twoside>true
```

```
oneside
1570 \DeclareOptionX{oneside}{\@twoside=false \mparswitch=false}
```

```
twoside
1571 \DeclareOptionX{twoside}{\@twoside=true \mparswitch=true}
```

```
pdfxa
1572 \define@boolkey{jmlrbook.cls}[jmlr]{pdfxa}[true]{\%
1573 \jmlrpdfxafalse}
```

Process options

```
1574 \ProcessOptionsX
```

If `\jmlrgrayscale` has been defined, let it override the class options. If it is defined, it should be set to 0 for the online version and any other number for the grayscale print version.

```

1575 \@ifundefined{jmlrgrayscale}{}%
1576 {%
1577   \ifnum\jmlrgrayscale=0\relax
1578     \grayscalefalse
1579   \else
1580     \grayscaletrue
1581   \fi
1582 }

```

This next bit is a modification of pdfx. It's only used for the print version when the pdfxa option is used.

```

1583 \ifgrayscale
1584   \newcommand*{\jmlrwritepdfinfo}{%
1585     \protected@write\@auxout{}\string\jmlrbook@info{\xmpAuthor}\xmpTitle}%
1586   }
1587   \ifjmlrpdfxa
1588     \def\convertDate{\getYear}
1589     {\catcode'\D=12
1590      \gdef\getYear D:#1#2#3#4{\edef\xYear{#1#2#3#4}\getMonth}
1591     }
1592     \def\getMonth#1#2{\edef\xMonth{#1#2}\getDay}
1593     \def\getDay#1#2{\edef\xDay{#1#2}\getHour}
1594     \def\getHour#1#2{\edef\xHour{#1#2}\getMin}
1595     \def\getMin#1#2{\edef\xMin{#1#2}\getSec}
1596     \def\getSec#1#2{\edef\xSec{#1#2}\getTZh}
1597     {%
1598       \catcode'\Z=12
1599       \gdef\tmpz{Z}
1600     }
1601     \def\hash{\expandafter\@gobble\string\#}%
1602     \def\amp{\expandafter\@gobble\string\&}%
1603     \def\xmpAmp{\amp\hash x0026;}%
1604     \def\sep{</rdf:li><rdf:li>}
1605     \def\TextCopyright{\amp\hash x00A9;}
1606     \def\Title#1{\gdef\xmpTitle{#1}}
1607     \def\Author#1{\gdef\xmpAuthor{#1}}
1608     \def\Keywords#1{\gdef\xmpKeywords{#1}}
1609     \let\xmpKeywords\@empty
1610     \let\xmpSubject\xmpKeywords
1611     \def\Creator#1{\gdef\xmpCreator{#1}}
1612     \def\xmpCreator{\@pdfcreator}
1613     \def\Producer#1{\gdef\xmpProducer{#1}}
1614     \def\xmpProducer{pdfTeX}
1615     \def\Volume#1{\gdef\xmpVolume{#1}}
1616     \let\xmpVolume\@empty
1617     \def\Issue#1{\gdef\xmpIssue{#1}}
1618     \let\xmpIssue\@empty

```

```

1619 \def\CoverDisplayDate#1{\gdef\xmpCoverDisplayDate{#1}}
1620 \let\xmpCoverDisplayDate\@empty
1621 \def\CoverDate#1{\gdef\xmpCoverDate{#1}}
1622 \let\xmpCoverDate\@empty
1623 \def\Copyright#1{\gdef\xmpCopyright{#1}}
1624 \let\xmpCopyright\@empty
1625 \def\Doi#1{\gdef\xmpDoi{#1}}
1626 \let\xmpDoi\@empty
1627 \def\Lastpage#1{\gdef\xmpLastpage{#1}}
1628 \let\xmpLastpage\@empty
1629 \def\Firstpage#1{\gdef\xmpFirstpage{#1}}
1630 \let\xmpFirstpage\@empty
1631 \def\Journaltitle#1{\gdef\xmpJournaltitle{#1}}
1632 \let\xmpJournaltitle\@empty
1633 \def\Journalnumber#1{\gdef\xmpJournalnumber{#1}}
1634 \let\xmpJournalnumber\@empty
1635 \def\Org#1{\gdef\xmpOrg{#1}}
1636 \let\xmpOrg\@empty
1637 \def\CreatorTool#1{\gdef\xmpCreatorTool{#1}}
1638 \def\xmpCreatorTool{\xmpProducer}
1639 \def\AuthoritativeDomain#1{\gdef\xmpAuthoritativeDomain{#1}}
1640 \let\xmpAuthoritativeDomain\@empty
1641 \def\findUUID#1{\edef\tmpstring{\pdfmdfivesum{#1}}
1642 \expandafter\eightofnine\tmpstring\end}
1643 \def\eightofnine#1#2#3#4#5#6#7#8#9\end{%
1644 \xdef\eightchars{#1#2#3#4#5#6#7#8}
1645 \fouroffive#9\end}
1646 \def\fouroffive#1#2#3#4#5\end{\xdef\ffourchars{#1#2#3#4}
1647 \sfouroffive#5\end}
1648 \def\sfouroffive#1#2#3#4#5\end{\xdef\sfourchars{#1#2#3#4}
1649 \tfouroffive#5\end}
1650 \def\tfouroffive#1#2#3#4#5\end{\xdef\tfourchars{#1#2#3#4}
1651 \xdef\laststring{#5}}
1652 \def\uuid{\eightchars-%
1653 \ffourchars-%
1654 \sfourchars-%
1655 \tfourchars-%
1656 \laststring}

```

\getTZh This is a modification of the command from pdfx that also works for zero and negative hours.

```

1657 \def\getTZh#1{%
1658 \def\TZprefix{#1}%
1659 \ifx\TZprefix\tmpz
1660 \def\xTZsign{+}%
1661 \def\xTZh{00}%
1662 \def\xTZm{00}%
1663 \let\getTZnext\doConvDate
1664 \else
1665 \let\xTZsign\TZprefix

```

```

1666     \let\getTZnext\getTZhm
1667     \fi
1668     \getTZnext
1669 }

```

`\getTZm` This is a modified version of the command from pdfx.

```

1670 \def\getTZhm#1#2'#3#4' {%
1671     \edef\xTZh{#1#2}%
1672     \edef\xTZm{#3#4}%
1673     \doConvDate
1674 }

```

`\doConvDate` Defines the date using information derived from parsing `\pdfcreationdate`

```

1675 \def\doConvDate{%
1676     \edef\convDate{\xYear-\xMonth-\xDay
1677         T\xHour:\xMin:\xSec\xTZsign\xTZh:\xTZm}%
1678 }

```

`\@pre@hyperref` This macro contains a trimmed down version of pdfx.

```

1679 \newcommand{\@pre@hyperref}{%
1680     \IfFileExists{FOGRA39L.icc}%
1681     {%
1682         \pdfminorversion=3
1683         \pdfpageattr{/MediaBox[0 0 595 793]
1684             /BleedBox[0 0 595 793]
1685             /TrimBox[25 20 570 773]}%
1686         \findUUID{\jobname.pdf}%
1687         \edef\xmpdocid{\uuid}%
1688         \findUUID{\pdfcreationdate}%
1689         \edef\xmpinstid{\uuid}%
1690         \InputIfFileExists{\jobname.xmpdata}{-}{-}%
1691         \RequirePackage{xmpincl}%
1692         \expandafter\convertDate\pdfcreationdate
1693         \def\@pctchar{\expandafter\@gobble\string\}%
1694         \def\@bchar{\expandafter\@gobble\string\}
1695         \immediate\pdfobj stream attr{/N 4} file{FOGRA39L.icc}
1696         \edef\OBJ@CVR{\the\pdflastobj}
1697         \pdfcatalog{/OutputIntents [ <<
1698             /Type/OutputIntent
1699             /S/GTS_PDFX
1700             /OutputCondition (FOGRA39)
1701             /OutputConditionIdentifier (FOGRA39 \@bchar(ISO Coated v2
1702                 300\@pctchar\space \@bchar(ECI\@bchar)\@bchar))
1703             /DestOutputProfile \OBJ@CVR\space 0 R
1704             /RegistryName(http://www.color.org)
1705             >> ]}
1706         \input glyphtounicode.tex
1707         \input glyphtounicode-cmr.tex
1708         \pdfgentounicode=1

```

```

1709     \RequirePackage[draft,pdftex,pdfpagemode=UseNone,bookmarks=false]{hyperref}%
1710 }%
1711 {%
1712     \ClassError{jmlrbook}{Can't find 'FOGRA39L.icc'}%
1713     {Download ISOcoated\string_v2\string_330\string_bas.icc from
1714     http://www.colormangement.org/en/isoprofile.html
1715     Rename it FOGRA39L.icc and put it in the pdfx folder}%
1716 }%
1717 }
1718 \renewcommand*{\jmlrwritepdfinfo}{%
1719     \begingroup
1720     \let\&=\xmpAmp
1721     \IfFileExists{pdfx-1a.xmp}{%
1722         \pdfcompresslevel=0
1723         \immediate\pdfobj stream attr {/Type /Metadata /Subtype /XML}
1724         file{pdfx-1a.xmpi}
1725         \pdfcatalog{/Metadata \the\pdflastobj\space 0 R}
1726     }%
1727     {}%
1728     \endgroup
1729     \protected@write\auxout{}{\string\jmlrbook@info{\xmpAuthor}{\xmpTitle}}%
1730     \pdfinfo{
1731         /Author(\xmpAuthor)%
1732         /Title(\xmpTitle)%
1733         /Creator(\xmpProducer)%
1734         /CreationDate(\convDate)%
1735         /ModDate(\convDate)%
1736         /Producer(\xmpProducer)%
1737         /Trapped /False
1738         /GTS_PDFXVersion (PDF/X-1:2001)%
1739         /GTS_PDFXConformance (PDF/X-1a:2001)%
1740     }%
1741 }
1742 \fi
1743 \else
1744     \newcommand*{\jmlrwritepdfinfo}{}
1745 \fi

```

\jmlrbook@info Not needed (information provided for MakeJmlrBookGUI)

```
1746 \newcommand*{\jmlrbook@info}[2]{}

```

\jmlrbook@location Not needed (information provided for MakeJmlrBookGUI)

```
1747 \newcommand*{\jmlrbook@location}[1]{}

```

\@post@hyperref

```

1748 \newcommand*{\@post@hyperref}{%
1749     \let\@org@c@lenddoca\c@lenddoca
1750     \let\c@lenddoca\undefined
1751 }

```

Load combine class. This requires a little bit of trickery.

```
1752 \let\@org@LoadClass\LoadClass
1753 \def\LoadClass#1{\let\LoadClass\@org@LoadClass\@org@LoadClass{jmlr}}
1754 \@org@LoadClass{combine}
1755 \let\c@lenddoca\@org@c@lenddoca
```

Requires combnat to work with natbib:

```
1756 \RequirePackage{combnat}
```

Need to apply a patch to combnat (this has now been fixed in combnat, but user might be using an old version):

```
1757 \renewcommand\c@laNAT@parse[1]{\%
1758   \let\protect=\@unexpandable@protect\let~\relax
1759   \let\active@prefix=\@gobble
1760   \xdef\NAT@temp{\csname b@#1\@extra@b@citeb\endcsname}}%
1761   \expandafter\NAT@split\NAT@temp?????@%
1762   \expandafter\NAT@parse@date\NAT@date?????@%
1763   \ifciteindex\NAT@index\fi}
1764
1765 \renewcommand\c@lbNAT@parse[1]{\%
1766   \let\protect=\@unexpandable@protect\let~\relax
1767   \let\active@prefix=\@gobble
1768   \xdef\NAT@temp{\csname B?\jobname?@#1\@extra@b@citeb\endcsname}}%
1769   \expandafter\NAT@split\NAT@temp?????@%
1770   \expandafter\NAT@parse@date\NAT@date?????@%
1771   \ifciteindex\NAT@index\fi}
```

Start new chapters on the right hand page:

```
1772 \newif\if@openright
1773 \@openrighttrue
1774 \newif\if@mainmatter
```

Define commands that affect the formatting:

`\pagerule` Draw line across the text block.

```
1775 \newcommand*\pagerule[1][0pt]{\par\noindent
1776   \rule[#1]{\linewidth}{2pt}\par}
```

`preface` The preface environment starts a new chapter but also writes information to the main aux file for makejmlrbook. The optional argument is the file name for the extracted preface.

```
1777 \ifjmlrhtml
1778   \newenvironment{preface}[1][preface]%
1779   {%
1780     \noindent\HCode{<h2>\prefacename</h2>}%
1781   }%
1782   {%
1783   }
1784 \else
1785   \newenvironment{preface}[1][preface]%
1786   {%
```

```

1787 \jmlrprefaceheader
1788 \protected@write\@mainauxout
1789 {}{\string\@prefacestart{\thepage}{\arabic{page}}}%
1790 \protected@write\@mainauxout{}{\string\@prefacefile{\jmlrprefacepath}{#1}}%
1791 }%
1792 {%
1793 \protected@write\@mainauxout{}{\string\@prefaceend{\thepage}}%
1794 }
1795 \fi

```

\prefacename

```
1796 \newcommand*{\prefacename}{Preface}
```

\@prefacefile

```
1797 \newcommand*{\@prefacefile}[2]{}
```

\@prefacestart

```
1798 \newcommand*{\@prefacestart}[2]{}
```

\@prefaceend

```
1799 \newcommand*{\@prefaceend}[1]{}
```

\@prefaceeditor

```
1800 \newcommand*{\@prefaceeditor}[1]{}
```

Cross-reference chapters:

```
1801 \newcommand*{\chapterrefname}{Chapter}
```

```
1802 \newcommand*{\chaptersrefname}{Chapters}
```

\chapterref

```
1803 \newcommand*{\chapterref}[1]{%
```

```
1804 \objectref{#1}{\chapterrefname}{\chaptersrefname}}{}}
```

Cross-referencing imported articles:

\articlepageref Page number of start of article

```
1805 \newcommand*{\articlepageref}[1]{%
```

```
1806 \pageref{#1jmlrstart}}%
```

```
1807 }
```

articlepagesref Page range of article

```
1808 \newcommand*{\articlepagesref}[1]{%
```

```
1809 \pageref{#1jmlrstart}--\pageref{#1jmlrend}}%
```

```
1810 }
```

articlepagesref Page range of article for use within the article

```
1811 \newcommand*{\@articlepagesref}{%
```

```
1812 \pageref{jmlrstart}--\pageref{jmlrend}}%
```

```
1813 }
```

articletitleref    Reference the short title of an imported article

```
1814 \newcommand*{\articletitleref}[1]{\nameref{#1jmlrstart}}
```

articleauthorref    Reference the authors of an imported article

```
1815 \newcommand*{\articleauthorref}[1]{%
1816   \@ifundefined{jmlr@author@#1}%
1817   {%
1818     \ClassWarning{jmlrbook}{Label ‘#1’ undefined}%
1819   }%
1820   {%
1821     \@nameuse{jmlr@author@#1}%
1822   }%
1823 }
```

\jmlrtitlehook    Extra title information

```
1824 \renewcommand*\jmlrtitlehook{%
1825   \hypersetup{pdftitle={\@shorttitle}}%
1826   \def\xmpTitle{\@shorttitle}%
1827   \let\jmlrtitlehook\relax
1828 }
1829 \providecommand*\xmpTitle{\@title}%
```

\jmlrauthorhook

```
1830 \renewcommand*\jmlrauthorhook{%
1831   \ifx\@sauthor\@empty
1832     \hypersetup{pdfauthor={\@author}}%
1833   \else
1834     \hypersetup{pdfauthor={\@sauthor}}%
1835   \fi
1836   \def\xmpAuthor{\@sauthor}%
1837   \let\jmlrauthorhook\relax
1838   \let\@shortauthor\@empty
1839 }
1840 \providecommand*\xmpAuthor{\@author}%
```

\subtitle

```
1841 \newcommand*{\@subtitle}{}
1842 \newcommand*{\subtitle}[1]{\renewcommand*{\@subtitle}{#1}}
```

\volume

```
1843 \newcommand*{\@volume}{\@jmlrvolume}
1844 \newcommand*{\volume}[1]{%
1845   \renewcommand*{\@volume}{#1}%
1846   \ifjmlrpdfxa
1847     \let\xmpVolume\@volume
1848   \fi
1849 }
```



```

\jmlrissue
1850 \newcommand*{\@jmlrissue}{\@jmlrissue}
1851 \newcommand*{\issue}[1]{%
1852   \renewcommand*{\@issue}{#1}%
1853   \ifjmlrpdfxa
1854     \let\xmpIssue\@issue
1855   \fi
1856 }

thejmlrworkshop  Provided in the event that it's required for the title page.
1857 \newcommand*{\thejmlrworkshop}{\@jmlrworkshop}

\team
1858 \newcommand*{\@team}{}
1859 \newcommand*{\team}[1]{\renewcommand*{\@team}{#1}}

\jmlrlocation
1860 \newcommand*{\@jmlrlocation}{}
1861 \newcommand*{\jmlrlocation}[1]{%
1862   \renewcommand*{\@jmlrlocation}{#1}%
1863   \protected@write\@auxout{}\string\jmlrbook@location{#1}%
1864 }

ctioneditorname
1865 \newcommand*{\@productioneditorname}{Production Editor}

roductioneditor
1866 \newcommand*{\@productioneditor}{}
1867 \newcommand*{\productioneditor}[1]{%
1868   \renewcommand*{\@productioneditor}{#1}%
1869   \renewcommand*{\@productioneditorname}{Production Editor}%
1870 }

oductioneditors
1871 \newcommand*{\productioneditors}[1]{%
1872   \renewcommand*{\@productioneditor}{#1}%
1873   \renewcommand*{\@productioneditorname}{Production Editors}%
1874 }

\logo  Title page image
1875 \newcommand*{\@logo}{}
1876 \newcommand*{\logo}[2][ ]{%
1877   \ifjmlrhtml
1878     \def\@logo@tmp{#1}%
1879     \ifx\@logo@tmp\@empty
1880       \renewcommand*{\@logo}{#2}%
1881     \else
1882       \renewcommand*{\@logo}{\HCode{<a href="#1">}#2\HCode{</a>}}%

```

```

1883 \fi
1884 \else
1885 \renewcommand*{\@logo}{#2}%
1886 \fi
1887 }

```

`\booklinebreak` Provided for book production editors to fine tune the book line breaking.

```

1888 \renewcommand*{\booklinebreak}[1][4]{\linebreak[#1]}

```

Set article title

```

1889 \def\c@lbmaketitle{\jmlrmaketitle}

```

The book's title:

`\maintitle`

```

1890 \newcommand*{\maintitle}{}

```

Make it easier to modify the book's title page:

`SetTitleElement`

```

1891 \newcommand*{\SetTitleElement}[3]{%
1892   {%
1893     \expandafter\ifx\csname @#1\endcsname \@empty
1894     \else
1895       #2\csname @#1\endcsname#3%
1896     \fi
1897   }%
1898 }

```

`\IfTitleElement` Determine if the given element has been set:

```

1899 \newcommand{\IfTitleElement}[3]{%
1900   \expandafter\ifx\csname @#1\endcsname \@empty
1901   #2%
1902   \else
1903     #3%
1904   \fi
1905 }

```

`\titlebody`

```

1906 \newcommand{\titlebody}{%
1907   \SetTitleElement{title}{\maintitlefont}{\postmaintitle}%
1908   \SetTitleElement{volume}{\mainvolume}{\postmainvolume}%
1909   \SetTitleElement{subtitle}{\mainsubtitlefont}{\postmainsubtitle}%
1910   \SetTitleElement{logo}{\mainlogo}{\postmainlogo}%
1911   \SetTitleElement{team}{\mainteamfont}{\postmainteam}%
1912   \SetTitleElement{author}{\mainauthorfont}{\postmainauthor}%
1913   \SetTitleElement{productioneditor}{\mainproductioneditorfont}%
1914     {\postmainproductioneditor}%
1915 }

```

\c@lamaketitle

```
1916 \ifjmlrhtml
1917   \renewcommand{\c@lamaketitle}{%
1918     \HCode{<table cellpadding="2" cellspacing="2" border="0" width="100\%">%
1919       \HCode{<tbody><tr><td valign="top">%
1920         \HCode{<h1>}%
1921         \@title\newline
1922         \ifx\@jmlrvolume\@empty
1923           \ifx\@volume\@empty
1924             \else
1925               Volume \@volume
1926             \ifx\@subtitle\@empty\else: \fi
1927           \fi
1928         \else
1929           Volume \@jmlrvolume
1930           \ifx\@subtitle\@empty\else: \fi
1931         \fi
1932         \@subtitle
1933       \HCode{</h1>}%
1934       \newline
1935       \textbf{Editors: \@author}
1936     \HCode{</td><td valign="top">%
1937       \@logo
1938     \HCode{</td></tr></tbody></table>}%
1939     \let\maintitle\@title
1940   }
1941 \else
1942   \renewcommand{\c@lamaketitle}{%
1943     \pagenumbering{alph}%
1944     \pagestyle{empty}%
1945     \begin{titlepage}%
1946       \let\footnotesize\small
1947       \let\footnoterule\relax
1948       \let\footnote\thanks
1949       \titlebody
1950       \par
1951       \@thanks
1952     \end{titlepage}%
1953     \setcounter{footnote}{0}%
1954     \let\maintitle\@title
1955     \c@lmtitleempty
1956   }
1957 \fi
```

\maintitlefont

```
1958 \renewcommand{\maintitlefont}{%
1959   \null\vskip15pt\relax\par
1960   \flushleft\Huge\bfseries\noindent}
```

```

\postmaintitle
1961 \renewcommand{\postmaintitle}{\%
1962   \par\relax
1963 }

\mainvolumefont
1964 \newcommand{\mainvolumefont}{\%
1965   \flushleft\noindent\LARGE\bfseries Volume
1966 }

\postmainvolume
1967 \newcommand{\postmainvolume}{\%
1968   \IfTitleElement{subtitle}{}{:}\par\relax
1969 }

\mainissuefont
1970 \newcommand{\mainissuefont}{\%
1971   \flushleft\noindent\LARGE\bfseries Issue
1972 }

\postmainissue
1973 \newcommand{\postmainissue}{\%
1974   \par\relax
1975 }

\mainsubtitlefont
1976 \newcommand{\mainsubtitlefont}{\%
1977   \flushleft\LARGE\bfseries\noindent}

\postmainsubtitle
1978 \newcommand{\postmainsubtitle}{\par}

\mainlogofont
1979 \newcommand{\mainlogofont}{\%
1980   \vfill
1981   \begin{center}}

\postmainlogo
1982 \newcommand{\postmainlogo}{\end{center}\vfill\par}

\mainteamfont
1983 \newcommand{\mainteamfont}{\flushleft\bfseries\Large\noindent}

\postmainteam
1984 \newcommand{\postmainteam}{\par}

```

\mainauthorfont

```
1985 \renewcommand{\mainauthorfont}{%
1986   \flushleft\Large\itshape\doublespacing\noindent}
```

\postmainauthor

```
1987 \renewcommand{\postmainauthor}{%
1988 \par}
```

\productioneditorfont

```
1989 \newcommand{\mainproductioneditorfont}{%
1990   \flushleft\Large\noindent \@productioneditorname: \itshape}
```

\productioneditor

```
1991 \newcommand{\postmainproductioneditor}{\par}
```

\maindatefont

```
1992 \renewcommand{\maindatefont}{}
```

\postmaindate

```
1993 \renewcommand{\postmaindate}{}
```

**signoff** Editorial team listed at the end of a preface etc. The mandatory argument is the date, the optional argument is the team title. Each editor should be separated with \Editor.

```
1994 \ifjmlrhtml
1995   \newenvironment{signoff}[2][The Editorial Team]{%
1996     \def\Editor##1{##1\par\vskip\baselineskip\noindent\ignorespaces}%
1997     \def\@editorialteam{#1}%
1998     \def\@signoffdate{#2}%
1999     \par\vskip\baselineskip\noindent
2000     \ifx\@signoffdate\@empty
2001       \else
2002         \emph{\@signoffdate}\nopagebreak\par
2003         \nopagebreak\vskip\baselineskip\noindent
2004       \fi
2005     \ifx\@editorialteam\@empty
2006       \else
2007         \@editorialteam:\nopagebreak\par\nopagebreak\vskip\baselineskip
2008       \fi
2009     \nopagebreak\noindent\ignorespaces
2010   }%
2011   {%
2012   }%
2013 \else
2014   \newenvironment{signoff}[2][The Editorial Team]{%
2015     \def\Editor##1{%
2016       \protected@write\@mainauxout{}\string\@prefaceeditor{##1}}%
2017     \begin{tabular}{@{}l@{}}%
2018       ##1%
```

```

2019      \end{tabular}%
2020      \par\vskip\baselineskip\noindent\ignorespaces
2021  }%
2022  \def\@editorialteam{#1}%
2023  \def\@signoffdate{#2}%
2024  \par\vskip\baselineskip\noindent
2025  \ifx\@signoffdate\@empty
2026  \else
2027      \emph{\@signoffdate}\par
2028      \vskip\baselineskip\noindent
2029  \fi
2030  \ifx\@editorialteam\@empty
2031  \else
2032      \@editorialteam:\nopagebreak\par\vskip\baselineskip
2033  \fi
2034  \nopagebreak\noindent\ignorespaces
2035  }%
2036  {%
2037  }
2038 \fi

```

**authorsignoff** An author can sign off at the end of a chapter (such as a foreword). Each author should be separated with \Author.

```

2039 \newenvironment{authorsignoff}{%
2040   \def\Author##1{\begin{tabular}{@{}p{\linewidth}@{}}%
2041     ##1%
2042   \end{tabular}%
2043   \par\vskip\baselineskip\noindent\ignorespaces
2044 }%
2045 \par\vskip\baselineskip\noindent\ignorespaces
2046 }{%
2047 }

```

**zeroextracounters** Reset counters at the start of each imported article

```

2048 \renewcommand{\zeroextracounters}{%
2049   \@ifundefined{c@theorem}{\setcounter{theorem}{0}}%
2050   \@ifundefined{c@algorithm}{\setcounter{algorithm}{0}}%
2051   \@ifundefined{c@algocf}{\setcounter{algocf}{0}}%
2052   \@ifundefined{c@example}{\setcounter{example}{0}}%
2053   \@ifundefined{c@definition}{\setcounter{definition}{0}}%
2054 }

```

**\contentsname** Redefine title of the table of contents

```

2055 \renewcommand*{\contentsname}{Table of Contents}

```

**\theHalgorithm**

```

2056 \def\theHalgorithm{\theHchapter.\thealgorithm}

```

```

\theHsection
2057 \def\theHsection{\theHchapter.\thesection}
2058 \def\theHsubsection{\theHchapter.\thesubsection}
2059 \def\theHsubsubsection{\theHchapter.\thesubsubsection}
2060 \def\theHparagraph{\theHchapter.\theparagraph}

\theHsubfigure
2061 \def\theHsubfigure{\theHfigure.\arabic{subfigure}}
2062 \def\theHsubtable{\theHtable.\arabic{subtable}}

\theHfootnote
2063 \def\theHfootnote{\theHchapter.\alpha{footnote}}

\theHtable
2064 \def\theHtable{\theHchapter.\arabic{table}}

\theHfigure
2065 \def\theHfigure{\theHchapter.\arabic{figure}}

\theHalgocf
2066 \def\theHalgocf{\theHchapter.\thealgocf}

\mailto
2067 \renewcommand*{\mailto}[1]{%
2068   \href{mailto:#1}{\nolinkurl{#1}}%
2069 }

2070 \c@lhaschapterfalse
2071 \let\c@lthesec\thesection

    Make sure the hyperlinks work

portchapterHref
2072 \newcommand\doimportchapterHref{%
2073   \edef\@currentHref{chapter.\thechapter}%
2074 }

clevel@appendix  Set the toc level for the main appendices
2075 \def\toclevel@appendix{-1}

    hyperref and combine don't play nicely need to fudge the cross-referencing a bit.

\Xprefix
2076 \def\Xprefix{}

\Xref
2077 \DeclareRobustCommand\Xref{\@ifstar\@Xrefstar\T@Xref}%

```

```

\Xpageref
2078 \DeclareRobustCommand\Xpageref{%
2079   \@ifstar\@Xpagerefstar\T@Xpageref
2080 }%

Ref@StarSetXRef
2081 \def\HyRef@StarSetXRef#1{%
2082   \begingroup
2083   \Hy@safe@activestru
2084   \edef\x{#1}%
2085   \@onelevel@sanitize\x
2086   \edef\x{\endgroup
2087     \noexpand\HyRef@StarSetXRef
2088     \expandafter\noexpand\csname r@\Xprefix\x\endcsname{x}%
2089   }%
2090   \x
2091 }
2092 % \end{macocode}
2093 %\end{macro}
2094 %
2095 %\begin{macro}{\@Xrefstar}
2096 % \begin{macrocode}
2097 \def\@Xrefstar#1{%
2098   \HyRef@StarSetXRef{#1}\@firstoffive
2099 }

\@Xpagerefstar
2100 \def\@Xpagerefstar#1{%
2101   \HyRef@StarSetXRef{#1}\@secondoffive
2102 }

\T@Xref
2103 \def\T@Xref#1{%
2104   \Hy@safe@activestru
2105   \expandafter\@setXref\csname r@\Xprefix#1\endcsname\@firstoffive{#1}%
2106   \Hy@safe@activesfalse
2107 }%

\T@Xpageref
2108 \def\T@Xpageref#1{%
2109   \Hy@safe@activestru
2110   \expandafter\@setXref\csname r@\Xprefix#1\endcsname\@secondoffive{#1}%
2111   \Hy@safe@activesfalse
2112 }%

\Xlabel
2113 \def\Xlabel#1{%
2114   \@bsphack

```



```

2115 \begingroup
2116 \onelevel@sanitize\@currentlabelname
2117 \edef\@currentlabelname{%
2118 \expandafter\strip@period\@currentlabelname\relax.\relax\@@@
2119 }%
2120 \protected@write\@mainauxout{}\{%
2121 \string\newlabel{\Xprefix#1}{\@currentlabel}{\thepage}%
2122 {\@currentlabelname}{\@currentHref}{}}%
2123 }%
2124 \endgroup
2125 \@esphack
2126 }
2127 \let\ltx@label\Xlabel

```

\@setXref

```

2128 \def\@setXref#1#2#3{% csname, extract group, refname
2129 \ifx#1\relax
2130 \protect\G@refundefinedtrue
2131 \nfss@text{\reset@font\bfseries ??}%
2132 \@latex@warning{%
2133 Reference ‘#3’ on page \thepage \space undefined%
2134 }%
2135 \else
2136 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
2137 \fi
2138 }

```

\@secondoffive Something's redefining \@secondoffive incorrectly at the start of the document when hyperref's draft mode is on. Need to fix it.

```

2139 \AtBeginDocument{%
2140 \renewcommand\@secondoffive[5]{#2}%
2141 \jmlrwritepdfinfo
2142 \let\jmlrwritepdfinfo\relax
2143 }

```

Need to write imported chapter label to main auxfile.

@setimportlabel

```

2144 \def\@setimportlabel{%
2145 \let\@mainauxout\@auxout
2146 \let\HRLabel\label
2147 }
2148 \AtBeginDocument{\@jmlrbegindoc}

```

\@jmlrbegindoc

```

2149 \newcommand*\@jmlrbegindoc{
2150 \@setimportlabel
2151 \gdef\@setimportlabel{\let\ref\Xref \let\pageref\Xpageref}%
2152 \let\ReadBookmarks\relax

```

Patch to work with auxhook if loaded

```
2153 \ifundefined{@beginmainauxhook}{\@beginmainauxhook}%  
2154 }
```

Imported papers modify \InputIfFileExists so save original definition.

```
2155 \let\@org@InputIfFileExists\InputIfFileExists
```

jmlrpapers

```
2156 \newenvironment{jmlrpapers}{%  
2157 \def\@begindocumenthook{%  
2158   \@jmlrbegindoc  
2159   \let\bibcite\c@lbNATbibcite  
2160 }  
2161 \def\@enddocumenthook{%  
2162   \@jmlrenddoc  
2163   \let\bibcite\c@lbNAT@testdef  
2164 }  
2165   \begin{papers}[]  
  
2166   \if@twocolumn  
2167     \def\@jmlr@restore{\twocolumn}%  
2168   \else  
2169     \def\@jmlr@restore{\onecolumn}%  
2170   \fi  
2171   \jmlrarticlecommands  
2172   \let\importpubpaper\@importpubpaper  
2173   \let\importpaper\@importpaper  
2174   \let\importarticle\@importarticle  
2175   \let\label\Xlabel  
2176   \let\ref\Xref  
2177   \pagestyle{article}%  
2178 }{%  
2179   \@jmlr@restore  
2180   \end{papers}  
2181 }
```

dtomaincontents

```
2182 \newcommand{\addtomaincontents}[2]{%  
2183   \protected@write\@mainauxout{\let\label\@gobble\let\index\@gobble  
2184     \let\glossary\@gobble}{\string\@writefile{#1}{#2}}%  
2185 }
```

\@write@author

```
2186 \newcommand*{\@write@author}[2]{%  
2187   \def\@jmlr@authors@sep{ and }%  
2188   \protected@write\@mainauxout{}{%  
2189     \string\@new@articleauthor{#1}{#2}%  
2190   }%  
2191 }
```

w@articleauthor

```
2192 \newcommand*{\@new@articleauthor}[2]{%
2193   \expandafter\gdef\csname @jmlr@author@#1\endcsname{%
2194     \hyperref[#1jmlrstart]{#2}}%
2195 }
```

ite@jmlr@import The accompanying makejmlrbook Perl script scans the aux file for information. Any articles imported using \importpubpaper, \importpaper or \importarticle need to write the relevant information to the aux file.

```
2196 \newcommand*{\@@write@jmlr@import}[3]{%
2197   \protected@write\@mainauxout{}\string\@jmlr@import{#1}{#2}{#3}}%
2198 }
```

\@jmlr@import L<sup>A</sup>T<sub>E</sub>X should ignore \@jmlr@import as it's only needed for makejmlrbook:

```
2199 \newcommand*{\@jmlr@import}[3]{}
```

@jmlr@apdimport As above but for files imported in the appendix.

```
2200 \newcommand*{\@@write@jmlr@apdimport}[3]{%
2201   \protected@write\@mainauxout{}\string\@jmlr@apdimport{#1}{#2}{#3}}%
2202 }
```

@jmlr@apdimport As above but for files imported in the appendix. L<sup>A</sup>T<sub>E</sub>X should ignore \@jmlr@apdimport as it's only needed for makejmlrbookgui:

```
2203 \newcommand*{\@jmlr@apdimport}[3]{}
```

ite@jmlr@import Initialise to \@write@jmlr@import and switch to \@write@jmlr@apdimport in the appendices.

```
2204 \def\@write@jmlr@import{\@@write@jmlr@import}
```

remaketitlehook Redefine \jmlrpremaketitlehook

```
2205 \def\jmlrpremaketitlehook{%
2206   \cleardoublepage
2207   \phantomsection
2208   \let\@currentlabelname\@shorttitle

2209   \refstepcounter{chapter}%
2210 }%
```

\jmlrimporthook Hook just before document is imported.

```
2211 \newcommand*{\jmlrimporthook}{}
```

\importpubpaper Import a document that has already been published. Syntax: \importpubpaper[<label>]{<dir>}{<file>}{<pages>} where <dir> is the directory in which the paper is located, <file> is the name of the file and <pages> indicates the page range *for the original version*. The optional argument is a label. This is used to prefix the labels and citations in the document so they don't clash with other imported articles. If omitted, <dir>/<file> is used instead.

```
2212 \newcommand*{\@importpubpaper}[4][\@importdir\@importfile]{%
```

```

2213 \bgroup
2214 \def\@importdir{#2/}%
2215 \def\@importfile{#3}%
2216 \@write@jmlr@import{#1}{#2}{#3}%
2217 \def\@extra@b@citeb{#1}%
2218 \def\@extra@binfo{#1}%
2219 \jmlrpages{#4}%
2220 \graphicspath{{\@importdir}}%
2221 \def\jmlrmaketitlehook{%

2222 \label{}}%
2223 \def\titlebreak{ }%
2224 \addtomaincontents{toc}%

2225 {%
2226 \protect\contentsline{papertitle}{\@title}{\thepage}%
2227 {page.\thepage}}%
2228 \pdfbookmark{\@shorttitle}{chapter.\theHchapter}%
2229 \def\@jmlr@authors@sep{ \& }%

2230 \tocchapterpubauthor{\@jmlr@authors}%
2231 {%
2232 \@jmlr@abbrvproceedings
2233 \ifx\@jmlrvolume\@empty
2234 \ifx\@jmlrpages\@empty\else\space\fi
2235 \else
2236 \space\@jmlrvolume
2237 \ifx\@jmlrissue\@empty
2238 \else
2239 (\@jmlrissue)%
2240 \fi
2241 \ifx\@jmlrpages\@empty\else:\fi
2242 \fi
2243 \ifx\@jmlrpages\@empty
2244 \else
2245 \@jmlrpages
2246 \ifx\@jmlryear\@empty\else,\fi
2247 \fi
2248 \space\@jmlryear
2249 }%

2250 \@write@author{#1}{\@jmlr@authors}%
2251 }%
2252 \def\InputIfFileExists##1##2##3{%
2253 \IfFileExists{##1}{%
2254 \@org@InputIfFileExists{##1}{##2}{##3}%
2255 }%
2256 {%
2257 \@org@InputIfFileExists{\@importdir##1}{##2}{##3}%
2258 }%

```

```

2259     }%
2260     \def\Xprefix{#1}%
2261     \jmlrimporthook
2262     \import{\@importdir\@importfile}%
2263     \def\Xprefix{}%
2264     \egroup
2265     \gdef\@shortauthor{}%
2266     \gdef\@shorttitle{}%
2267     \gdef\@firstauthor{}%
2268     \gdef\@jmlr@authors{\@jmlrauthors}%
2269     \gdef\@jmlrauthors{}%
2270     \gdef\@firstsurname{}%
2271 }
2272 \newcommand{\importpubpaper}[4][]{%
2273   \ClassError{jmlrbook}{\string\importpubpaper\space
2274 not permitted outside 'jmlrpapers' environment}{}%
2275 }

```

`\importpaper` Like `\importpubpaper` but sets the pages to the page-range for this book.

```

2276 \newcommand{\@importpaper}[3][\@importdir\@importfile]{%
2277   \bgroup
2278     \def\@importdir{#2}/%
2279     \def\@importfile{#3}%
2280     \@writejmlr@import{#1}{#2}{#3}%
2281     \def\@extra@b@citeb{#1}%
2282     \def\@extra@b@info{#1}%
2283     \jmlrpages{\protect\@articlepagesref}%
2284     \graphicspath{{\@importdir}}%
2285     \def\jmlrmaketitlehook{%

2286       \label{}%
2287       \def\titlebreak{ }%
2288       \addtomaincontents{toc}%

2289       {%
2290         \protect\contentsline{papertitle}{\@title}{\thepage}%
2291         {page.\thepage}}%
2292       \pdfbookmark{\@shorttitle}{chapter.\theHchapter}%
2293       \def\@jmlr@authors@sep{ \& }%

2294       \tocchapterpubauthor{\@jmlr@authors}%
2295       {%
2296         \@jmlrabbvrproceedings
2297         \ifx\@jmlrvolume\@empty
2298           \space
2299         \else
2300           \space\@jmlrvolume
2301           \ifx\@jmlrissue\@empty
2302             \else
2303               (\@jmlrissue)%

```

```

2304         \fi
2305         :%
2306     \fi
2307     \protect\articlepagesref{#1}%
2308     \ifx\@jmlryear\@empty\else,\fi
2309     \space\@jmlryear
2310 }%

2311     \@writeauthor{#1}{\@jmlr@authors}%
2312 }%
2313 \def\InputIfFileExists##1##2##3{%
2314     \IfFileExists{##1}{%
2315         \@org@InputIfFileExists{##1}{##2}{##3}%
2316     }%
2317     {%
2318         \@org@InputIfFileExists{\@importdir##1}{##2}{##3}%
2319     }%
2320 }%
2321 \def\Xprefix{#1}%

```

Disable \jmlrvolume, \jmlryear, \jmlrworkshop etc (since the imported papers belong to the same volume as the book—use \importpubpaper for papers pre-published in another volume).

```

2322 \let\jmlrvolume\@gobble
2323 \let\jmlryear\@gobble
2324 \let\jmlrworkshop\@gobble
2325 \let\jmlrissue\@gobble
2326 \let\jmlrpages\@gobble
2327 \jmlrimporthook
2328 \import{\@importdir\@importfile}%
2329 \def\Xprefix{}%
2330 \egroup
2331 \gdef\@shortauthor{}%
2332 \gdef\@shorttitle{}%
2333 \gdef\@firstauthor{}%
2334 \gdef\@jmlr@authors{\@jmlrauthors}%
2335 \gdef\@jmlrauthors{}%
2336 \gdef\@firstsurname{}%
2337 }
2338
2339 \newcommand{\importpaper}[3][\@importpaper]{%
2340     \ClassError{jmlrbook}{\string\importpaper\space
2341 not permitted outside ‘jmlrpapers’ environment}{}%
2342 }

```

**\importarticle** Import a document that hasn't been published. Syntax: `\importarticle[⟨label⟩]{⟨dir⟩}{⟨file⟩}` where *⟨dir⟩* is the directory in which the paper is located and *⟨file⟩* is the name of the file. The optional argument is a label. This is used to prefix the labels and citations in the document so they don't clash with other imported articles. If omitted, *⟨file⟩* is used instead.

```

2343 \newcommand{\@importarticle}[3][\@importdir\@importfile]{%
2344   \bgroup
2345     \def\@importdir{#2/}%
2346     \def\@importfile{#3}%
2347     \@writejmlr@import{#1}{#2}{#3}%
2348     \def\@extra@b@citeb{#1}%
2349     \def\@extra@b@info{#1}%
2350     \def\jmlrmaketitlehook{%
2351       \def\titlebreak{ }%
2352       \addtomaincontents{toc}%

2353       {%
2354         \protect\contentsline{papertitle}{\@title}{\thepage}%
2355         {page.\thepage}}%

2356       \label{}}%
2357       \pdfbookmark{\@shorttitle}{chapter.\theHchapter}%
2358       \def\@jmlr@authors@sep{ \& }%

2359       \tocchapterauthor{\@jmlr@authors}%
2360       \@write@author{#1}{\@jmlr@authors}%
2361       \jmlrpages{}%
2362       \jmlrvolume{}%
2363       \jmlryear{}%
2364       \jmlrsubmitted{}%
2365       \jmlrpublished{}%
2366       \jmlrproceedings{ }%
2367     }%
2368     \graphicspath{{\@importdir}}%
2369     \def\InputIfFileExists##1##2##3{%
2370       \IfFileExists{##1}{%
2371         \@org@InputIfFileExists{##1}{##2}{##3}%
2372       }%
2373       {%
2374         \@org@InputIfFileExists{\@importdir##1}{##2}{##3}%
2375       }%
2376     }%
2377     \def\Xprefix{#1}%
2378     \jmlrimporthook

2379     \let\ps@jmlrtps\ps@articlet
2380     \import{\@importdir\@importfile}%
2381     \def\Xprefix{}%
2382   \egroup
2383   \gdef\@shortauthor{}%
2384   \gdef\@shorttitle{}%
2385   \gdef\@firstauthor{}%
2386   \gdef\@jmlr@authors{\@jmlrauthors}%
2387   \gdef\@jmlrauthors{}%
2388   \gdef\@firstsurname{}%

```

```

2389 }
2390 \newcommand{\importarticle}[3][\{%
2391   \ClassError{jmlrbook}{\string\importarticle\space
2392 not permitted outside ‘jmlrpapers’ environment}{\}%
2393 }

```

`\addtocpart` Add a part to the TOC without printing anything in the text (but does a `\cleardoublepage`).

```

2394 \newcommand{\addtocpart}[1]{%
2395   \cleardoublepage
2396   \refstepcounter{tocpart}%
2397   \addtocontents{toc}{\protect\tocpart{#1}}%
2398   \pdfbookmark[-1]{#1}{part.\thetocpart}%
2399 }
2400 \newcounter{tocpart}

```

`\tocpart` Define the appearance of a part in the TOC.

```

2401 \newcommand{\tocpart}[1]{%
2402   \addpenalty{-\@highpenalty}%
2403   \vskip 1.0ex \@plus\p@
2404   \setlength\@tempdima{2.25em}%
2405   \begingroup
2406     \parindent \z@ \rightskip \@pnumwidth
2407     \parfillskip -\@pnumwidth
2408     \leavevmode \large\bfseries
2409     \advance\leftskip\@tempdima
2410     \hskip -\leftskip
2411     #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss \null}\par
2412     \penalty\@highpenalty
2413   \endgroup
2414 }

```

Set up the layout of the chapter headings

```

2415 \setlength{\prechapterskip}{3em}
2416 \setlength{\postchapterskip}{20pt}

```

`ternumberformat`

```

2417 \renewcommand{\chapternumberformat}[1]{%
2418   \Large\bfseries \@chapapp\space#1\par
2419 }

```

`ptertitleformat`

```

2420 \renewcommand{\chaptertitleformat}[1]{%
2421   \Large\bfseries #1}

```

`\chapterformat`

```

2422 \renewcommand*{\chapterformat}{%
2423   \raggedright
2424 }

```



Set up the format of a part in the book (not a part in an article).

`\preparthook`

```
2425 \renewcommand{\preparthook}{\cleardoublepage\null\vfil}
```

`artnumberformat`

```
2426 \renewcommand{\partnumberformat}[1]{%
2427   \Huge\bfseries \@partapp\nobreakspace#1\par\nobreak
2428   \vskip 20\p@
2429 }
```

`\postparthook`

```
2430 \def\postparthook{%
2431   \thispagestyle{empty}%
2432   \vfil\newpage
2433   \null
2434   \thispagestyle{empty}%
2435   \newpage
2436 }
```

`\@curparthead` The heading of the current part

```
2437 \newcommand{\@curparthead}{}
```

`parttitleformat`

```
2438 \renewcommand{\parttitleformat}[1]{#1%
2439   \gdef\@curparthead{\@partapp\space \thepart. #1}%
2440   \@mkboth{\@curparthead}{\@curparthead}%
2441 }
```

`\firstpageno` Change `\firstpageno` to do nothing as the page number will be determined by the book.

```
2442 \renewcommand{\firstpageno}[1]{}
```

`\tocchapterauthor` Add the author of the current chapter to the table of contents.

```
2443 \newcommand{\tocchapterauthor}[1]{%
2444   \addtomaincontents{toc}{\protect\contentsline{chapterauthor}{%
2445     #1}{-}{-}}%
2446 }
```

`\chapterpubauthor` Add the author of an imported prepublished paper to the table of contents. The first argument is the author (or list of authors). The second argument is the reference to the published article.

```
2447 \newcommand{\tocchapterpubauthor}[2]{%
2448   \addtomaincontents{toc}{\protect\contentsline{chapterauthor}{%
2449     #1; #2.}{-}{-}}%
2450 }
```

Set up the formatting in the TOC

```
2451 \renewcommand*\@pnumwidth{2em}
```

`\l@part`    Format for book parts

```
2452 \renewcommand*\l@part[2]{%
2453   \ifnum \c@tocdepth >\m@ne
2454     \addpenalty{-\@highpenalty}%
2455     \vskip 1.0em \@plus\p@
2456     %\setlength\@tempdima{5em}%
2457     \settowidth\@tempdima{\large\bfseries \@partapp\space MM}%
2458     \vbox{%
2459       \pagerule
2460       \begingroup
2461         \parindent \z@ \rightskip \@pnumwidth
2462         \parfillskip -\@pnumwidth
2463         \leavevmode \large\bfseries
2464         \advance\leftskip\@tempdima
2465         \hskip -\leftskip
2466         \renewcommand*\numberline[1]{\hb@xt@ \@tempdima
2467           {\@partapp\space ##1\hfil }}%
2468         #1\nobreak\hfil \nobreak\hb@xt@ \@pnumwidth{\hss
2469           \normalfont\normalsize #2}\par
2470         \penalty\@highpenalty
2471       \endgroup
2472       \pagerule
2473     }%
2474   \fi}
```

`\l@chapter`

```
2475 \renewcommand{\l@chapter}[2]{%
2476   \ifnum\c@tocdepth>\m@ne
2477     \addpenalty{-\@highpenalty}%
2478     \vskip 1.0em \@plus \p@
2479     \setlength\@tempdima{2em}%
2480     \begingroup
2481       \parindent \z@
2482       \rightskip \@pnumwidth
2483       \parfillskip -\@pnumwidth
2484       \leavevmode \large \bfseries
2485       \advance \leftskip \@tempdima
2486       \hskip -\leftskip
2487       \renewcommand*\numberline[1]{\hb@xt@ \@tempdima
2488         {##1\hfil }}%
2489       #1\nobreak \hfil \nobreak \hb@xt@ \@pnumwidth {\hss
2490         \normalfont\normalsize #2}\par
2491       \penalty \@highpenalty
2492     \endgroup
2493   \fi
2494 }
```

`\l@papertitle`

```
2495 \newcommand*\l@papertitle[2]{%
```

```

2496 \ifnum \c@tocdepth >\m@ne
2497 \addpenalty{-\@highpenalty}%
2498 \vskip 1.0em \@plus\p@
2499 \setlength\@tempdima{3em}%
2500 \begingroup
2501 \leavevmode \raggedright\itshape
2502 #1\nobreak\hfill \nobreak\hb@xt@\@pnumwidth{\hss
2503 \normalfont#2}%
2504 \par
2505 \penalty\@highpenalty
2506 \endgroup
2507 \fi
2508 }

```

`\l@chapterauthor`

```

2509 \newcommand*\l@chapterauthor[2]{%
2510 \ifnum \c@tocdepth >\m@ne
2511 \begingroup
2512 \parindent \z@
2513 \rightskip \@pnumwidth
2514 \parfillskip -\@pnumwidth
2515 \leavevmode \raggedright
2516 \parbox{\linewidth-\@pnumwidth}{\raggedright#1\par}%
2517 \par
2518 \endgroup
2519 \fi}

```

`\l@section`

```

2520 \renewcommand*\l@section[2]{%
2521 \ifnum \c@tocdepth >\m@ne
2522 \addpenalty{-\@highpenalty}%
2523 \vskip 1.0em \@plus\p@
2524 \setlength\@tempdima{3em}%
2525 \begingroup
2526 \parindent \z@ \rightskip \@pnumwidth
2527 \parfillskip -\@pnumwidth
2528 \leavevmode \normalsize\mdseries
2529 \advance\leftskip\@tempdima
2530 \hskip -\leftskip
2531 #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
2532 \penalty\@highpenalty
2533 \endgroup
2534 \fi}

```

`\l@subsection`

```

2535 \renewcommand*\l@subsection[2]{%
2536 \ifnum \c@tocdepth >\m@ne
2537 \addpenalty{-\@highpenalty}%

```

```

2538 \vskip 1.0em \@plus\p@
2539 \setlength\@tempdima{3.5em}%
2540 \begingroup
2541 \parindent \z@ \rightskip \@pnumwidth
2542 \parfillskip -\@pnumwidth
2543 \leavevmode \normalsize\mdseries
2544 \advance\leftskip\@tempdima
2545 \hskip -\leftskip
2546 #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
2547 \penalty\@highpenalty
2548 \endgroup
2549 \fi}

```

`\chaptermark`

```

2550 \renewcommand*{\chaptermark}[1]{%
2551 \mkboth{\@curparthead}{\protect\thechapter. #1}%
2552 }

```

Set up page styles

`\firstpagehead`

```

2553 \newcommand{\firstpagehead}{}

```

`\firstpagefoot`

```

2554 \newcommand{\firstpagefoot}{%
2555 \@reprint\hfill\thepage
2556 }

```

`\headfont` Set the header font

```

2557 \newcommand*{\headfont}{\reset@font\small\scshape}%

```

`\footfont` Set the footer font

```

2558 \newcommand*{\footfont}{\reset@font\small\itshape}%

```

`\ps@chplain` Page style for first page of a chapter

```

2559 \newcommand*{\ps@chplain}{%
2560 \let\mkboth\gobbletwo
2561 \renewcommand*{\@oddhead}{\headfont\firstpagehead}%
2562 \renewcommand*{\@evenhead}{}%
2563 \renewcommand*{\@oddfoot}{\footfont\firstpagefoot}%
2564 \renewcommand*{\@evenfoot}{\footfont\thepage\hfill
2565 }%
2566 }
2567 \let\ps@plain\ps@chplain

```

`\ps@article` Page style for the imported articles.

```

2568 \newcommand*{\ps@article}{%
2569 \let\mkboth\gobbletwo

```

```

2570 \renewcommand*{\@oddhead}{\headfont\hfill\@shorttitle}%
2571 \renewcommand*{\@evenhead}{\headfont\@shortauthor\hfill}%
2572 \renewcommand*{\@oddfoot}{\footfont\hfill\thepage}
2573 \renewcommand*{\@evenfoot}{\footfont\thepage\hfill}
2574 }

```

`\ps@articlet` Title page style for imported articles (imported using `\importarticle`)

```

2575 \newcommand*{\ps@articlet}{%
2576 \let\@mkboth\@gobbletwo
2577 \renewcommand*{\@oddhead}{}%
2578 \renewcommand*{\@evenhead}{}%
2579 \renewcommand*{\@oddfoot}{\footfont\hfill\thepage}
2580 \renewcommand*{\@evenfoot}{\footfont\thepage\hfill}
2581 }

```

`\ps@jmlrbook` Page style for book

```

2582 \newcommand*{\ps@jmlrbook}{%
2583 \renewcommand*{\@oddfoot}{\footfont\hfill\thepage}
2584 \renewcommand*{\@evenfoot}{\footfont\thepage\hfill}
2585 \def\@evenhead{\headfont\leftmark\hfill}%
2586 \def\@oddhead{\hfill\headfont\rightmark}%
2587 \let\@mkboth\markboth
2588 \renewcommand*{\sectionmark}[1]{}%
2589 }

```

`\markleft` Provide a command to set just the left header mark.

```

2590 \newcommand*{\markleft}[1]{%
2591 \begingroup
2592 \let\label\relax
2593 \let\index\relax
2594 \let\glossary\relax
2595 \expandafter\@markleft\@themark{#1}%
2596 \@temptokena
2597 \expandafter{\@themark}%
2598 \mark{\the\@temptokena}
2599 \endgroup
2600 \if@nobreak
2601 \ifvmode
2602 \nobreak
2603 \fi
2604 \fi
2605 }
2606 \newcommand*{\@markleft}[3]{%
2607 \@temptokena{#2}%
2608 \unrestored@protected@xdef\@themark{#{3}{\the\@temptokena}}
2609 }

```

`morefrontmatter`

```

2610 \renewcommand*{\morefrontmatter}{\pagestyle{jmlrbook}}

```

```

2611 \def\chaptermark##1{%
2612   \@mkboth{##1\hfill}{\hfill##1}}%
2613 }

```

\moremainmatter

```

2614 \renewcommand*{\moremainmatter}{\pagestyle{jmlrbook}}%
2615 \def\chaptermark##1{%
2616   \@mkboth{\@curparthead}{\protect\thechapter. ##1}%
2617   }%
2618 }

```

\bibsection Set the bibliography headings in the articles

```

2619 \renewcommand*\bibsection{\section*{\refname}}

```

Set up the book commands:

```

2620 \jmlrbookcommands

```

In the event that authors have used different versions of algorithm2e, define old command names.

```

2621 \providecommand*\SetNoLine{\SetAlgoNoLine}
2622 \providecommand*\SetVline{\SetAlgoVlined}
2623 \providecommand*\Setvlineskip{\SetVlineSkip}
2624 \providecommand*\SetLine{\SetAlgoLined}
2625 \providecommand*\dontprintsemicolon{\DontPrintSemicolon}
2626 \providecommand*\printsemicolon{\PrintSemicolon}
2627 \providecommand*\incmargin{\IncMargin}
2628 \providecommand*\decmargin[1]{\DecMargin{-#1}}
2629 \providecommand*\setnlskip{\SetNlSkip}
2630 \providecommand*\Setnlskip{\SetNlSkip}
2631 \providecommand*\setalcapskip{\SetAlCapSkip}
2632 \providecommand*\setalcaphskip{\SetAlCapHSkip}
2633 \providecommand*\nlsty{\NlSty}
2634 \providecommand*\Setnlsty{\SetNlSty}
2635 \providecommand*\linesnumbered{\LinesNumbered}
2636 \providecommand*\linesnotnumbered{\LinesNotNumbered}
2637 \providecommand*\linesnumberedhidden{\LinesNumberedHidden}
2638 \providecommand*\showln{\ShowLn}
2639 \providecommand*\showlnlabel{\ShowLnLabel}
2640 \providecommand*\nocaptionofalgo{\NoCaptionOfAlgo}
2641 \providecommand*\restorecaptionofalgo{\RestoreCaptionOfAlgo}
2642 \providecommand*\restylealgo{\RestyleAlgo}
2643 \providecommand*\Titleofalgo{\TitleOfAlgo}

```

# Change History

1.06 (2010-06-17)	
\iftablecaptiontop: new .....	47
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	commands etc .....
	97
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	57
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	61
	\subfigure: Added check to determine
	whether the subfigure caption is wider
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General: added old algorithm2e	
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