

The Org-article LaTeX class

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1 Org-article class

This file uses Babel to tangle a \LaTeX class named `org-article.cls`. The class provides all of the \LaTeX packages used by the Org-mode \LaTeX exporter. The class accepts numerous options, which the user can set either in `.emacs`, for default use with all org-article exports, or within the Org-mode file using `#+LaTeX_CLASS_OPTIONS:`.

1.1 The class file

The \LaTeX class file has six standard parts:

- The identification part
- The initial code part
- The declaration of options part
- The execution of options part
- The package loading part
- The class code part

org-article() ≡

```
% Identification part
\NeedsTeXFormat{LaTeX2e}
\ProvidesClass{org-article}[2010/09/11 0.1 (TSD)]
% End of the identification part
%
% Initial code part
% General programming for class file
\RequirePackage{ifthen}
\RequirePackage{calc}
\RequirePackage{ifpdf}

% The standard Org-mode packages
\newboolean{nofontenc}
\newboolean{nofixltx2e}
```

```
\newboolean{nographicx}  
\newboolean{nolongtable}  
\newboolean{nofloat}  
\newboolean{nowrapfig}  
\newboolean{nosoul}  
% \newboolean{notlenc}  
\newboolean{notextcomp}  
\newboolean{nomarvosym}  
\newboolean{nowasysym}  
\newboolean{nolatexsym}  
\newboolean{noamssymb}  
\newboolean{nohyperref}
```

% Base classes

```
\newboolean{koma}  
\newboolean{article}
```

% Font options

```
\newboolean{times}  
\newboolean{garamond}  
\newboolean{palatino}  
\newboolean{utopia}
```

```

\newboolean{charter}

% Other packages
\newboolean{microtype}
\newboolean{paralist}
\newboolean{setspace}
\newboolean{doublespace}
% \newboolean{topcapt}
\newboolean{listings}
\newboolean{color}

% End of initial code part
% Declaration of options part
% Org-mode options
\DeclareOption{nofontenc}{\setboolean{nofontenc}{true}}
\DeclareOption{nofixltx2e}{\setboolean{nofixltx2e}{true}}
\DeclareOption{nographicx}{\setboolean{nographicx}{true}}
\DeclareOption{nolongtable}{\setboolean{nolongtable}{true}}
\DeclareOption{nofloat}{\setboolean{nofloat}{true}}
\DeclareOption{nowrapfig}{\setboolean{nowrapfig}{true}}
\DeclareOption{nosoul}{\setboolean{nosoul}{true}}
% \DeclareOption{notlenc}{\setboolean{notlenc}{true}}

```

```
\DeclareOption{notextcomp}{\setboolean{notextcomp}{true}}
\DeclareOption{nomarvosym}{\setboolean{nomarvosym}{true}}
\DeclareOption{nowasysym}{\setboolean{nowasysym}{true}}
\DeclareOption{nolatexsym}{\setboolean{nolatexsym}{true}}
\DeclareOption{noamssymb}{\setboolean{noamssymb}{true}}
\DeclareOption{nohyperref}{\setboolean{nohyperref}{true}}
```

% Font options

```
\DeclareOption{times}{\setboolean{times}{true}}
\DeclareOption{garamond}{\setboolean{garamond}{true}}
\DeclareOption{palatino}{\setboolean{palatino}{true}}
\DeclareOption{utopia}{\setboolean{utopia}{true}}
\DeclareOption{charter}{\setboolean{charter}{true}}
```

% Base class option

```
\DeclareOption{koma}{\setboolean{koma}{true}}
\DeclareOption{article}{\setboolean{article}{true}}
```

% Other package options

```
\DeclareOption{microtype}{\setboolean{microtype}{true}}
\DeclareOption{paralist}{\setboolean{paralist}{true}}
\DeclareOption{setspace}{\setboolean{setspace}{true}}
```

```

\DeclareOption{doublespace}{\setboolean{doublespace}{true}}
% \DeclareOption{topcapt}{\setboolean{topcapt}{true}}
\DeclareOption{listings}{\setboolean{listings}{true}}
\DeclareOption{color}{\setboolean{color}{true}}

% Base class
\DeclareOption{\PassOptionsToClass{CurrentOption}{scrartcl}}
\DeclareOption{\PassOptionsToClass{CurrentOption}{article}}

% Pass options to packages
% \DeclareOption{%
%   \PassOptionsToPackage{CurrentOption}{inputenc}
% }
% \DeclareOption{%
%   \PassOptionsToPackage{CurrentOption}{fontenc}
% }
\DeclareOption{anchorcolor}{%
  \PassOptionsToPackage{anchorcolor}{hyperref}}
\DeclareOption{backref}{%
  \PassOptionsToPackage{backref}{hyperref}}
\DeclareOption{baseurl}{%
  \PassOptionsToPackage{baseurl}{hyperref}}

```

```
\DeclareOption{bookmarks}{%
  \PassOptionsToPackage{bookmarks}{hyperref}}
\DeclareOption{bookmarksnumbered}{%
  \PassOptionsToPackage{bookmarksnumbered}{hyperref}}
\DeclareOption{bookmarksopen}{%
  \PassOptionsToPackage{bookmarksopen}{hyperref}}
\DeclareOption{bookmarksopenlevel}{%
  \PassOptionsToPackage{bookmarksopenlevel}{hyperref}}
\DeclareOption{bookmarkstyle}{%
  \PassOptionsToPackage{bookmarkstyle}{hyperref}}
\DeclareOption{breaklinks}{%
  \PassOptionsToPackage{breaklinks}{hyperref}}
\DeclareOption{CJKbookmarks}{%
  \PassOptionsToPackage{CJKbookmarks}{hyperref}}
\DeclareOption{citebordercolor}{%
  \PassOptionsToPackage{citebordercolor}{hyperref}}
\DeclareOption{citecolor}{%
  \PassOptionsToPackage{citecolor}{hyperref}}
\DeclareOption{colorlinks}{%
  \PassOptionsToPackage{colorlinks}{hyperref}}
\DeclareOption{draft}{%
  \PassOptionsToPackage{draft}{hyperref}}
```



```

\DeclareOption{dvipdfm}{%
  \PassOptionsToPackage{dvipdfm}{hyperref}}
\DeclareOption{dvipdfmx}{%
  \PassOptionsToPackage{dvipdfmx}{hyperref}}
\DeclareOption{dvips}{%
  \PassOptionsToPackage{dvips}{hyperref}}
\DeclareOption{dvipsone}{%
  \PassOptionsToPackage{dvipsone}{hyperref}}
\DeclareOption{dviwindo}{%
  \PassOptionsToPackage{dviwindo}{hyperref}}
\DeclareOption{encap}{%
  \PassOptionsToPackage{encap}{hyperref}}
\DeclareOption{extension}{%
  \PassOptionsToPackage{extension}{hyperref}}
\DeclareOption{filebordercolor}{%
  \PassOptionsToPackage{filebordercolor}{hyperref}}
\DeclareOption{filecolor}{%
  \PassOptionsToPackage{filecolor}{hyperref}}
\DeclareOption{final}{%
  \PassOptionsToPackage{final}{hyperref}}
\DeclareOption{frenchlinks}{%
  \PassOptionsToPackage{frenchlinks}{hyperref}}

```

```

\DeclareOption{hyperfigures}{%
  \PassOptionsToPackage{hyperfigures}{hyperref}}
\DeclareOption{hyperfootnotes}{%
  \PassOptionsToPackage{hyperfootnotes}{hyperref}}
\DeclareOption{hyperindex}{%
  \PassOptionsToPackage{hyperindex}{hyperref}}
\DeclareOption{hypertex}{%
  \PassOptionsToPackage{hypertex}{hyperref}}
\DeclareOption{hypertextnames}{%
  \PassOptionsToPackage{hypertextnames}{hyperref}}
\DeclareOption{implicit}{%
  \PassOptionsToPackage{implicit}{hyperref}}
\DeclareOption{latex2html}{%
  \PassOptionsToPackage{latex2html}{hyperref}}
\DeclareOption{legalpaper}{%
  \PassOptionsToPackage{legalpaper}{hyperref}}
\DeclareOption{letterpaper}{%
  \PassOptionsToPackage{letterpaper}{hyperref}}
\DeclareOption{linkbordercolor}{%
  \PassOptionsToPackage{linkbordercolor}{hyperref}}
\DeclareOption{linkcolor}{%
  \PassOptionsToPackage{linkcolor}{hyperref}}

```

```
\DeclareOption{linktocpage}{%  
  \PassOptionsToPackage{linktocpage}{hyperref}}  
\DeclareOption{menubordercolor}{%  
  \PassOptionsToPackage{menubordercolor}{hyperref}}  
\DeclareOption{menucolor}{%  
  \PassOptionsToPackage{menucolor}{hyperref}}  
\DeclareOption{nativepdf}{%  
  \PassOptionsToPackage{nativepdf}{hyperref}}  
\DeclareOption{naturalnames}{%  
  \PassOptionsToPackage{naturalnames}{hyperref}}  
\DeclareOption{nesting}{%  
  \PassOptionsToPackage{nesting}{hyperref}}  
\DeclareOption{pageanchor}{%  
  \PassOptionsToPackage{pageanchor}{hyperref}}  
\DeclareOption{pagebackref}{%  
  \PassOptionsToPackage{pagebackref}{hyperref}}  
\DeclareOption{pdfauthor}{%  
  \PassOptionsToPackage{pdfauthor}{hyperref}}  
\DeclareOption{pdfborder}{%  
  \PassOptionsToPackage{pdfborder}{hyperref}}  
\DeclareOption{pdfcenterwindow}{%  
  \PassOptionsToPackage{pdfcenterwindow}{hyperref}}
```

```
\DeclareOption{pdfcreator}{%  
  \PassOptionsToPackage{pdfcreator}{hyperref}}  
\DeclareOption{pdfdirection}{%  
  \PassOptionsToPackage{pdfdirection}{hyperref}}  
\DeclareOption{pdfdisplaydoctitle}{%  
  \PassOptionsToPackage{pdfdisplaydoctitle}{hyperref}}  
\DeclareOption{pdfduplex}{%  
  \PassOptionsToPackage{pdfduplex}{hyperref}}  
\DeclareOption{pdffitwindow}{%  
  \PassOptionsToPackage{pdffitwindow}{hyperref}}  
\DeclareOption{pdfhighlight}{%  
  \PassOptionsToPackage{pdfhighlight}{hyperref}}  
\DeclareOption{pdfinfo}{%  
  \PassOptionsToPackage{pdfinfo}{hyperref}}  
\DeclareOption{pdfkeywords}{%  
  \PassOptionsToPackage{pdfkeywords}{hyperref}}  
\DeclareOption{pdflang}{%  
  \PassOptionsToPackage{pdflang}{hyperref}}  
\DeclareOption{pdfmark}{%  
  \PassOptionsToPackage{pdfmark}{hyperref}}  
\DeclareOption{pdfmenubar}{%  
  \PassOptionsToPackage{pdfmenubar}{hyperref}}
```

```
\DeclareOption{pdfnewwindow}{%  
  \PassOptionsToPackage{pdfnewwindow}{hyperref}}  
\DeclareOption{pdfnonfullscreenpagemode}{%  
  \PassOptionsToPackage{pdfnonfullscreenpagemode}{hyperref}}  
\DeclareOption{pdfnumcopies}{%  
  \PassOptionsToPackage{pdfnumcopies}{hyperref}}  
\DeclareOption{pdfpagelayout}{%  
  \PassOptionsToPackage{pdfpagelayout}{hyperref}}  
\DeclareOption{pdfpagemode}{%  
  \PassOptionsToPackage{pdfpagemode}{hyperref}}  
\DeclareOption{pdfpagelabels}{%  
  \PassOptionsToPackage{pdfpagelabels}{hyperref}}  
\DeclareOption{pdfpagescrop}{%  
  \PassOptionsToPackage{pdfpagescrop}{hyperref}}  
\DeclareOption{pdfpagetransition}{%  
  \PassOptionsToPackage{pdfpagetransition}{hyperref}}  
\DeclareOption{pdfpicktraybypdfsize}{%  
  \PassOptionsToPackage{pdfpicktraybypdfsize}{hyperref}}  
\DeclareOption{pdfprintarea}{%  
  \PassOptionsToPackage{pdfprintarea}{hyperref}}  
\DeclareOption{pdfprintclip}{%  
  \PassOptionsToPackage{pdfprintclip}{hyperref}}
```

```
\DeclareOption{pdfprintpagerange}{%  
  \PassOptionsToPackage{pdfprintpagerange}{hyperref}}  
\DeclareOption{pdfprintscaling}{%  
  \PassOptionsToPackage{pdfprintscaling}{hyperref}}  
\DeclareOption{pdfproducer}{%  
  \PassOptionsToPackage{pdfproducer}{hyperref}}  
\DeclareOption{pdfstartpage}{%  
  \PassOptionsToPackage{pdfstartview}{hyperref}}  
\DeclareOption{pdfsubject}{%  
  \PassOptionsToPackage{pdfsubject}{hyperref}}  
\DeclareOption{pdftex}{%  
  \PassOptionsToPackage{pdftex}{hyperref}}  
\DeclareOption{pdftitle}{%  
  \PassOptionsToPackage{pdftitle}{hyperref}}  
\DeclareOption{pdftoolbar}{%  
  \PassOptionsToPackage{pdftoolbar}{hyperref}}  
\DeclareOption{pdftrapped}{%  
  \PassOptionsToPackage{pdftrapped}{hyperref}}  
\DeclareOption{pdfview}{%  
  \PassOptionsToPackage{pdfview}{hyperref}}  
\DeclareOption{pdfviewarea}{%  
  \PassOptionsToPackage{pdfviewarea}{hyperref}}
```

```
\DeclareOption{pdfviewclip}{%  
  \PassOptionsToPackage{pdfviewclip}{hyperref}}  
\DeclareOption{pdfwindowui}{%  
  \PassOptionsToPackage{pdfwindowui}{hyperref}}  
\DeclareOption{plainpages}{%  
  \PassOptionsToPackage{plainpages}{hyperref}}  
\DeclareOption{ps2pdf}{%  
  \PassOptionsToPackage{ps2pdf}{hyperref}}  
\DeclareOption{raiselinks}{%  
  \PassOptionsToPackage{raiselinks}{hyperref}}  
\DeclareOption{runbordercolor}{%  
  \PassOptionsToPackage{runbordercolor}{hyperref}}  
\DeclareOption{runcolor}{%  
  \PassOptionsToPackage{runcolor}{hyperref}}  
\DeclareOption{setpagesize}{%  
  \PassOptionsToPackage{setpagesize}{hyperref}}  
\DeclareOption{tex4ht}{%  
  \PassOptionsToPackage{tex4ht}{hyperref}}  
\DeclareOption{textures}{%  
  \PassOptionsToPackage{textures}{hyperref}}  
\DeclareOption{unicode}{%  
  \PassOptionsToPackage{unicode}{hyperref}}
```

```

\DeclareOption{urlbordercolor}{%
  \PassOptionsToPackage{urlbordercolor}{hyperref}}
\DeclareOption{urlcolor}{%
  \PassOptionsToPackage{urlcolor}{hyperref}}
\DeclareOption{verbose}{%
  \PassOptionsToPackage{verbose}{hyperref}}
\DeclareOption{vtex}{%
  \PassOptionsToPackage{vtex}{hyperref}}
\DeclareOption{xetex}{%
  \PassOptionsToPackage{xetex}{hyperref}}
% \DeclareOption{%
%   \PassOptionsToPackage{\CurrentOption}{listings}
% }

% End of declaration of options part
% Execution of options part

\ProcessOptions\relax

% End of execution of options part
% Package loading part

```



```

% Base class
\ifthenelse{\boolean{koma}}
{%
  \LoadClass{scrartcl}%
}%
{%
\LoadClass{article}%
}

% Org-mode default
\ifthenelse{\boolean{nofixltx2e}}
{}
{\RequirePackage{fixltx2e}}
\ifthenelse{\boolean{nographicx}}
{}
{\RequirePackage{graphicx}}
\ifthenelse{\boolean{nolongtable}}
{}
{\RequirePackage{longtable}}
\ifthenelse{\boolean{nofloat}}
{}
{\RequirePackage{float}}

```

```

\ifthenelse{\boolean{nowrapfig}}
{}
{\RequirePackage{wrapfig}}
\ifthenelse{\boolean{nosoul}}
{}
{\RequirePackage{soul}}
\ifthenelse{\boolean{nofontenc}}
{}
{\RequirePackage[T1]{fontenc}} % with T1 option for symbol packages
\ifthenelse{\boolean{notextcomp}}
{}
{\RequirePackage{textcomp}}
\ifthenelse{\boolean{nomarvosym}}
{}
{\RequirePackage{marvosym}}
\ifthenelse{\boolean{nowasysym}}
{}
{\RequirePackage[nointegrals]{wasysym}}
\ifthenelse{\boolean{nolatexsym}}
{}
{\RequirePackage{latexsym}}
\ifthenelse{\boolean{noamssymb}}

```

```

{}
{\RequirePackage{amssymb}}
\ifthenelse{\boolean{nohyperref}}
{}
{\RequirePackage{hyperref}}

% Other packages
% Set the standard LaTeX list environments to their compact counterparts
\ifthenelse{\boolean{paralist}}
{
  {%
    \RequirePackage{paralist}
    \let\itemize\compactitem%
    \let\description\compactdesc%
    \let\enumerate\compactenum%
  }
}
\ifthenelse{\boolean{microtype}}
{
  {%
    \ifpdf
      \RequirePackage{microtype}
    \fi}%
}

```

```

\ifthenelse{\boolean{setspace}}
{\RequirePackage{setspace}}
{}
% \ifthenelse{\boolean{topcapt}}
%   {\RequirePackage{topcapt}}
%   {}
\ifthenelse{\boolean{listings}}
{\RequirePackage{listings}}
{}
\ifthenelse{\boolean{color}}
{\RequirePackage{color}}
{}

% Font packages
\ifthenelse{\boolean{times}}
{%
  \ifpdf
  \RequirePackage[T1]{fontenc}
  \RequirePackage{mathptmx}
  \RequirePackage[scaled=.90]{helvet}
  \RequirePackage{courier}
  \fi}%

```

```

{}
\ifthenelse{\boolean{garamond}}
{%
  \ifpdf
    \RequirePackage[T1]{fontenc}
    \RequirePackage[urw-garamond]{mathdesign}
    \RequirePackage[scaled]{berasans}
    \RequirePackage{inconsolata} % tt
    \linespread{1.0609}
    \fi}%
{}
\ifthenelse{\boolean{palatino}}
{%
  \ifpdf
    \RequirePackage[T1]{fontenc}
    \RequirePackage{mathpazo}%
    \linespread{1.05}%
    \RequirePackage[scaled]{helvet}%
    \RequirePackage{courier} % tt
    \fi}%
{}
\ifthenelse{\boolean{charter}}

```

```

{%
  \ifpdf
    \RequirePackage[T1]{fontenc}
    \RequirePackage[bitstream-charter]{mathdesign}
    \RequirePackage[scaled=.90]{helvet}
    \RequirePackage{courier} % tt
  \fi}%
{}
\ifthenelse{\boolean{utopia}}
{%
  \ifpdf
    \RequirePackage[T1]{fontenc}
    \RequirePackage[adobe-utopia]{mathdesign}
    \RequirePackage[scaled]{berasans}
    \RequirePackage{inconsolata} % tt
  \fi}%
{}

% End of package loading part
%
% Class code part
\ifthenelse{\boolean{setspace}}{%

```

```

{\ifthenelse{\boolean{doublespace}}}%
{\doublespacing}%
{\singlespacing}}%
}%
\ifthenelse{\boolean{listings}}%
{\ifthenelse{\boolean{color}}%
  {%
    \definecolor{keywords}{RGB}{255,0,90}%
    \definecolor{comments}{RGB}{60,179,113}%
    \definecolor{fore}{RGB}{249,242,215}%
    \definecolor{back}{RGB}{231,231,231}%
    \lstset{%
      basicstyle=\color{black},%
      keywordstyle=\color{keywords},%
      commentstyle=\color{comments},%
      backgroundcolor=\color{back}}%
    }%
  }%
{\lstdefinlanguage{org}
  {morecomment=[1]\#}%
}
\lstset{language=org}}%

```

```
{}%  
% End of class code part
```

1.1.1 Identification part

identification-part() ≡

```
% Identification part  
\NeedsTeXFormat{LaTeX2e}  
\ProvidesClass{org-article}[2010/09/11 0.1 (TSD)]  
% End of the identification part  
%
```

1.1.2 Initial code part

The initial code part loads packages needed to process the class file and declares booleans for each of the class options. Options defined by the base class, either the standard `article.cls` or the Koma class `srcartcl.cls`, are available by default and don't have to be declared here.

initial-code-part() ≡

```
% Initial code part  
% General programming for class file  
\RequirePackage{ifthen}
```



```

\RequirePackage{calc}
\RequirePackage{ifpdf}

% The standard Org-mode packages
\newboolean{nofontenc}
\newboolean{nofixltx2e}
\newboolean{nographicx}
\newboolean{nolongtable}
\newboolean{nofloat}
\newboolean{nowrapfig}
\newboolean{nosoul}
% \newboolean{notlenc}
\newboolean{notextcomp}
\newboolean{nomarvosym}
\newboolean{nowasysym}
\newboolean{nolatexsym}
\newboolean{noamssymb}
\newboolean{nohyperref}

% Base classes
\newboolean{koma}
\newboolean{article}

```

```

% Font options
\newboolean{times}
\newboolean{garamond}
\newboolean{palatino}
\newboolean{utopia}
\newboolean{charter}

% Other packages
\newboolean{microtype}
\newboolean{paralist}
\newboolean{setspace}
\newboolean{doublespace}
% \newboolean{topcapt}
\newboolean{listings}
\newboolean{color}

% End of initial code part

```

1.1.3 Declaration of options part

declaration-of-options-part() \equiv

% Declaration of options part

% Org-mode options

```
\DeclareOption{nofontenc}{}\setboolean{nofontenc}{true}}
\DeclareOption{nofixltx2e}{}\setboolean{nofixltx2e}{true}}
\DeclareOption{nographicx}{}\setboolean{nographicx}{true}}
\DeclareOption{nolongtable}{}\setboolean{nolongtable}{true}}
\DeclareOption{nofloat}{}\setboolean{nofloat}{true}}
\DeclareOption{nowrapfig}{}\setboolean{nowrapfig}{true}}
\DeclareOption{nosoul}{}\setboolean{nosoul}{true}}
% \DeclareOption{notlenc}{}\setboolean{notlenc}{true}}
\DeclareOption{nottextcomp}{}\setboolean{nottextcomp}{true}}
\DeclareOption{nomarvosym}{}\setboolean{nomarvosym}{true}}
\DeclareOption{nowasysym}{}\setboolean{nowasysym}{true}}
\DeclareOption{nolatexsym}{}\setboolean{nolatexsym}{true}}
\DeclareOption{noamssymb}{}\setboolean{noamssymb}{true}}
\DeclareOption{nohyperref}{}\setboolean{nohyperref}{true}}
```

% Font options

```
\DeclareOption{times}{}\setboolean{times}{true}}
\DeclareOption{garamond}{}\setboolean{garamond}{true}}
\DeclareOption{palatino}{}\setboolean{palatino}{true}}
\DeclareOption{utopia}{}\setboolean{utopia}{true}}
```

```

\DeclareOption{charter}{\setboolean{charter}{true}}

% Base class option
\DeclareOption{koma}{\setboolean{koma}{true}}
\DeclareOption{article}{\setboolean{article}{true}}

% Other package options
\DeclareOption{microtype}{\setboolean{microtype}{true}}
\DeclareOption{paralist}{\setboolean{paralist}{true}}
\DeclareOption{setspace}{\setboolean{setspace}{true}}
\DeclareOption{doublespace}{\setboolean{doublespace}{true}}
% \DeclareOption{topcapt}{\setboolean{topcapt}{true}}
\DeclareOption{listings}{\setboolean{listings}{true}}
\DeclareOption{color}{\setboolean{color}{true}}

% Base class
\DeclareOption{\PassOptionsToClass{\CurrentOption}{scrartcl}}
\DeclareOption{\PassOptionsToClass{\CurrentOption}{article}}

% Pass options to packages
% \DeclareOption{%
%   \PassOptionsToPackage{\CurrentOption}{inputenc}

```

```

% }
% \DeclareOption {%
%   \PassOptionsToPackage{\CurrentOption}{fontenc}
% }
\DeclareOption{anchorcolor}{%
  \PassOptionsToPackage{anchorcolor}{hyperref}}
\DeclareOption{backref}{%
  \PassOptionsToPackage{backref}{hyperref}}
\DeclareOption{baseurl}{%
  \PassOptionsToPackage{baseurl}{hyperref}}
\DeclareOption{bookmarks}{%
  \PassOptionsToPackage{bookmarks}{hyperref}}
\DeclareOption{bookmarksnumbered}{%
  \PassOptionsToPackage{bookmarksnumbered}{hyperref}}
\DeclareOption{bookmarksopen}{%
  \PassOptionsToPackage{bookmarksopen}{hyperref}}
\DeclareOption{bookmarksopenlevel}{%
  \PassOptionsToPackage{bookmarksopenlevel}{hyperref}}
\DeclareOption{bookmarkstype}{%
  \PassOptionsToPackage{bookmarkstype}{hyperref}}
\DeclareOption{breaklinks}{%
  \PassOptionsToPackage{breaklinks}{hyperref}}

```

```
\DeclareOption{CJKbookmarks}{%  
  \PassOptionsToPackage{CJKbookmarks}{hyperref}}  
\DeclareOption{citebordercolor}{%  
  \PassOptionsToPackage{citebordercolor}{hyperref}}  
\DeclareOption{citecolor}{%  
  \PassOptionsToPackage{citecolor}{hyperref}}  
\DeclareOption{colorlinks}{%  
  \PassOptionsToPackage{colorlinks}{hyperref}}  
\DeclareOption{draft}{%  
  \PassOptionsToPackage{draft}{hyperref}}  
\DeclareOption{dvipdfm}{%  
  \PassOptionsToPackage{dvipdfm}{hyperref}}  
\DeclareOption{dvipdfmx}{%  
  \PassOptionsToPackage{dvipdfmx}{hyperref}}  
\DeclareOption{dvips}{%  
  \PassOptionsToPackage{dvips}{hyperref}}  
\DeclareOption{dvipsone}{%  
  \PassOptionsToPackage{dvipsone}{hyperref}}  
\DeclareOption{dviwindo}{%  
  \PassOptionsToPackage{dviwindo}{hyperref}}  
\DeclareOption{encap}{%  
  \PassOptionsToPackage{encap}{hyperref}}
```

```

\DeclareOption{extension}{%
  \PassOptionsToPackage{extension}{hyperref}}
\DeclareOption{filebordercolor}{%
  \PassOptionsToPackage{filebordercolor}{hyperref}}
\DeclareOption{filecolor}{%
  \PassOptionsToPackage{filecolor}{hyperref}}
\DeclareOption{final}{%
  \PassOptionsToPackage{final}{hyperref}}
\DeclareOption{frenchlinks}{%
  \PassOptionsToPackage{frenchlinks}{hyperref}}
\DeclareOption{hyperfigures}{%
  \PassOptionsToPackage{hyperfigures}{hyperref}}
\DeclareOption{hyperfootnotes}{%
  \PassOptionsToPackage{hyperfootnotes}{hyperref}}
\DeclareOption{hyperindex}{%
  \PassOptionsToPackage{hyperindex}{hyperref}}
\DeclareOption{hypertex}{%
  \PassOptionsToPackage{hypertex}{hyperref}}
\DeclareOption{hypertextnames}{%
  \PassOptionsToPackage{hypertextnames}{hyperref}}
\DeclareOption{implicit}{%
  \PassOptionsToPackage{implicit}{hyperref}}

```

```

\DeclareOption{latex2html}{%
  \PassOptionsToPackage{latex2html}{hyperref}}
\DeclareOption{legalpaper}{%
  \PassOptionsToPackage{legalpaper}{hyperref}}
\DeclareOption{letterpaper}{%
  \PassOptionsToPackage{letterpaper}{hyperref}}
\DeclareOption{linkbordercolor}{%
  \PassOptionsToPackage{linkbordercolor}{hyperref}}
\DeclareOption{linkcolor}{%
  \PassOptionsToPackage{linkcolor}{hyperref}}
\DeclareOption{linktocpage}{%
  \PassOptionsToPackage{linktocpage}{hyperref}}
\DeclareOption{menubordercolor}{%
  \PassOptionsToPackage{menubordercolor}{hyperref}}
\DeclareOption{menucolor}{%
  \PassOptionsToPackage{menucolor}{hyperref}}
\DeclareOption{nativepdf}{%
  \PassOptionsToPackage{nativepdf}{hyperref}}
\DeclareOption{naturalnames}{%
  \PassOptionsToPackage{naturalnames}{hyperref}}
\DeclareOption{nesting}{%
  \PassOptionsToPackage{nesting}{hyperref}}

```



```
\DeclareOption{pageanchor}{%
  \PassOptionsToPackage{pageanchor}{hyperref}}
\DeclareOption{pagebackref}{%
  \PassOptionsToPackage{pagebackref}{hyperref}}
\DeclareOption{pdfauthor}{%
  \PassOptionsToPackage{pdfauthor}{hyperref}}
\DeclareOption{pdfborder}{%
  \PassOptionsToPackage{pdfborder}{hyperref}}
\DeclareOption{pdfcenterwindow}{%
  \PassOptionsToPackage{pdfcenterwindow}{hyperref}}
\DeclareOption{pdfcreator}{%
  \PassOptionsToPackage{pdfcreator}{hyperref}}
\DeclareOption{pdfdirection}{%
  \PassOptionsToPackage{pdfdirection}{hyperref}}
\DeclareOption{pdfdisplaydoctitle}{%
  \PassOptionsToPackage{pdfdisplaydoctitle}{hyperref}}
\DeclareOption{pdfduplex}{%
  \PassOptionsToPackage{pdfduplex}{hyperref}}
\DeclareOption{pdfffitwindow}{%
  \PassOptionsToPackage{pdfffitwindow}{hyperref}}
\DeclareOption{pdfhighlight}{%
  \PassOptionsToPackage{pdfhighlight}{hyperref}}
```

```
\DeclareOption{pdftinfo}{%
  \PassOptionsToPackage{pdftinfo}{hyperref}}
\DeclareOption{pdfkeywords}{%
  \PassOptionsToPackage{pdfkeywords}{hyperref}}
\DeclareOption{pdflang}{%
  \PassOptionsToPackage{pdflang}{hyperref}}
\DeclareOption{pdfmark}{%
  \PassOptionsToPackage{pdfmark}{hyperref}}
\DeclareOption{pdfmenubar}{%
  \PassOptionsToPackage{pdfmenubar}{hyperref}}
\DeclareOption{pdfnewwindow}{%
  \PassOptionsToPackage{pdfnewwindow}{hyperref}}
\DeclareOption{pdfnonfullscreenpagemode}{%
  \PassOptionsToPackage{pdfnonfullscreenpagemode}{hyperref}}
\DeclareOption{pdfnumcopies}{%
  \PassOptionsToPackage{pdfnumcopies}{hyperref}}
\DeclareOption{pdfpagelayout}{%
  \PassOptionsToPackage{pdfpagelayout}{hyperref}}
\DeclareOption{pdfpagemode}{%
  \PassOptionsToPackage{pdfpagemode}{hyperref}}
\DeclareOption{pdfpagelabels}{%
  \PassOptionsToPackage{pdfpagelabels}{hyperref}}
```

```
\DeclareOption{pdfpagescrop}{%  
  \PassOptionsToPackage{pdfpagescrop}{hyperref}}  
\DeclareOption{pdfpagetransition}{%  
  \PassOptionsToPackage{pdfpagetransition}{hyperref}}  
\DeclareOption{pdfpicktraybypdfsize}{%  
  \PassOptionsToPackage{pdfpicktraybypdfsize}{hyperref}}  
\DeclareOption{pdfprintarea}{%  
  \PassOptionsToPackage{pdfprintarea}{hyperref}}  
\DeclareOption{pdfprintclip}{%  
  \PassOptionsToPackage{pdfprintclip}{hyperref}}  
\DeclareOption{pdfprintpagerange}{%  
  \PassOptionsToPackage{pdfprintpagerange}{hyperref}}  
\DeclareOption{pdfprintscaling}{%  
  \PassOptionsToPackage{pdfprintscaling}{hyperref}}  
\DeclareOption{pdfproducer}{%  
  \PassOptionsToPackage{pdfproducer}{hyperref}}  
\DeclareOption{pdfstartpage}{%  
  \PassOptionsToPackage{pdfstartview}{hyperref}}  
\DeclareOption{pdfsubject}{%  
  \PassOptionsToPackage{pdfsubject}{hyperref}}  
\DeclareOption{pdftex}{%  
  \PassOptionsToPackage{pdftex}{hyperref}}
```

```

\DeclareOption{pdftitle}{%
  \PassOptionsToPackage{pdftitle}{hyperref}}
\DeclareOption{pdftoolbar}{%
  \PassOptionsToPackage{pdftoolbar}{hyperref}}
\DeclareOption{pdftrapped}{%
  \PassOptionsToPackage{pdftrapped}{hyperref}}
\DeclareOption{pdfview}{%
  \PassOptionsToPackage{pdfview}{hyperref}}
\DeclareOption{pdfviewarea}{%
  \PassOptionsToPackage{pdfviewarea}{hyperref}}
\DeclareOption{pdfviewclip}{%
  \PassOptionsToPackage{pdfviewclip}{hyperref}}
\DeclareOption{pdfwindowui}{%
  \PassOptionsToPackage{pdfwindowui}{hyperref}}
\DeclareOption{plainpages}{%
  \PassOptionsToPackage{plainpages}{hyperref}}
\DeclareOption{ps2pdf}{%
  \PassOptionsToPackage{ps2pdf}{hyperref}}
\DeclareOption{raiselinks}{%
  \PassOptionsToPackage{raiselinks}{hyperref}}
\DeclareOption{runbordercolor}{%
  \PassOptionsToPackage{runbordercolor}{hyperref}}

```

```

\DeclareOption{runcolor}{%
  \PassOptionsToPackage{runcolor}{hyperref}}
\DeclareOption{setpagesize}{%
  \PassOptionsToPackage{setpagesize}{hyperref}}
\DeclareOption{tex4ht}{%
  \PassOptionsToPackage{tex4ht}{hyperref}}
\DeclareOption{textures}{%
  \PassOptionsToPackage{textures}{hyperref}}
\DeclareOption{unicode}{%
  \PassOptionsToPackage{unicode}{hyperref}}
\DeclareOption{urlbordercolor}{%
  \PassOptionsToPackage{urlbordercolor}{hyperref}}
\DeclareOption{urlcolor}{%
  \PassOptionsToPackage{urlcolor}{hyperref}}
\DeclareOption{verbose}{%
  \PassOptionsToPackage{verbose}{hyperref}}
\DeclareOption{vtex}{%
  \PassOptionsToPackage{vtex}{hyperref}}
\DeclareOption{xetex}{%
  \PassOptionsToPackage{xetex}{hyperref}}
% \DeclareOption{%
%   \PassOptionsToPackage{\CurrentOption}{listings}

```

```
% }

% End of declaration of options part
```

1.1.4 Execution of options part

execution-of-options-part() \equiv

```
% Execution of options part

\ProcessOptions\relax

% End of execution of options part
```

1.1.5 Package loading part

By default, `org-article.cls` loads all but one of the packages in `org-export-latex-default-packages-alist`. It does not load `inputenc` directly, but instead relies on the Org-mode \LaTeX exporter to load this package, which passes as an option the encoding scheme of the exported buffer. The `fontenc` package is loaded with the `T1` option by default as a prerequisite for the various symbol packages. There is no facility to disable loading `fontenc`.

package-loading-part() \equiv

```

% Package loading part

% Base class
\ifthenelse{\boolean{koma}}
{%
  \LoadClass{scrartcl}%
}%
{%
\LoadClass{article}%
}

% Org-mode default
\ifthenelse{\boolean{nofixltx2e}}
{}
{\RequirePackage{fixltx2e}}
\ifthenelse{\boolean{nographicx}}
{}
{\RequirePackage{graphicx}}
\ifthenelse{\boolean{nolongtable}}
{}
{\RequirePackage{longtable}}
\ifthenelse{\boolean{nofloat}}

```

```

{}
{\RequirePackage{float}}
\ifthenelse{\boolean{nowrapfig}}
{}
{\RequirePackage{wrapfig}}
\ifthenelse{\boolean{nosoul}}
{}
{\RequirePackage{soul}}
\ifthenelse{\boolean{nofontenc}}
{}
{\RequirePackage[T1]{fontenc}} % with T1 option for symbol packages
\ifthenelse{\boolean{notextcomp}}
{}
{\RequirePackage{textcomp}}
\ifthenelse{\boolean{nomarvosym}}
{}
{\RequirePackage{marvosym}}
\ifthenelse{\boolean{nowasysym}}
{}
{\RequirePackage[nointegrals]{wasysym}}
\ifthenelse{\boolean{nolatexsym}}
{}

```



```

{\RequirePackage{latexsym}}
\ifthenelse{\boolean{noamssymb}}
{}
{\RequirePackage{amssymb}}
\ifthenelse{\boolean{nohyperref}}
{}
{\RequirePackage{hyperref}}

```

% Other packages

% Set the standard LaTeX list environments to their compact counterparts

```

\ifthenelse{\boolean{paralist}}
{
  %
  \RequirePackage{paralist}
  \let\itemize\compactitem%
  \let\description\compactdesc%
  \let\enumerate\compactenum%
}
{}
\ifthenelse{\boolean{microtype}}
{
  %
  \ifpdf
    \RequirePackage{microtype}

```

```

\fi}%
{}
\ifthenelse{\boolean{setspace}}
{\RequirePackage{setspace}}
{}
% \ifthenelse{\boolean{topcapt}}
%   {\RequirePackage{topcapt}}
%   {}
\ifthenelse{\boolean{listings}}
{\RequirePackage{listings}}
{}
\ifthenelse{\boolean{color}}
{\RequirePackage{color}}
{}

% Font packages
\ifthenelse{\boolean{times}}
{%
  \ifpdf
  \RequirePackage[T1]{fontenc}
  \RequirePackage{mathptmx}
  \RequirePackage[scaled=.90]{helvet}

```

```

\RequirePackage{courier}
\fi}%
{}
\ifthenelse{\boolean{garamond}}
{%
\ifpdf
\RequirePackage[T1]{fontenc}
\RequirePackage[urw-garamond]{mathdesign}
\RequirePackage[scaled]{berasans}
\RequirePackage{inconsolata} % tt
\linespread{1.0609}
\fi}%
{}
\ifthenelse{\boolean{palatino}}
{%
\ifpdf
\RequirePackage[T1]{fontenc}
\RequirePackage{mathpazo}%
\linespread{1.05}%
\RequirePackage[scaled]{helvet}%
\RequirePackage{courier} % tt
\fi}%

```

```

{}
\ifthenelse{\boolean{charter}}
{%
  \ifpdf
    \RequirePackage[T1]{fontenc}
    \RequirePackage[bitstream-charter]{mathdesign}
    \RequirePackage[scaled=.90]{helvet}
    \RequirePackage{courier} % tt
  \fi}%
{}
\ifthenelse{\boolean{utopia}}
{%
  \ifpdf
    \RequirePackage[T1]{fontenc}
    \RequirePackage[adobe-utopia]{mathdesign}
    \RequirePackage[scaled]{berasans}
    \RequirePackage{inconsolata} % tt
  \fi}%
{}

% End of package loading part
%
```

1.1.6 Class code part

class-code-part() ≡

```
% Class code part
```

```
\ifthenelse{\boolean{setspace}}{%
```

```
{\ifthenelse{\boolean{doublespace}}{%
```

```
{\doublespacing}%
```

```
{\singlespacing}}%
```

```
}}%
```

```
\ifthenelse{\boolean{listings}}{%
```

```
{\ifthenelse{\boolean{color}}{%
```

```
{%
```

```
\definecolor{keywords}{RGB}{255,0,90}%
```

```
\definecolor{comments}{RGB}{60,179,113}%
```

```
\definecolor{fore}{RGB}{249,242,215}%
```

```
\definecolor{back}{RGB}{231,231,231}%
```

```
\lstset{%
```

```
basicstyle=\color{black},%
```

```
keywordstyle=\color{keywords},%
```

```
commentstyle=\color{comments},%
```

```
backgroundcolor=\color{back}}%
```

```
}%
```

```

{}%
{\lstdefinlanguage{org}
  {morecomment=[1]\#}%
}
\lstset{language=org}}%
{}%
% End of class code part

```

1.2 Packages

1.2.1 Article base class options

Org-article.cls offers a choice of two base classes. The first is the standard \LaTeX article.cls. Also available is the KOMA-script scrartcl.cls. The KOMA-script scrartcl.cls is compatible with the standard \LaTeX article class; input that compiles with article.cls should also compile with scrartcl.cls. It differs in the layout of the page and the styling of page elements, producing a somewhat more “modern” design based on principles set out by the typographer and book designer Jan Tschichold.

To select the standard \LaTeX article.cls, put this in your Org-mode document:

```
org-buffer-article() ≡
```

```
#+LaTeX_CLASS_OPTIONS: [ article ]
```

To select the KOMA-script `scrartcl.cls`, put this in your Org-mode document:
`org-buffer-koma()` \equiv

```
#+LaTeX_CLASS_OPTIONS: [koma]
```

For information on the KOMA-script `scrartcl.cls`, you can probably read the documentation on your system with the following shell command:

`read-koma()` \equiv

```
texdoc koma
```

- Paper size

The following paper size options are available for the standard \LaTeX `article.cls` and the KOMA-script `scrartcl.cls`. The first three options are North American paper sizes. The `a4paper`, `a5paper`, `b4paper`, and `b5paper` options are international standard ISO 216. The `landscape` option orients the paper with the long axis horizontal.

`paper-sizes()` \equiv

```
#+LaTeX_CLASS_OPTIONS: [letterpaper]
#+LaTeX_CLASS_OPTIONS: [legalpaper]
#+LaTeX_CLASS_OPTIONS: [executivepaper]
#+LaTeX_CLASS_OPTIONS: [a4paper]
#+LaTeX_CLASS_OPTIONS: [a5paper]
#+LaTeX_CLASS_OPTIONS: [b4paper]
#+LaTeX_CLASS_OPTIONS: [b5paper]
```

```
#+LaTeX_CLASS_OPTIONS: [ landscape ]
```

The KOMA-script `scrartcl.cls` has options for a fuller range of the international standard ISO 216 paper sizes, in addition to the `a4paper`, `a5paper`, `b4paper`, and `b5paper` sizes offered by the standard `LaTeX article.cls`. In the example below, `X` is replaced by an integer `[0, 1, ... 10]`.

`koma-paper-sizes()` \equiv

```
#+LaTeX_CLASS_OPTIONS: [ aXpaper ]  
#+LaTeX_CLASS_OPTIONS: [ bXpaper ]  
#+LaTeX_CLASS_OPTIONS: [ cXpaper ]  
#+LaTeX_CLASS_OPTIONS: [ dXpaper ]
```

- Font size

There are three base font size options available for the standard `LaTeX article.cls` and the KOMA-script `scrartcl.cls`. This option sets the size of the main text in the body of the document. Other fonts used in the document design, such as headers, footers, heads, sub-heads, etc., will be scaled accordingly.

`font-sizes()` \equiv

```
#+LaTeX_CLASS_OPTIONS: [ 10 pt ]  
#+LaTeX_CLASS_OPTIONS: [ 11 pt ]  
#+LaTeX_CLASS_OPTIONS: [ 12 pt ]
```


- Equations

The standard \LaTeX `article.cls` and the KOMA-script `scrartcl.cls` both recognize two options that control formatting of equations. The option `leqno` will number equations on the left, rather than the right, which is the default. The option `fleqn` displays equations flush left, rather than centered, which is the default

`equations() ≡`

```
#+LaTeX_CLASS_OPTIONS: [ leqno ]  
#+LaTeX_CLASS_OPTIONS: [ fleqn ]
```

- Table captions

The standard \LaTeX `article.cls` formats captions to appear below the captioned item. However, many document styles require table captions above the table. Users of `article.cls` typically use a package, `=topcapt.sty=`, and place the command `\topcaption{}` above the captioned item. With the Org-mode \LaTeX exporter, this requires changes to the exported \LaTeX code. The KOMA-script `scrartcl.cls` provides an option that gets rid of the need for `topcapt.sty`, but the code produced by the \LaTeX exporter must still be changed to place the caption above the table within the table environment:

`koma-caption() ≡`

```
#+LaTeX_CLASS_OPTIONS: [ captions=tableheading ]
```

1.2.2 Org-mode default packages

- Inputenc

The input encoding of the document is specified by the `inputenc` package. Org-mode provides a nifty method for sending options to this package, so it is not loaded directly by `org-article.cls`. See Org-mode \LaTeX export setup.

- Fontenc

The `fontenc` package specifies the encoding to use with a font. The history of font encodings in \LaTeX is a long one; suffice it to say that the most common option is `T1`, also known as the Cork encoding because it was formulated at a EuroTeX conference in Ireland's County Cork. The `fontenc` package pretends that it was never loaded so that it can be called several times with different options to load fonts that have various encodings.

You can probably read the documentation for `fontenc` on your system with the following shell command:

```
read-fontenc()  $\equiv$ 
```

```
texdoc fontenc
```

This is a standard Org-mode package that is loaded by default. An option is provided to not load it.

```
org-buffer-fontenc()  $\equiv$ 
```

```
#+LaTeX_CLASS_OPTIONS: [nofontenc]
```

Note that several of the font packages load fontenc themselves. These include Garamond, Palatino, Charter, and Utopia.

- Fixltx2e

The `fixltx2e` package applies fixes to LaTeX2e that would break older documents, so have not been applied to the LaTeX2e kernel. The package doesn't take any options. You can probably read about `fixltx2e` on your system by issuing the following shell command:

```
read-fixltx2e() ≡
```

```
texdoc fixltx2e
```

This is a standard Org-mode package that is loaded by default. An option is provided to not load it.

```
org-buffer-fixltx2e() ≡
```

```
#+LaTeX_CLASS_OPTIONS: [ nofixltx2e ]
```

- Graphicx

The `graphicx` package is typically configured with `*.def` files because the facilities it specifies are provided by a graphics driver, rather than by \LaTeX . For this reason, it is typically loaded without options.

You should be able to read about `graphicx`, along with its companion packages `color` and `graphics` by issuing the following shell command:

```
read-graphicx() ≡
```

```
texdoc graphicx
```

This is a standard Org-mode package that is loaded by default. An option is provided to not load it.

```
org-buffer-graphicx() ≡
```

```
#+LaTeX_CLASS_OPTIONS: [ nographicx ]
```

- Longtable

The longtable package defines a new \LaTeX environment that can be used in place of the tabular environment and can be broken by the \TeX page-breaking algorithm. It is used, as the name implies, by long tables that typically won't fit onto a single page. The package is loaded without option.

You should be able to read the longtable documentation on your system by issuing the following shell command:

```
read-longtable() ≡
```

```
texdoc longtable
```

This is a standard Org-mode package that is loaded by default. An option is provided to not load it.

```
org-buffer-longtable() ≡
```

```
#+LaTeX_CLASS_OPTIONS: [ nolongtable ]
```

- Float

Tables and figures in \LaTeX are treated as floating objects. Internally, they are treated as a single (large) glyph, which makes them difficult to place on a page of otherwise small glyphs. Consequently, they are allowed to “float” until a suitable location is found. The `float` package provides facilities to define new floating environments, to restyle the existing float environments, and additionally defines a placement parameter, `[H]`, that keeps a float from floating. The package is loaded without options.

You can probably read about the `float` package on your system by issuing the following shell command:

```
texdoc float
```

This is a standard Org-mode package that is loaded by default. An option is provided to not load it.

```
org-buffer-float()  $\equiv$ 
```

```
#+LaTeX_CLASS_OPTIONS: [ nofloat ]
```

- Wrapfig

The `wrapfig` package defines two new environments to set a narrow float at the edge of the text and wrap the text around it. Because “floats” in these new environments do not float it is sometimes the case that they appear out of order, e.g. Figure `n` appears before Figure `n-1`. Caveat emptor.

The package is loaded without options.

The documentation for this package is included at the end of the package source. You

should be able to read it on your system by issuing the following shell command:

read-wrapfig() \equiv

```
texdoc wrapfig
```

This is a standard Org-mode package that is loaded by default. An option is provided to not load it.

org-buffer-wrapfig() \equiv

```
#+LaTeX_CLASS_OPTIONS: [ nowrapfig ]
```

- Soul

The soul package is used primarily for underlining text. It is loaded without options. You can probably read the soul documentation on your system by issuing the following shell command:

read-soul() \equiv

```
texdoc soul
```

This is a standard Org-mode package that is loaded by default. An option is provided to not load it.

org-buffer-soul() \equiv

```
#+LaTeX_CLASS_OPTIONS: [ nosoul ]
```

- Textcomp

This package provides support for the Text Companion fonts, which provide symbols

used by `org-entities`, in particular the Euro currency symbol. It is loaded without options.

This is a standard Org-mode package that is loaded by default. An option is provided to not load it.

`org-buffer-textcomp()` \equiv

```
#+LaTeX_CLASS_OPTIONS: [notextcomp]
```

- MarVoSym

The `marvosym` package provides support for Martin Vogel's Symbol font, some glyphs from which are required by `org-entities`. The package is loaded without options.

You can probably read about the `marvosym` package by issuing the following command in the shell:

`read-marvosym()` \equiv

```
texdoc marvosym
```

This is a standard Org-mode package that is loaded by default. An option is provided to not load it.

`org-buffer-marvosym()` \equiv

```
#+LaTeX_CLASS_OPTIONS: [nomarvosym]
```

- Wasysym

The `wasysym` package makes available some symbol glyphs from the wasy fonts. It is

needed to support some of the glyphs in `org-entities`. When it is loaded without options, this package clashes with the American Mathematical Society's `amsmath` package. Using the `nointegrals` option resolves this clash:

`wasysym-options()` \equiv

```
#+LaTeX_CLASS_OPTIONS: [integrals]
#+LaTeX_CLASS_OPTIONS: [nointegrals]
```

You can probably read the `wasysym` documentation on your system by issuing the following shell command:

`read-wasysym()` \equiv

```
texdoc wasysym
```

This is a standard Org-mode package that is loaded by default. An option is provided to not load it.

`org-buffer-wasysym()` \equiv

```
#+LaTeX_CLASS_OPTIONS: [nowasysym]
```

- `Latexsym`

The `latexsym` package provides a few glyphs, one or more of which might be required by `org-entities`. According to the documentation, `latexsym` isn't needed if the `amssymb` package is loaded.

You can probably read about the `latexsym` package on your system by issuing the following shell command:

read-latexsym() \equiv

```
texdoc latexsym
```

This is a standard Org-mode package that is loaded by default. An option is provided to not load it.

org-buffer-latexsym() \equiv

```
#+LaTeX_CLASS_OPTIONS: [nolatexsym]
```

- Amssymb

This package provides all the symbols defined in the American Mathematical Society's symbol fonts `msam` and `msbm`. They are required to support `org-entities`. The package is loaded without options.

You can probably read the `amssymb` package documentation by issuing the following shell command:

read-amssymb() \equiv

```
texdoc amssymb
```

This is a standard Org-mode package that is loaded by default. An option is provided to not load it.

org-buffer-amssymb() \equiv

```
#+LaTeX_CLASS_OPTIONS: [noamssymb]
```

- Hyperref

The hyperref package turns \LaTeX cross-referencing commands into hyperlinks, including the table of contents, bibliography, etc. It is typically configured on a site-wide basis with options kept in a file, `hyperref.cfg`. The \LaTeX document loads the package without specifying any options. The hyperref package redefines many \LaTeX commands, so it needs to be loaded at, or near the end of, the package loading part.

The hyperref package accepts numerous options, which can be given as `key = value` pairs. Boolean options default to true when passed without a value. Options are passed in the usual way, e.g.:

`hyperref-options() \equiv`

```
#+LaTeX_CLASS_OPTIONS: [anchorcolor, backref, baseurl, bookmarks,
bookmarksnumbered, bookmarksopen, bookmarksopenlevel, bookmarkstype,
breaklinks, CJKbookmarks, citebordercolor, citecolor, colorlinks,
draft, dvipdfm, dvipdfmx, dvips, dvipsone, dviwindo, encap,
extension, filebordercolor, filecolor, final, frenchlinks,
hyperfigures, hyperfootnotes, hyperindex, hypertex, hypertexnames,
implicit, latex2html, legalpaper, letterpaper, linkbordercolor,
linkcolor, linktocpage, menubordercolor, menucolor, nativepdf,
naturalnames, nesting, pageanchor, pagebackref, pdfauthor,
pdfborder, pdfcenterwindow, pdfcreator, pdfdirection,
pdfdisplaydoctitle, pdfduplex, pdffitwindow, pdfhighlight, pdfinfo,
```

```
pdfkeywords, pdflang, pdfmark, pdfmenubar, pdfnewwindow,  
pdfnonfullscreenpagemode, pdfnumcopies, pdfpagelayout, pdfpagemode,  
pdfpagelabels, pdfpagescrop, pdfpagetransition,  
pdfpicktraybypdfsize, pdfprintarea, pdfprintclip, pdfprintpagerange,  
pdfprintscaling, pdfproducer, pdfstartpage, pdfstartview,  
pdfsubject, pdftex, pdftitle, pdftoolbar, pdftrapped, pdfview,  
pdfviewarea, pdfviewclip, pdfwindowui, plainpages, ps2pdf,  
raiselinks, runbordercolor, runcolor, setpagesize, tex4ht, textures,  
unicode, urlbordercolor, urlcolor, verbose, vtex, xetex]
```

You can probably read the hyperref documentation by issuing the following shell command:

```
read-hyperref() ≡
```

```
texdoc hyperref
```

This is a standard Org-mode package that is loaded by default. An option is provided to not load it.

```
org-buffer-hyperref() ≡
```

```
#+LaTeX_CLASS_OPTIONS: [nohyperref]
```

Options do not include debug.

1.2.3 Font packages

TeX documents might need three text fonts, one for the serif typeface used for text, the sans-serif typeface often used for heads and sub-heads, and the monospace typewriter typeface typically used to set code examples and the like. Each of the following options specifies all three of the fonts, but takes its name after the serif font used to set text.

Certain of these fonts appear to conflict with the `amssymb` package that is one of the Org-mode default packages. The `noamssymb` option will keep the `amssymb` package from loading and remove the potential conflict; of course, this will also make unavailable glyphs for certain of the org-entities. If you require one of the org-entities in `amssymb` then you should either use the default fonts by not specifying a font option to `org-article.cls`, or perhaps configure a font selection that doesn't conflict with `amssymb`.

- Times

The `times` option uses URW Nimbus Roman, a Times clone, for the serif font, URW Nimbus Sans, a Helvetica clone, for the sans-serif font, and URW Nimbus Mono, a Courier clone, for the typewriter font. This is a standard set of common typefaces typically used in scientific publications. All of the fonts should be included in a typical TeX distribution.

Times New Roman was designed by Stanley Morison for *The Times* of London during a redesign of the newspaper prompted, in part, by Morison's criticism of its typography in 1929. Helvetica was developed in 1957 by Max Miedinger. Courier was designed by Howard Kettler in 1955 for use in IBM typewriters.

org-buffer-times() ≡

```
#+LaTeX_CLASS_OPTIONS: [ times ]
```

- Garamond

Garamond refers to a group of old-style serif typefaces and is named after the sixteenth-century type designer, Claude Garamond. It is an elegant typeface. The sans-serif font is Bera, an adaptation of a font originally named Vera. It was designed by Jim Lyles. The typewriter font is Inconsolata, which was created by Raph Levien and is based on Vera.

org-buffer-garamond() ≡

```
#+LaTeX_CLASS_OPTIONS: [ garamond ]
```

- Palatino

The beautiful, old-style serif font, Palatino, was designed by Herman Zapf. It is somewhat heavier and easier to read than Garamond. It is paired here with Helvetica and Courier, as is Times, for which it is an alternative.

org-buffer-palatino() ≡

```
#+LaTeX_CLASS_OPTIONS: [ palatino ]
```

- Utopia

Utopia is a transitional serif font designed by Robert Slimbach for Adobe in 1989. It became free software in 2006. It is paired here with Bera and Inconsolata, as is Garamond.

org-buffer-utopia() ≡

```
#+LaTeX_CLASS_OPTIONS: [ utopia ]
```

- Charter

Charter was designed to reproduce well on low-resolution 300 dpi printers. It is paired here with Helvetica and Courier, like Times, for which it is an alternative.

org-buffer-charter() \equiv

```
#+LaTeX_CLASS_OPTIONS: [ charter ]
```

1.2.4 Other packages

Packages not included in the Org-mode list of default packages are made available in `org-article.cls`. These include facilities to apply microtypographic adjustments to suitable fonts, set the line spacing of the document to double space, set lists more compactly than the standard \LaTeX `article.cls`, and typeset source code listings, optionally with color.

- Microtype

The microtype package makes available the micro-typographic extensions of pdfTeX. Prominent among these are font expansion and character protrusion, which together result in fewer bad line breaks and a visually even right margin.

You can probably read the microtype documentation, which runs to more than 200 pages, on your system by issuing the shell command:

read-microtype() \equiv

```
texdoc microtype
```

This package is not loaded by default. An option is provided to load it.
org-buffer-microtype() \equiv

```
#+LaTeX_CLASS_OPTIONS: [ microtype ]
```

- Setspace

The setspace package is used here for the sole purpose of creating double-spaced documents, such as manuscripts submitted to some publishing houses. If it is loaded, then the option doublespace will produce a double-spaced document.

This package is not loaded by default. An option is provided to load it, and to set linespacing to doublespace.

org-buffer-setspace() \equiv

```
#+LaTeX_CLASS_OPTIONS: [ setspace , doublespace ]
```

- Paralist

The paralist package was designed to meet the widespread request for more tightly set lists in the standard \TeX classes. If it is loaded, then the \TeX environments itemize, enumerate, and description are over-ridden by their paralist counterparts.

You can probably read the paralist documentation on your system by issuing the shell command:

read-paralist() \equiv

```
texdoc paralist
```

This package is not loaded by default. An option is provided to load it.

org-buffer-paralist() \equiv

```
#+LaTeX_CLASS_OPTIONS: [ paralist ]
```

- Topcapt

The topcapt package is needed when it is desired to set the caption of a table above the table. In this case, the `\caption{}` command must be moved above the tabular environment and the command changed to `\topcaption`. These will be adjustments made to the code produced by the Org-mode \LaTeX exporter.

This package is not loaded by default. An option is provided to load it.

org-buffer-topcapt() \equiv

```
#+LaTeX_CLASS_OPTIONS: [ topcapt ]
```

- Color

The color package provides facilities for adding color to \LaTeX output.

org-buffer-color() \equiv

```
#+LaTeX_CLASS_OPTIONS: [ color ]
```

- Listings

The listings package is a source code printer for \LaTeX . Except for the two options `draft` and `final`, which the listings package is configured to pick up itself from options passed to `\documentclass`, the other options were introduced to ease debugging or to

trigger compatibility with earlier versions of the package. None of these other options are exposed in `org-article.cls`. Instead, code to (minimally) configure listings is present in the class code part.

This package is not loaded by default. An option is provided to load it.

`org-buffer-listings() ≡`

```
#+LaTeX_CLASS_OPTIONS: [listings]
```

1.3 How to use this Org-mode document

You can get the Org-mode document from Github using the following shell command:

`get-from-github() ≡`

```
git clone git@github.com:tsdye/org-article.git
```

This will create a sub-directory, `org-article`, initialize the git repository and download the file `article-class.org` as part of the repository. The Org-mode document can be tangled to produce the `org-article.cls` file. This is done by running `org-babel-tangle` against the file, either by `M-x org-babel-tangle RET` or `C-c C-v [C-]t`.

The resulting `org-article.cls` file should then be moved where \LaTeX can find it. In \LaTeX setups that conform to the Tex Directory Structure, this might be `path/to/texmf-local/tex/latex/base`. Once the file has been placed in an appropriate directory it is often the case that the directory database, such as the one maintained by Kpathsea, must then be updated. The following shell commands work on my OS-X system with the MacTeX distribution:

```
install-org-article() ≡
```

```
sudo cp org-article.cls /usr/local/texlive/texmf-local/tex/latex/base/  
sudo mktexlsr
```

1.4 Org-mode \LaTeX export setup

There are two ways to setup `org-article.cls` and your choice will probably depend on the value of the variable `org-export-packages-alist`. If this variable is `nil`, then the following setup should work for you. It asks Org-mode **not** to load the default packages, because these are loaded by `org-article.cls`. Then, it loads the packages in `org-export-packages-alist`, which should consist of a single entry for the `inputenc` package. Org-mode automatically sets the input encoding based on the status of the Org-mode buffer being exported. Finally, any packages specified within the Org-mode buffer are loaded (the `[EXTRA]` argument).

The `org-article.cls` setup for the case when `org-export-packages-alist` is `nil`:

```
(add-to-list 'org-export-packages-alist  
            '(("AUTO" "inputenc" t)))  
(add-to-list 'org-export-latex-classes  
            '("org-article-section"  
              "\\documentclass{org-article}  
              .....\\loadpackage[AUTO]{inputenc}  
              .....[NO-DEFAULT-PACKAGES]
```

```

.....[PACKAGES]
.....[EXTRA] "
      ("\\section{%s}" . "\\section {%s}")
(add-to-list 'org-export-latex-classes
  ("org-article-subsection"
   "\\documentclass{org-article}"
.....[NO-DEFAULT-PACKAGES]
.....[PACKAGES]
.....[EXTRA] "
      ("\\section{%s}" . "\\section {%s}")
      ("\\subsection{%s}" . "\\subsection {%s}"))
(add-to-list 'org-export-latex-classes
  ("org-article-subsubsection"
   "\\documentclass{org-article}"
.....[NO-DEFAULT-PACKAGES]
.....[PACKAGES]
.....[EXTRA] "
      ("\\section{%s}" . "\\section {%s}")
      ("\\subsection{%s}" . "\\subsection {%s}")
      ("\\subsubsection{%s}" . "\\subsubsection {%s}"))
(add-to-list 'org-export-latex-classes
  ("org-article-paragraph"

```

```

"\\documentclass{org-article}
[NO-DEFAULT-PACKAGES]
[PACKAGES]
[EXTRA] "
("\\section{%s}" . "\\section {%s}")
("\\subsection{%s}" . "\\subsection {%s}")
("\\subsubsection{%s}" . "\\subsubsection {%s}")
("\\paragraph{%s}" . "\\paragraph {%s}"))
(add-to-list 'org-export-latex-classes
'("org-article-subparagraph"
"\\documentclass{org-article}
[NO-DEFAULT-PACKAGES]
[PACKAGES]
[EXTRA] "
("\\section{%s}" . "\\section {%s}")
("\\subsection{%s}" . "\\subsection {%s}")
("\\subsubsection{%s}" . "\\subsubsection {%s}")
("\\paragraph{%s}" . "\\paragraph {%s}")
("\\subparagraph{%s}" . "\\subparagraph {%s}"))

```

If, for some reason, `org-export-packages-alist` is not `nil`, then the following setup should work.

```

(add-to-list 'org-export-latex-classes
  '("org-article-section"
    "\\documentclass{org-article}
    [NO-DEFAULT-PACKAGES]
    [EXTRA] "
    ("\\section{%s}" . "\\section {%s}")))
(add-to-list 'org-export-latex-classes
  '("org-article-subsection"
    "\\documentclass{org-article}
    [NO-DEFAULT-PACKAGES]
    [EXTRA] "
    ("\\section{%s}" . "\\section {%s}")
    ("\\subsection{%s}" . "\\subsection {%s}")))
(add-to-list 'org-export-latex-classes
  '("org-article-subsubsection"
    "\\documentclass{org-article}
    [NO-DEFAULT-PACKAGES]
    [EXTRA] "
    ("\\section{%s}" . "\\section {%s}")
    ("\\subsection{%s}" . "\\subsection {%s}")
    ("\\subsubsection{%s}" . "\\subsubsection {%s}")))
(add-to-list 'org-export-latex-classes

```

```

'("org-article-paragraph"
  "\\documentclass{org-article}
[NO-DEFAULT-PACKAGES]
[EXTRA] "
  ("\\section{%s}" . "\\section {%s}")
  ("\\subsection{%s}" . "\\subsection {%s}")
  ("\\subsubsection{%s}" . "\\subsubsection {%s}")
  ("\\paragraph{%s}" . "\\paragraph {%s}"))
(add-to-list 'org-export-latex-classes
'("org-article-subparagraph"
  "\\documentclass{org-article}
[NO-DEFAULT-PACKAGES]
[EXTRA] "
  ("\\section{%s}" . "\\section {%s}")
  ("\\subsection{%s}" . "\\subsection {%s}")
  ("\\subsubsection{%s}" . "\\subsubsection {%s}")
  ("\\paragraph{%s}" . "\\paragraph {%s}")
  ("\\subparagraph{%s}" . "\\subparagraph {%s}"))

```

In this case, you will need to specify the `inputenc` package in the Org-mode file:
`specify-inputenc()` \equiv

```
#+LATEX_HEADER: \usepackage[utf8]{inputenc}
```

1.5 Examples

The functionality of `org-article.cls` can be demonstrated with the following two examples of pdf output generated by Org-mode \LaTeX export of this Org-mode file. In the first, these two lines were included at the top of the Org-mode file:

first-example() \equiv

```
#+LaTeX_CLASS: org-article-subsubsection  
#+LaTeX_CLASS_OPTIONS: [ article , letterpaper , times , 12pt , listings , color , microtype ]
```

The resulting pdf file is typeset with the standard \LaTeX `article.cls` on 8.5 × 11 in. paper, using Times, Helvetica, and Courier fonts with a 12 point base size. Source code listings are given in color, and microtypographic justification is applied. As you can see in the resulting pdf file, the output is mostly OK but there are problems with long lines, mostly in the source code listings, but also in the body text with long path names.

In the second example, the following two lines were included in the top of the Org-mode file:

second-example() \equiv

```
#+LaTeX_CLASS: org-article-subsubsection  
#+LaTeX_CLASS_OPTIONS: [ koma , a5paper , utopia , 10pt , listings , color , microtype , paralist ]
```

The resulting pdf file is typeset with the KOMA-script `scrartcl.cls` on 5.8 × 8.3 in. paper, using Utopia, Bera, and Incosolata fonts with a 10 point base size. Source code listings are given in color, and microtypographic justification is applied. As you can see in the resulting

pdf file, the output is mostly OK but there are problems with long lines, mostly in the source code listings, but also in the body text with long path names.