

# The **vsg** L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> document class\*

## The Very Short Guide to L<sup>A</sup>T<sub>E</sub>X

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9th August 2016

### Summary

This is a document class derived from the original *Very Short Guide to L<sup>A</sup>T<sub>E</sub>X*, a 4pp folder designed as an aide-mémoire for people who have just done a course in L<sup>A</sup>T<sub>E</sub>X and need something by them on their desk the next day to refresh their memories. It is *not* intended as a substitute for full documentation.

This class is designed for this document only, but adds parameterisation to allow reformatting tweaks for different paper sizes (A4 and Legal) to allow it to be printed two-sided as a 4pp folder.

Please do not complain that there is no math here. It won't fit. Someone else can do a math leaflet. IANAM.

---

\*This document corresponds to **vsg** v. 0.4β, dated 2016/06/14.

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## Latest changes

### v.0.4 (2016-06-14)

#### Moved into ClassPack

- Added parameterisation for A4 and Legal

### v.0.3 (2016-06-04)

#### Updated to Xe<sub>La</sub>TeX

- Changed fonts again, switched to *biber*

### v.0.2 (2013-01-22)

#### Reissue

- Fixed typos and changed font

### v.0.1 (2009-10-01)

#### Reworked from 2006 original

- Changed to 4pp A4

See p.37 for details of earlier changes.

# 1 Acknowledgements

Thanks to all those on c.t.t whose suggestions made this version more useful.

Alan Munn for the distinction between base font and font package and for suggesting “expected functionality” packages on sectioning, long tables, headers, and double spacing, and links to FAQ and CTAN.

Lars Madsen, Will Robertson, Robin Fairbairns and others for asking for the center environment in tables and figures to be replaced with the `\centering` command (I still disagree, but WTF :-)

Tsy for spotting a typo in the table code sample.

Rob Felty and Domink Wass for pointing me at Winston Chang’s excellent *LaTeX Cheat Sheet* summary.

## 2 Usage

The document class is designed solely for the Very Short Guide, and it is not envisaged that it would be of any use for other types of document except similar short guides.

### 2.1 Options

The only available options are:

**a5paper**: (the default) formats it as four pages of A5, suitable for imposition two-up on A4 for double-sided printing.

**legalpaper**: format it as four pages each half the size of a sheet of US Legal (8.5x14in) so that the same imposition can be used to print on Legal paper.

#### Warning

A lot of stuff is faked up in the document, because we're combining incompatible things for the sake of showing examples which would not normally occur in a normal document, let alone one as small as this. The demands of space mean that there is far more manual adjustment needed than would be seen in a standard continuous-text document. Live with it.

### 2.2 Printing

To impose for printing, use the *pdf2ps* utility to convert the PDF output to PS. Pass it through the *pstops* utility to perform imposition, and then use *ps2pdf* to convert the output back to PDF. For the A5/A4 format, this means:

```
pdf2ps veryshortguide.pdf - |\
pstops -pa4 -b \
  "4:-3L(21cm,5mm)+0L(21cm,14.35cm),1L(21cm,5mm)+-2L(21cm,14.35cm)" |\
ps2pdf - veryshortguide-imposed.pdf
```

Pages are references from zero (the first page). This outputs page 3 (p.4) and page 0 (p.1) on the first side of A4. The 21cm places the reference point (top left corner) at that distance *up* (*y*-axis, the short side of a piece of A4 landscape), and 5mm to the *right* (*x*-axis, the long side) for p.4, and 14.35cm to the right for p.1.

The verso is produced by the second expression, outputting page 1 (p.2) and page 2 (p.3) in exactly the same way.

Commercial implementations of T<sub>E</sub>X for Windows with business-level support are available from PersonalT<sub>E</sub>X, Inc (PCT<sub>E</sub>X); MacKichan Software, Inc (Scientific Word); Micropress, Inc (VTeX), and TrueT<sub>E</sub>X Software (TrueT<sub>E</sub>X).

Normally, there would be no horizontal adjustment, but because my printer cannot print the bottom 12mm of a sheet (the last edge to emerge from the printer), if I print 2-up A5 pages on an A4 sheet like this, I need to allow for the fact that one edge of two of the pages must have a 12mm margin, so this amount of adjustment (5mm) was needed to make it symmetrical. If your printer can bleed off the trailing edge, then you can adjust the horizontal dimensions accordingly.

When printing from Acrobat Reader, it generates the *lpr*(1) command that it will use. The example below is from my own system:

```
lpr -P \
Officejet-Pro-K8600 -o PageSize=A6.SM -o PageRegion=A4 \
-o Duplex=DuplexTumble -o InputSlot=Auto -o ColorModel=RGB \
-o MediaType=Automatic -o OutputMode=Normal -o OptionDuplex=True
```

### 3 Auto-initialisation

This section is added automatically by *ClassPack* as a preamble to all classes. The `fixltx2e` package is no longer preloaded, as all its features are now a part of the latest L<sup>A</sup>T<sub>E</sub>X kernel.

**fix-cm** Preloaded functions to override the default L<sup>A</sup>T<sub>E</sub>X step-size font sizes (which can still be used, but are no longer restrictions).

```
1 \RequirePackage{fix-cm}
```

**svgnames** Pass the **svgnames** option to the `xcolor` package if that gets loaded later. This avoids a conflict with whatever other packages (eg `hyperref`) use as their own default is when they load `xcolor`.

```
2 \PassOptionsToPackage{svgnames}{xcolor}
3 \PassOptionsToPackage{hyphens}{url}
```



## 4 Implementation

### 4.1 Define the paper-size options:

`\iflegal` To make the selection persist so we can use it later, we define two TeX conditionals, one for Legal paper;

```
4 \newif\iflegal
```

`\ifafive` and one for A5:

```
5 \newif\ifafive
```

`\afivetrue` and set the A5 one as the default

```
6 \afivetrue
```

`\VSG@papersize` Now parameterise the options with macros to hold the paper size:

```
7 \gdef\VSG@papersize{a5paper}
```

`\VSG@margins` and the appropriate margins for the `geometry` package (later):

```
8 \gdef\VSG@margins{margin=12mm,bottom=10mm}
```

**a5paper** Then define the A5 option to set the paper size and margins and set its switch to true (and the other to false):

```
9 \DeclareOption{a5paper}{%
10   \gdef\VSG@papersize{a5paper}%
11   \gdef\VSG@margins{margin=12mm,bottom=10mm}
12   \afivetrue\legalfalse}
```

**legalpaper** And repeat for the Legal option:

```
13 \DeclareOption{legalpaper}{%
14   \gdef\VSG@papersize{papersize={7in,8.5in}}%
15   \gdef\VSG@margins{margin=15mm,bottom=15mm}
16   \legaltrue\afivefalse}
```

## 4.2 Load the base document class

This class is based on the standard  $\text{\LaTeX}$  article class, with no special options.

```
17 \DeclareOption*{%
18   \PassOptionsToClass{%
19     \CurrentOption}{article}}
20 \ProcessOptions\relax
21 \LoadClass{article}
```

## 4.3 Packages required for the class

**geometry** Package for establishing margins and text area. Use the paper size and margins that were specified when the relevant option was selected by the user (or the A5 default). ()

```
22 \RequirePackage[nohead,\VSG@papersize,
23   \VSG@margins]{geometry}
```

**fontspec** Font specification setup for use with  $\text{\XeLaTeX}$ .

```
24 \RequirePackage{fontspec}
```

**caladea** Caladea family of fonts, designed by Carolina Giovagnoli and Andres Torresi of the Huerta Tipografica foundry and adopted by Google for ChromeOS as a font-metric compatible replacement for Cambria.

```
25 \RequirePackage{caladea}
```

**raleway** The current Raleway family is an extension of the original Raleway Thin by Matt McInerney. The family has been extended by Impallari, for more information see the impallari website <http://www.impallari.com/projects/overview/matt-mcinerneys-raleway-family>.

```
26 \RequirePackage[scale=.9]{raleway}
```

**graphicx** Provide for graphics (PNG, JPG, or PDF format (only) for pdf $\text{\LaTeX}$ ; EPS format (only) for standard  $\text{\LaTeX}$ ).

```
27 \RequirePackage{graphicx}
```

<code>url</code>	Handling of URI formatting. <code>28 \RequirePackage{url}</code>
<code>fancybox</code>	This provides round-cornered and drop-shadow boxes. <code>29 \RequirePackage{fancybox}</code>
<code>enumitem</code>	List variants: inline and compact. Note that this replaces the earlier defaults of <code>paralist</code> and <code>mdwlist</code> . <code>30 \RequirePackage[inline]{enumitem}</code> <code>31 \setlist[description]{style=unboxed}</code>
<code>fix-cm</code>	Allow infinitely-variable font scaling. <code>32 \RequirePackage{fix-cm}</code>
<code>multicol</code>	Provides multi-column typesetting. <code>33 \RequirePackage{multicol}</code>
<code>nicefrac</code>	Slanted fractions, even in math mode. <code>34 \RequirePackage{nicefrac}</code>
<code>fancyvrb</code>	Add more robust verbatim facilities. <code>35 \RequirePackage{fancyvrb}</code>
<code>bbding</code>	Karel Horak's dingbats symbols. <code>36 \RequirePackage{bbding}</code>
<code>parskip</code>	Creates paragraphs separated by white-space with no indentation. <code>37 \RequirePackage{parskip}</code>
<code>ragged2e</code>	Allow hyphenation in ragged setting. <code>38 \RequirePackage{ragged2e}</code>
<code>calc</code>	Required for calculations involving lengths or counters, such as changes to widths for margin adjustment. <code>39 \RequirePackage{calc}</code>

**ifthen** Package to enable if–then–else conditional processing.

```
40 \RequirePackage{ifthen}
```

**textcomp** Additional commands for common symbols and punctuation.

```
41 \RequirePackage{textcomp}
```

**array** Additional column formatting for tables.

```
42 \RequirePackage{array}
```

**relsize** Provides size-relative font size changes (smaller, larger, etc).

```
43 \RequirePackage{relsize}
```

**textcase** Provides a more sophisticated casing function than the default.

```
44 \RequirePackage{textcase}
```

**flexlogo** Allows user-programmable changes to the positioning of letters in the T<sub>E</sub>X-related logos on a per-font basis.

```
45 \RequirePackage{flexlogo}
```

**ulem** Underlining as an option (*not* automatically replacing italics).

```
46 \RequirePackage[normalem]{ulem}
```

**xcolor** Provide color.

```
47 \RequirePackage{xcolor}
48 \@ifundefined{T}{%
49   \newcommand{\T}[2]{\fontencoding{T1}\selectfont#2}}{}
```

**babel** Add language, cultural changes, and H&J support for many languages.

```
50 \RequirePackage[british]{babel}
```

**biblatex** Use biblatex instead of BIBT<sub>E</sub>X

```
51 \RequirePackage[backend=biber,doi=true,
52   isbn=true,url=true,uniquename=false,style=apa]{biblatex}
53 \AtBeginDocument{\setlength{\bibitemsep}{1ex}
54   \defbibheading{shortbib}[Bibliography]{\section{#1}}
55   \@ifpackagewith{babel}{british}{%
56     \DeclareLanguageMapping{british}{british-apa}}{\relax}
```

`csquotes` Adds correct curly quotes for cited titles when using `biblatex`

```
57 \RequirePackage{csquotes}
```

`menukeys` Graphical representations of menus, directories, and keys.

```
58 \RequirePackage{menukeys}
59 \renewmacro{\menu}[>]{roundedmenus}
60 \renewmacro{\directory}[/{]{hyphenatepathswithfolder}
61 \renewmacro{\keys}{shadowedroundedkeys}
```

## 4.4 Additions and changes to package defaults

As we're using  $\text{\LaTeX}$ , the first thing to do is add any non-package fonts, then everything else.

`zcoN` This is the Nimbus-15 Narrow replacement for Courier.

```
62 \setmonofont[Scale=MatchLowercase]{zcoN}
```

`\labelitemi` Use a pointy pencil from the `bbding` package for itemized lists.

```
63 \renewcommand{\labelitemi}{%
64   \raisebox{-.5ex}{\textcolor{Purple}{\PencilRight}}}
65 \setlength{\leftmargini}{18pt}% don't waste margin space in lists
```

`\example` Provide commands for distinguishing examples and their output.

```
66 \newcommand{\example}{%
67   \color{DarkGreen}\textsf{\bfseries Example:} \color{MediumBlue}}
68 \def\endexample{\color{black}}
69 \newcommand{\gives}[1]{%
70   \thinspace\color{DarkGreen}\raisebox{-.4ex}
71     {\ArrowBoldRightStrobe}\color{DarkRed}{\rmfamily
72       #1}\color{black}}
73 \newcommand{\nobox}{~\raisebox{-.25ex}{%
74   \footnotesize\Square\llap\XSolidBrush}}
75 \newcommand{\yesbox}{~\raisebox{-.25ex}{%
76   \footnotesize\Square\llap\CheckmarkBold}}
```

`\comment` In `fancyverb`'s `Verbatim`, allow rubric embedded as marked text in red

```
77 \newcommand{\comment}[1]{\ifthenelse{\equal{#1}{ }}{{#1}\normalfont
78   \itshape\footnotesize\color{DarkRed}}
```

```

79 % Allow notification of newly-added material
80 \newcommand{\added}{\color{MediumBlue}}
81 % This reverts rubric back to normal, to avoid embedded spaces
82 \newcommand{\revert}{\ttfamily\upshape\color{black}}

\monthdate Define a month-year date European way round.

83 \newcommand{\monthdate}{\ifcase\month\or January\or
84 February\or March\or April\or May\or June\or July\or August\or
85 September\or October\or November\or December\fi\space\number\year}

\hyphenation There's something odd about the hyphenation...these were broken:

86 \hyphenation{mathe-mati-cal auto-mati-cal-ly docu-ment docu-ments
87 docu-men-tation statis-ti-cal}

\maketitle

88 \renewcommand{\maketitle}{%
89   \hbox to\textwidth{%
90     \vbox{\hsize=.73\textwidth\huge\bfseries\raggedright
91       \@title}
92     \hss
93     \vbox{\hsize=.27\textwidth\scriptsize\raggedright
94       \@author
95       \par
96       \textit{\@date}}}}
97   \par\bigskip\hrule\medskip
98 }

\section Pack headings together more tightly.

99 \renewcommand\section{\@startsection{subsection}{1}{\z@}%
100 {-0pt\@plus -.2ex \@minus -.2ex}%
101 {1pt \@plus .2ex}%
102 {\sffamily\Large\bfseries}}
103 \renewcommand\subsection{\@startsection{subsection}{2}{\z@}%
104 {-0pt\@plus -.2ex \@minus -.2ex}%
105 {1pt \@plus .2ex}%
106 {\sffamily\large\bfseries}}
107 \renewcommand\subsubsection{\@startsection{subsubsection}{3}{\z@}%
108 {-0.5ex\@plus -1ex \@minus -.2ex}%
109 {.25ex \@plus .2ex}%
110 {\sffamily\normalsize\bfseries}}

```

```

111 \renewcommand\paragraph{\@startsection{paragraph}{4}{\z0}%
112   {1ex \@plus1ex \@minus.2ex}%
113   {-1em}%
114   {\sffamily\normalsize}}
115 \setcounter{secnumdepth}{5}% we don't want numbered sections
116 \renewcommand{\thesection}{}
117 \renewcommand{\thesubsection}{}
118 \renewcommand{\thesubsubsection}{\arabic{subsubsection}}

```

\DeclareTeXLogo

```

119 \DeclareTeXLogo{Caladea(0)}{m}{n}{.1667}{.125} [.4]
120 \DeclareTeXLogo{Caladea(0)}{m}{it}{.1667}{.08} [.4]
121 \DeclareTeXLogo{Caladea(0)}{bx}{n}{.1667}{.125} [.4]
122 \DeclareLaTeXLogo{Caladea(0)}{bx}{n}{.27}{.1333} [.1]
123 \DeclareLaTeXLogo{Caladea(0)}{m}{n}{.3}{.1} [.1]
124 \DeclareTeXLogo{Raleway(0)}{bx}{n}{.1667}{.125} [.38]
125 \DeclareLaTeXLogo{Raleway(0)}{m}{n}{.3}{.1} [.1]
126 \DeclareLaTeXLogo{Raleway(0)}{b}{n}{.27}{.15} [.1]

```

\footnoterule Adjust footnote fence.

```

127 \renewcommand{\footnoterule}{\kern-3pt
128   \hrule height.2pt width.25\columnwidth\kern 2.8pt}

```

\pagestyle No page numbers, we're faking it; and let text go very sloppy to fit.

```

129 \pagestyle{empty}
130 \spaceskip=4pt plus4pt minus3pt

```

\textsc Cater for some fonts not having small caps.

```

131 \renewcommand{\textsc}[1]{\smaller\MakeTextUppercase{#1}}

```

\ff Abbreviate changes of font.

```

132 \newcommand{\ff}[2][T1]{\fontencoding{#1}\fontfamily{#2}\selectfont}

```

\descriptionlabel Stop the \descriptionlabelcommand reverting to the serif font.

```

133 \renewcommand{\descriptionlabel}[1]{%
134   \hspace\labelsep{\sffamily\bfseries #1}}

```

**note** A trivial environment for notes

```

135 \newenvironment{note}{\small\textbf{Note.}\quad}\par

```

# A The very short guide to typesetting with $\text{\LaTeX}$

This is the base text for the Very Short Guide.

```
136 \documentclass[a5paper]{vsg}
137 \addbibresource{veryshortguide.bib}
138 \setlength{\bibnamesep}{-\itemsep}
139 \begin{document}
140 \title{The very short guide to typesetting with~\LaTeX}
141 \author{Silmaril Consultants\
142   \textbf{Textual Therapy Division}\
143   \protect\url{http://latex.silmaril.ie}}
144 \date{\monthdate}
145 \maketitle
146 \subsection*{What's this all about? What's \LaTeX?}
147
148 \LaTeX\ is a document preparation system which uses the \TeX\ typesetting
149 program. It enables you to produce publication-quality documents with
150 great accuracy and consistency. \LaTeX\ works on any computer and
151 produces industry-standard PDF. It is available both
152 in free (open-source) and commercial implementations. \LaTeX\ can be
153 used for any kind of document, but it is especially suited to those
154 with complex structures, repetitive formatting, or notations like
155 mathematics\footnote{For reasons of space this guide does not cover
156 details of mathematics typesetting.}; or where technical stability,
157 dimensional accuracy, or a persistent and non-proprietary file format
158 are needed. Install the software from
159 \url{www.tug.org/texlive/} or buy a commercially-supported
160 version from one of the vendors (see the list on p.\thinspace\pageref{comm}).
161
162 \subsection*{Creating and typesetting your document}
163
164 \begin{enumerate}[noitemsep]\setlength{\fboxsep}{1pt}
165   \item Create your document using any suitable plain-text editor
166     with \LaTeX\ controls, eg \textit{\TeX shop} (Mac), \textit{\TeX
167       Maker} (Win), \textit{Kile} (Linux), \textit{Emacs} (all),
168     even \textit{vi}\thinspace!
169   \item Save the file with a name ending in \verb+.tex+
170     (\emph{never} use spaces in filenames!);
171   \item Use the {\small\keys{Build}} or {\small\keys{Compile}}
172     toolbar button or menu item in your editor to typeset and display
173     the document;\label{typeset}
```



```

174 \item Make any changes needed in your original document and repeat
175       step \ref{typeset}.
176 \end{enumerate}
177
178 \subsection*{Syntax (how to type \LaTeX\ commands --- these are the rules)}
179
180 \begin{itemize}[noitemsep]
181 \item \textbf{All \LaTeX\ commands begin with a backslash}.\
182       \example \verb+\tableofcontents+\endexample
183 \item \textbf{If a command needs text to work
184       with, it goes in curly braces}.\
185       \example \verb+\title{Irisches Tagebuch}\author{Heinrich Böll}+\endexample
186 \item \textbf{If options are used, they go in square brackets
187       before the curly braces}.\
188       \example \verb+\documentclass[a4paper,11pt]{book}+\endexample
189 \item \textbf{Spaces after commands \emph{without} braces get suppressed}.\
190       \example \verb+Copyright \copyright_\+ \texttt{\number\year}
191       \gives{Copyright ©\number\year} \nobox\
192       To prevent this, put empty curly braces after the command:\
193       \example \verb+Copyright \copyright\{ }\+ \texttt{\number\year}
194       \gives{Copyright ©~\number\year} \yesbox
195 \item \textbf{Curly braces are also used to restrict the scope of
196       effects inside them}.\
197       \example \verb+Some {\tiny little} word+ \gives{Some {\tiny little} word}
198 \end{itemize}
199 \begin{note}
200 This guide shows only a tiny fraction of \LaTeX's power. For more
201 information, visit the \TeX\ Users Group site (\url{www.tug.org}). For
202 help, see the FAQ (\url{www.tex.ac.uk/faq}), StackExchange
203 (\url{tex.stackexchange.com}), or the Usenet newsgroup
204 \url{comp.text.tex}. For packages (plugins), use CTAN, the
205 Comprehensive \TeX\ Archive Network (\url{www.ctan.org}). For
206 further details, see \citetitle{fi}
207 \parencite{fi} and other online resources.
208 \end{note}
209
210 \begin{multicols}{2}\small\parskip4pt
211 \subsection*{Writing a \LaTeX\ document}
212 \subsubsection{Basic document structure}
213
214 Here's the skeleton of a \LaTeX\ document. These three lines are
215 \textsc{compulsory}: your document will not work without them:
216

```

```

217 \begin{Verbatim}[frame=single,fontsize=\small,commandchars=!\<>]
218 !added\documentclass[11pt]{article}
219 !comment your Preamble goes here (extra setups, if any)
220 !added\begin{document}
221 !comment your document text goes here
222 !added\end{document}
223 \end{Verbatim}
224 \vspace*{-.5\baselineskip}
225 {\fontsize67\selectfont\sffamily New material in each example is shown
226 in {\ttfamily\added blue}; material from previous examples is in
227 black. Comments and mnemonics are in \textcolor{DarkRed}{red}.\par}
228
229 \begin{itemize}[noitemsep]
230   \item The document class name \textsc{must} be one of the standard
231     \verb+book+, \verb+article+, or \verb+report+, or one of the many
232     others preinstalled or downloadable (eg \verb+thesis+,
233     \verb+memoir+, etc);
234   \item There are body type size options \verb+10pt+ (the default),
235     \verb+11pt+, and \verb+12pt+;
236   \item There are paper size options including \verb+a4paper+
237     (210\thinspace mm$\times$297\thinspace mm) and \verb+letterpaper+
238     (8\frac{1}{2}\times 11\frac{1}{4}) [see below].
239 \end{itemize}
240
241 \subsubsection{Front matter}
242
243 The \textbf{Preamble} [see above] is where you speci\~fy any
244 \textbf{packages} (\LaTeX\ plugins like typefaces or special
245 formatting), and where you put any changes to standard features.
246
247 \begin{Verbatim}[frame=single,fontsize=\small,commandchars=!\<>]
248 \documentclass[a4paper,11pt]{book}
249 !added\usepackage{charter,graphicx}!revert
250 !added\setlength{\parindent}{1em}!revert
251 \begin{document}
252 !added\title!comment{your document title!revert}
253 !added\author!comment{your name!revert}
254 !added\date!comment{date of publication!revert}
255 !added\maketitle
256 !added\begin{abstract}
257 !comment the paragraphs of your abstract go here
258 !added\end{abstract}
259 !added\tableofcontents

```

```

260 !comment the text of your document goes here
261 \end{document}
262 \end{Verbatim}
263
264 The title, author, and date \textsc{must} be followed by the
265 \verb+\maketitle+ command to be formatted correctly.
266
267 \subsubsection{Body matter}
268
269 \textbf{Leave a blank line between paragraphs} as you type: this
270 signals a new paragraph. Spacing is controlled by the
271 document class and packages you use. For an unindented,
272 line-spaced style, use the \textsf{parskip} package.
273
274 \paragraph{Sectioning:}
275 Sections get numbered automatically in bold type, and get included in
276 the Table of Contents (if you use it). Numbering can be turned off
277 selectively. Section heading layout can be modified with the
278 \textsf{sectsty}, \mbox{\textsf{titlesec}}, and other packages.
279
280 \begin{Verbatim}[frame=single,fontsize=\small,commandchars=!\<>]
281 !comment (Preamble, titling, and abstract as above)
282 \tableofcontents
283 !added\chapter!comment{heading of a chapter!revert}
284 !comment text for the chapter goes here
285 !added...as shown in section \ref{blah}.
286 !added\section!comment{heading of a section!revert}
287 !added\label{blah} !comment make up name for the label
288 !comment text for the section goes here
289 !added\chapter!comment{heading of a new chapter!revert}
290 !comment text for the new chapter goes here
291 \end{document}
292 \end{Verbatim}
293
294 \paragraph{Lists:}
295 There are three types of list: \textbf{itemized} (bulleted), \textbf{enumerated}
296 or lettered), and \textbf{descriptive} (topic-and-explanation
297 format).
298
299 Like \textsf{document}, these are all \textbf{environments}, using
300 \verb+\begin{...}+ and \verb+\end{...}+.
301
302 \begingroup\fontsize{4.5}{5.5}\selectfont

```

```

303 \renewcommand{\labelitemi}{\textbullet}
304 \leftmargini=2em
305 \setlength{\tabcolsep}{3pt}
306 \begin{tabular}{@{}%
307     p{.25\columnwidth}|%
308     p{.32\columnwidth}|%
309     p{.33\columnwidth}@{}}
310 \begin{verbatim}
311 \begin{itemize}
312   \item 1lb Sugar
313   \item ½pt Cream
314   \item Chocolate
315   \item 2oz Butter
316 \end{itemize}
317 \end{verbatim}
318 &
319 \begin{verbatim}
320 \begin{enumerate}
321   \item Mix ingredients
322   \item Boil to 112°C
323   \item Stir and cool
324   \item Pour into dish
325 \end{enumerate}
326 \end{verbatim}
327 &
328 \begin{verbatim}
329 \begin{description}
330   \item[Fudge] is fun...
331   \item[Broccoli] sucks...
332   \item[Exercise] is good
333   for you if taken daily
334 \end{description}
335 \end{verbatim}
336 \\ \hline \scriptsize
337 \begin{itemize}[noitemsep]
338   \item 1lb Sugar
339   \item ½pt Cream
340   \item Chocolate
341   \item 2oz Butter
342 \end{itemize}
343 & \fontsize{6.5}{8} \selectfont
344 \begin{enumerate}[noitemsep]
345   \item Mix ingredients

```

```

346 \item Boil to 112°C
347 \item Stir and cool
348 \item Pour into dish
349 \end{enumerate}
350 &\tiny
351 \begin{description}[noitemsep]
352 \item[Fudge] is fun but fattening if made too often.
353 \item[Broccoli] sucks, period.
354 \item[Exercise] is good for you if taken daily and not to extremes.
355 \end{description}
356 \end{tabular}
357 \endgroup
358
359 You can nest lists inside each other. Use the \textsf{enumitem}
360 package to control list formatting.
361
362 \colorbox{LightGrey}{\color{black}\begin{minipage}{.965\columnwidth}%
363 \sffamily\scriptsize\bfseries\raggedright
364 For help, see the links on the front and back pages. There is a
365 summary of common commands at\\
366 \url{www.stdout.org/~winston/latex/latexsheet.pdf}
367 and a comprehensive list at
368 \url{www.eeng.dcu.ie/local-docs/latex-help/}~.
369 \end{minipage}}
370 \columnbreak
371 \paragraph{Tables and figures:}
372 These environments \textbf{float} (to fit
373 available space). They have \verb+\caption+ and \verb+\label+ commands.
374
375 \begin{Verbatim}[frame=single,fontsize=\footnotesize,commandchars=!\<>]
376 !added\begin{figure} !comment(see below)
377 \caption{Swiss and Dutch Mennonite
378 migrations of the 1700s and 1800s}
379 \label{lmig}
380 !added\centering !comment(centre the contents)
381 !added\includegraphics[width=.8\columnwidth]
382 !added {menno-a}\\ !comment(double backslash for linebreak)
383 !added\scriptsize!revert Courtesy of Paul C. Adams,
384 Department of Geography and the
385 Environment, University of Texas at
386 Austin.
387 !added\cite{adams}\end{figure}
388 \end{Verbatim}

```

```

389
390 Graphics \textsc{must} be EPS files for standard \LaTeX, but JPG, PNG,
391 or PDF for pdf\LaTeX.
392
393 \begin{Verbatim}[frame=single,fontsize=\footnotesize,commandchars=!\<>]
394 !added\begin{table}
395 !added\caption{Mean growth rate and intakes
396 !added of supplement, milk, and water for 4
397 !added diets (after Sherington, J, undated)}
398 \label{dietgrowth}
399 \centering
400 !added\begin{tabular}{|l|r|r|r|r|}
401 !added\hline !comment(horizontal line between rows)
402 !added&Growth&Supplement&Milk&Water
403 !added\\\hline !comment(double backslash for new row)
404 !added Supplement&rate&intake&intake&intake
405 !added\\\hline
406 !added&(g/day)&(g/day)&(ml/kg$^{0.75}$)&
407 !added (ml/kg$^{0.75}$)\\\hline
408 !added Lucerne &145&450&10.5&144\\\hline
409 !added Sesbania&132&476& 9.2&128\\\hline
410 !added Leucaena&128&364& 8.9&121\\\hline
411 !added None & 89& 0& 9.8&108\\\hline
412 !added\end{tabular}
413 !added\end{table}
414 \end{Verbatim}
415
416 \begin{center}\sffamily
417 \fontsize78\selectfont
418 \setlength{\tabcolsep}{2pt}
419 \setlength{\arrayrulewidth}{.2pt}
420 \begin{tabular}{@{}|>\vrule height1em width0pt}l|r|r|r|r|@{}}
421 \multicolumn5l{\textbf{Table 2}: \textit{Mean growth rate and intakes
422 of supplement,}}\\
423 \multicolumn5l{\textit{milk, and water for four diets} (after
424 Sherington, J, undated)}\\[6pt]\hline
425 \vrule height1.1em width0pt&Growth&Supplement&Milk&Water\\[-1pt]
426 Supplement&rate&intake&intake&intake\\[-1pt]
427 &(g/day)&(g/day)&(ml/kg\textsuperscript{\fontsize34\selectfont 0.75})&(ml/kg\textsuperscript{\fontsize34\selectfont 0.75})
428 Lucerne &145&450&10.5&144\\\hline
429 Sesbania&132&476& 9.2&128\\\hline
430 Leucaena&128&364& 8.9&121\\\hline
431 None & 89& 0& 9.8&108\\\hline

```

```

432 \end{tabular}
433 \end{center}
434 Packages like \textsf{longtable} and \textsf{array} can help
435 with more complex table formats.
436
437 \end{multicols}
438
439 \begin{center}\sffamily
440 \textbf{Figure 1}: \textit{Swiss and Dutch Mennonite migrations of the}
441 1700s and 1800s}\!\!\![[3pt]
442 \iffive\includegraphics[width=.8\columnwidth]{menno-a}\fi
443 \iflegal\includegraphics[width=.7\columnwidth]{menno-a}\fi
444 \!\!\scriptsize
445 Courtesy of Paul C. Adams, Department of Geography
446 and the Environment, University of Texas at Austin. [1]
447 \end{center}
448
449 \begin{multicols}{2}\small\parskip4pt
450 \paragraph{Typefaces:}
451 {\ff{lrm}\selectfont The default typeface in \LaTeX\ is Computer
452 Modern, like this.}
453
454 {\footnotesize\tabcolsep4pt
455 \begin{tabular}{@{}l@{\hspace{6pt}}>{\ttfamily}l|l@{\hspace{6pt}}>{\ttfamily}.
456 \ff{ptm}Times&mathptmx&\ff{pcr}Courier&courier\!
457 \ff{ppl}Palatino&mathpazo&\ff{pag}\scriptsize Avant Garde&avant\!
458 \ff{pbk}Bookman&bookman&\ff{phv}Helvetica&helvet\!
459 \ff{bch}Charter&charter&\ff{pzc}Zapf Chancery&chancery\!
460 \ff{put}Utopia&utopia&\ff{OT1}{pnr}Pandora&pandora\!
461 \ff{pnc}Century&newcent&\ff{U}{yfrak}Fraktur&oldgerm\!
462 \end{tabular}
463 }
464
465 Dozens of other font packages are available in \TeX\ Live and the \LaTeX\ Font
466 Catalogue, including mathematics and decorative fonts. Any
467 Postscript Type~1 font can be configured for \LaTeX.
468
469 If you use \XeLaTeX\ and the \textsf{fontspec} package, you can also
470 use your computer's system fonts as well as those available
471 with \TeX\ Live.
472
473 \colorbox{LightGrey}{\color{black}\begin{minipage}{.965\columnwidth}%
474 \sffamily\scriptsize\raggedright

```

```

475 Commercial implementations of \TeX\ for Windows with business-level
476 support are available from Personal \TeX, Inc (PC\TeX); MacKichan
477 Software, Inc (Scientific Word); Micropress, Inc (V\TeX), and
478 True\TeX\ Software (True\TeX).\label{comm}
479 \end{minipage}}
480
481 \columnbreak
482 \textsf{Typefaces continued}
483
484 To change font for a word or phrase, use these commands (they can be
485 nested):
486
487 {\small
488 \begin{tabular}{l@{\enspace}>{\ttfamily\char'134 text}l<{\char'173
489     Hello\char'175}@{}>{\ \gives\bgroup}l<{Hello\egroup}}
490 Italic&it&\itshape\\
491 Boldface&bf&\bfseries\\
492 Smallcaps&sc&\ff{cmr}\scshape\\
493 Sans-serif&sf&\sffamily\\
494 Monospace&tt&\ttfamily\\
495 \end{tabular}}
496
497 \begingroup\small
498 \example\verb+\textit{\textbf{\textsf{\ifafive\linebreak\fi
499 \verb+{bold+ \iflegal\linebreak\fi\verb+italic sans}}}}+
500 \gives{\ff{cmss}\textit{\textbf{bold italic sans}}}}
501 \par\endgroup
502
503 Sizes for titles, headings, footnotes, etc are automatic, but
504 there are some step-sizes:
505
506 {\scriptsize\centering
507 \begin{tabular}{>{\ttfamily\char'134}lrrr}
508 normalsize&10&11&12\\ \hline \vrule height1.1em width0pt
509 tiny&5&6&7\\
510 scriptsize&6&7&8\\
511 footnotesize&7&8&9\\
512 small&9&10&11\\
513 large&11&12&14\\
514 Large&12&14&17\rlap*\\
515 LARGE&14&17\rlap*&20\rlap*\\
516 huge&17\rlap*&20\rlap*&24\rlap*\\
517 Huge&20\rlap*&24\rlap*&28\rlap*

```



```

518 \end{tabular}
519 \quad
520 \rotatebox[origin=c]{90}{\tiny* sizes rounded here to save space}
521 \par}
522
523 For other sizes, add the special command
524 {\added\verb+\RequirePackage{fix-cm}+}\iflegal\linebreak\fi \emph{before} the
525 \verb+\documentclass+ line and use
526 {\added\verb+\fontsize{+}\texttt{\uline{pp}}\verb+}{+\texttt{\uline{bb}}\verb+}
527 for the point-size (\textit{pp}) and baseline
528 (\textit{bb}).
529
530 {\sffamily\footnotesize
531 Size commands are all \textbf{unscoped} commands, so enclose them \emph{and}
532 the applicable text in curly braces to stop them affecting the rest
533 of the document.\par}
534 For double or 1½ line-spacing (eg in theses) use the \textsf{setspace}
535 package.
536
537 You can use colour palettes in the RGB, CMYK, HTML, and other
538 colourspace with \iflegal\\\fi the \textsf{xcolor} \ifafive\\\fi
539 package and the\hfil
540 \smash{\raisebox{0ex}{\sffamily\bfseries\Huge\iflegal\quad\else\enspace\fi
541 \textcolor[HTML]{2F50AD}{G}%
542 \textcolor[HTML]{B32F17}{o}%
543 \textcolor[HTML]{F3C20B}{o}%
544 \textcolor[HTML]{2F50AD}{g}%
545 \textcolor[HTML]{48C847}{l}%
546 \textcolor[HTML]{B32F17}{e}}}%
547 \\\verb+\color{+}\texttt{\textit{name}}\verb+}+ command.
548
549 For verbatim text, use the \verb+\verb+ command or the
550 \textsf{verbatim} environment, or (better) the \textsf{listings} or
551 \textsf{fancyvrb} packages.
552
553 \paragraph{Footnotes:}
554 You do footnotes with \iflegal\\\fi \verb+\footnote{like this}+.\footnote{Like
555 this.} Endnotes too.
556
557 \paragraph{Cross-references:}\label{blah} Use the command
558 \verb+\label{...}+ to label the target, and \verb+\ref{...}+ or
559 \verb+\pageref{...}+ to refer to it. Make up the labels yourself.
560

```

```

561 \begingroup\small
562 \example{...\ttfamily section \verb+\ref{blah}+ on
563 p.\ \verb+\pageref{blah}+.\}gives{...section \ref{blah} on
564 p.\thinspace\pageref{blah}}.
565 \par\endgroup
566
567 \paragraph{Citation and reference:} Create your bibliographic database
568 in BIB\TeX\ format \parencite{bibtex} using \emph{JabRef} or
569 similar. Each entry \textsc{must} have a unique label (here ``\verb+fi+'):
570 \begin{Verbatim}[frame=single,fontsize=\scriptsize,commandchars=!\<>]
571 !added@book{fi,
572 !added title = {Formatting Information},
573 !added author = {Peter Flynn},
574 !added publisher = {Silmaril},
575 !added year = {2016}}
576 \end{Verbatim}
577 Use the
578 \textsf{biblatex} package to specify the style, and give
579 the filename of your database:
580 \begin{Verbatim}[frame=single,fontsize=\footnotesize,commandchars=!\<>]
581 !added\usepackage[style=apa]{biblatex}
582 !added\addbibresource{myrefs.bib}
583 \end{Verbatim}
584 To cite, use \verb+\cite{...}+ (or
585 \verb+\textcite+ or \verb+\parencite+ with the relevant label:\ \example{\verb+
586
587 \subsubsection{Back matter}
588 For an index, use the \textsf{makeidx} package and the
589 \verb+\makeindex+ command with the \verb+\index{...}+
590 and \verb+\printindex+ commands and the \textsf{makeindex} program.
591
592 \nocite{*}
593 {\defbibheading{shortbib}[References]{\subsection*{#1}}\renewcommand*{\bibfont
594
595 \colorbox{LightGrey}{\color{black}\begin{minipage}{.965\columnwidth}%
596 \sffamily\scriptsize\bfseries\raggedright
597 For information about \LaTeX\ training and consultancy, please contact
598 Silmaril at \url{latex@silmaril.ie}
599 \end{minipage}}}%
600 \end{multicols}
601 \end{document}

```

## B The bibliography for the Very Short Guide to Typesetting with L<sup>A</sup>T<sub>E</sub>X

This is the bibliography for the Very Short Guide.

```
602 @book{fi,  
603   title = {{Formatting Information}},  
604   author = {Peter Flynn},  
605   publisher = {Silmaril},  
606   url = {http://latex.silmaril.ie/},  
607   year = {2016}}  
608  
609 @InProceedings{adams,  
610   author =      {Paul Adams},  
611   title =      {{Linguistic Chaos in Montreal}},  
612   booktitle =  {{Chaos and the City miniconference}},  
613   year =      2002,  
614   month =     {Nov},  
615   url =       {http://www.utexas.edu/depts/grg/adams/chaos.ppt},  
616   organization = {University of Texas School of Architecture}}  
617  
618 @Manual{bibtex,  
619   title =      {{BIB\TeX ing}},  
620   author =     {Oren Patashnik},  
621   organization = {\TeX\ Users Group},  
622   address =    {Portland, RI},  
623   url = {http://ftp.heanet.ie/pub/CTAN/tex/biblio/bibtex/base/btxdoc.pdf},  
624   year =      1988}  
625  
626  
627 @Manual{sherington,  
628   author =     {Sherington, J},  
629   title =      {{Informative Presentation of Graphs and Statistics}},  
630   organization = {Statistical Services Centre, University of Reading},  
631   year =      1998,  
632   url =       {http://www.reading.ac.uk/ssc/publications/guides/toptgs.htm},  
633   note =      {4.2, example table}  
634 }
```

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2. If this search is successful, then enquire whether the Work is still maintained.
  - (a) If it is being maintained, then ask the Current Maintainer to update their communication data within one month.



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Here is an example of such a notice and statement:

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

```

%% version 2005/12/01 or later.
%%
%% This work has the LPPL maintenance status `maintained'.
%%
%% The Current Maintainer of this work is M. Y. Name.
%%
%% This work consists of the files pig.dtx and pig.ins
%% and the derived file pig.sty.

```

Given such a notice and statement in a file, the conditions given in this license document would apply, with the ‘Work’ referring to the three files `pig.dtx`, `pig.ins`, and `pig.sty` (the last being generated from `pig.dtx` using `pig.ins`), the ‘Base Interpreter’ referring to any ‘ $\text{\LaTeX}$ -Format’, and both ‘Copyright Holder’ and ‘Current Maintainer’ referring to the person M. Y. Name.

If you do not want the Maintenance section of LPPL to apply to your Work, change ‘maintained’ above into ‘author-maintained’. However, we recommend that you use ‘maintained’ as the Maintenance section was added in order to ensure that your Work remains useful to the community even when you can no longer maintain and support it yourself.

#### C.6.4 Derived Works That Are Not Replacements

Several clauses of the LPPL specify means to provide reliability and stability for the user community. They therefore concern themselves with the case that a Derived Work is intended to be used as a (compatible or incompatible) replacement of the original Work. If this is not the case (e.g., if a few lines of code are reused for a completely different task), then clauses 6b and 6d shall not apply.

#### C.6.5 Important Recommendations

**Defining What Constitutes the Work** The LPPL requires that distributions of the Work contain all the files of the Work. It is therefore important that you provide a way for the licensee to determine which files constitute the Work. This could, for example, be achieved by explicitly listing all the files of the Work near the copyright notice of each file or by using a line such as:

```

%% This work consists of all files listed in manifest.txt.

```

in that place. In the absence of an unequivocal list it might be impossible for the licensee to determine what is considered by you to comprise the Work and, in such

a case, the licensee would be entitled to make reasonable conjectures as to which files comprise the Work.

## Change History

v0.1	General: Reworked from 2006 original: Changed to 4pp A4. . . . .	1	Changed fonts again, switched to biber. . . . .	1	
v0.2	General: Reissue: Fixed typos and changed font. . . . .	1	v0.4	General: Moved into ClassPack: Added parameterisation for A4 and Legal. . . . .	1
v0.3	General: Updated to X <sub>Y</sub> L <sup>A</sup> T <sub>E</sub> X:				

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Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in *roman* refer to the code lines where the entry is used.

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