

L^AT_EX Tricks

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Version 1.2 -> ?

Preamble

Command	Effect
<code>\documentclass[...]{...}</code>	Sets the basics, first blank is for options; second blank is the document type
<code>\usepackage[utf8]{inputenc}</code>	Allows direct, non-ASCII character input
<code>\usepackage[T1]{fontenc}</code>	Allows the document to be copied without artifacts
<code>\usepackage[...]{geometry}</code>	Sets up margins
<code>\usepackage{booktabs}</code>	Better looking tables
<code>\renewcommand{\arraystretch}{1.2}</code>	More space between rows in tables
<code>\usepackage[labelformat=empty]{caption}</code>	Removes the "Table: " portion from table titles and captions
<code>\usepackage{longtable}</code>	Allows tables to span multiple pages
<code>\usepackage{listings}</code>	Allows nice looking code in text
<code>\usepackage{hyperref}</code>	Sets up PDF metadata, initial view, and links
<code>\usepackage{verbatim}</code>	Allows multi-line comments and primitive code displays
<code>\usepackage{color}</code>	Allows custom colors
<code>\usepackage{indentfirst}</code>	Indents the first paragraph of a chapter
<code>\usepackage{pdflscape}</code>	Allows certain pages to be in landscape; <code>\begin{landscape}...\end{landscape}</code>
<code>\usepackage{nopageno}</code>	Removes page numbers universally
<code>\usepackage{graphicx}</code>	Allows more easy picture insertion
<code>\usepackage{tikz}</code>	Allows custom, vector pictures
<code>\usepackage{helvet}</code>	Uses a font that's nearly identical to Helvetica
<code>\usepackage{times}</code>	Uses the Times New Roman font
<code>\setlength\parindent{0pt}</code>	No indents universally
<code>\renewcommand{\contentsname}{Table of Contents}</code>	Changes the title on the TOC page
<code>\renewcommand{\bibname}{References}</code>	Changes the title on the bibliography page
<code>\providecommand{\e}[1]{\ensuremath{\times 10^{#1}}}</code>	Scientific notation; invoke with <code>\e{...}</code> (e.g. <code>6.6\e{6}</code> creates 6.6×10^6)
<code>\title{\LaTeX Tricks}</code>	State the title; used in <code>\maketitle</code>
<code>\author{Kevin Dong}</code>	State the author(s); used in <code>\maketitle</code>
<code>\date{June 28, 2013}</code>	State the date; <code>\today</code> can be used; used in <code>\maketitle</code>

Preamble Package Options

Package	Options	Description
documentclass	\documentclass[options]{class}	options: font size (10pt, 12pt, etc.), landscape, titlepage, notitlepage, and letterpaper class: article, report, book, letter, and beamer (presentation)
geometry	\usepackage[...]{geometry} margin=1in left=1in right=1in top=1in bottom=1in	Universal margin Left margin Right margin Top margin Bottom margin
listings	\lstset{...} basicstyle=\scriptsize\ttfamily backgroundcolor=\color{gray} numbers=left	\scriptsize is the font size; \ttfamily is the font itself Background color for code Enables number and places it on the left
hyperref	\hypersetup{...} colorlinks citecolor=black linkcolor=black urlcolor=black pdfpagelayout=OneColumn pdfpagemode=UseNone pdfauthor={author} pdftitle={title} pdfproducer={LaTeX with hyperref} pdfcreator={pdflatex}	Allows for custom colors; removes boxes in PDF Makes in-line citations black Makes TOC links black Makes URLs black Default view becomes a single continuous column Hides the bookmarks panel by default PDF metadata: author PDF metadata: title PDF metadata; relatively useless PDF metadata; relatively useless
graphicx	\includegraphics[...]{titlepage.png} width=...	Determines the width of the picture; \textwidth makes it the width of the printable area Other measures of size can be used, such as inches or centimeters

Sectioning

Hierarchy (from high to low)	Notes
\part{...}	Only available in book and report

Sectioning (cont.)

Hierarchy (from high to low)	Notes
<code>\chapter{...}</code>	Only available in book and report
<code>\section{...}</code>	Not available in letter
<code>\subsection{...}</code>	Not available in letter
<code>\subsubsection{...}</code>	Not available in letter
<code>\paragraph{...}</code>	Not available in letter ; no real use since it doesn't show up in the TOC
<code>\subparagraph{...}</code>	Not available in letter ; no real use since it doesn't show up in the TOC

Tables

Package	Command	Effect
table with tabular	<code>\begin{table}[h]</code>	Forces the table to be placed right where the code is placed Likewise, p forces the table to be on a new page by itself tabular should be placed within the confines of table ; longtable can not
table with tabular	<code>\centering</code>	Centers the table; should be placed right after <code>\begin{table}</code>
tabular or longtable	<code>\begin{...}</code>	Begins the table; replace "..." with tabular or longtable
tabular or longtable	<code>\end{...}</code>	Ends the table; replace "..." with tabular or longtable
tabular or longtable	<code>\multicolumn{3}{c}{Snippet}</code>	Allows a cell to span multiple columns 3: the number of cells that the cell spans c: how the text in the cell is aligned Snippet : the text that's in the cell
tabular or longtable	<code>\cmidrule{6-8}</code>	Creates a horizontal line below the row that spans from column 6 through column 8 This command should be placed like so: one & two & three & four <code>\ \cmidrule{3-4}</code>
booktabs	<code>\toprule</code> , <code>\midrule</code> , and <code>\bottomrule</code>	Produces horizontal lines in tables; should be placed like so: Command & Effect <code>\ \midrule</code>
tabular or longtable	<code>\begin{tabular}{ @{} l c r @{} }</code>	<code>@{}</code> : makes the horizontal table lines begin and end where the text ends l, c, and r: The columns become, respectively, left, center, and right aligned
longtable	<code>\caption{...}\</code>	This should be used immediately after the <code>\begin{table}</code> command to make a title Likewise, this can be used after the <code>\bottomrule</code> command to put in a caption

Text Options

Command	Example	Description
<code>\emph{Example.}</code>	<i>Example.</i>	Emphasizes the text; normally just italicizes
<code>\textbf{Example.}</code>	Example.	Bolds the text
<code>\textit{Example.}</code>	<i>Example.</i>	Italicizes the text
<code>\textsc{Example.}</code>	EXAMPLE.	Changes to the font to an uppercase font
<code>\textsf{Example.}</code>	Example.	Changes the font to sans serif
<code>\textsl{Example.}</code>	<i>Example.</i>	Slants the text
<code>\texttt{Example.}</code>	Example.	Monospaces the text

Font Sizes and Examples (based on 10 pt)

Sizes	Example
<code>\tiny</code>	This is an example.
<code>\scriptsize</code>	This is an example.
<code>\footnotesize</code>	This is an example.
<code>\small</code>	This is an example.
<code>\normalsize</code>	This is an example.
<code>\large</code>	This is an example.
<code>\Large</code>	This is an example.
<code>\LARGE</code>	This is an example.
<code>\huge</code>	This is an example.
<code>\Huge</code>	This is an example.

Miscellaneous

Command	Effect
<code>\maketitle</code>	Placed at the beginning of each document, after the <code>\begin{document}</code> command, to place a title block
<code>{\command ...}</code> or <code>\command{...}</code>	Whereas <code>\command</code> is a font size or option; all text commands can be used either way
<code>\lstinline{...}</code>	For snippets of code in-line; the <code>listings</code> package is required Use <code>\lstinline!...!</code> when inside a table environment

Miscellaneous (cont.)

Command	Effect
<code>\begin{center}...\end{center}</code>	Centers the text inside
<code>\tableofcontents</code>	Places the TOC where the command is
<code>\vspace*{\fill}...\vspace*{\fill}</code>	Vertically centers the text inside
<code>\begin{itemize}...\end{itemize}</code>	Starts a bullet-point list, each item/line should like so: <code>\item ...</code> Sub-bullet points can be used by nesting another <code>itemize</code> environment
<code>\pagebreak</code>	Starts a new page

Graphics/TikZ

Package	Command	Effect
<code>graphicx</code>	<code>\includegraphics[options]{picture}</code>	options: <code>\width=...</code> (<code>\textwidth</code> , 1mm, 2cm, 3in, 4pt, etc.) picture (for pdf _l atex): Accepts .jpg, .jpeg, .png, .pdf, and .eps files
<code>tikz</code>	<code>\begin{tikzpicture}[options]...\end{tikzpicture}</code>	Creates the environment for a TikZ picture options: " <code>x=...</code> " and " <code>y=...</code> " dictates how much 1 unit is e.g. when <code>x=1in</code> , the line produced by <code>(0,0) -- (0,1)</code> is 1 inch
	<code>\draw[...] (0,0) -- (1,0) -- (1,1);</code>	Draws a right angle, minimum of 2 point required; no limit on maximum
	<code>\draw[...] (0,0) rectangle (2,1);</code>	Draws a rectangle with an bottom-left point of (0,0) and top-right point of (2,1)
	<code>\draw[...] (0,0) circle (1.0);</code>	Draws a circle with the origin at (0,0) and a radius of 1.0
	<code>\draw[...] (0,0) ellipse (1.0 and 0.7);</code>	(0,0) is the origin, "1.0" is the x radius, "0.7" is the y radius
	<code>\draw (0,0) arc (15:120:1.0cm);</code>	Draws an arc (from 15 to 120 degrees) with a center of (0,0) and radius of 1.0 cm
	<code>\clip (0,0) rectangle (1,1)</code>	Crops the TikZ picture to the specified coordinates