LATEX - the Most Common Commands

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- Common Commands
 - Useful Commands
 - Environments
 - Cross References, Bibliography and Nomenclature
 - Applications
 - Documentation





Document Class

Valid LATEX document classes include:

- article
- report
- letter
- book
- slides

Other document classes are often available.

They are selected with the command: \documentclass[options]{class}





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Other document classes are often available.

They are selected with the command:

 $\label{local-document-class} $$ \documentclass[options]{class} $$$





```
# $ % & ~ _ ^ \ { }
```

- # Used to define use of arguments
- \$ Math environment
- % Comments
- & Separate items in array and tabulant
- ~ Non-breaking space
- Subscripts
- Superscripts
- \ { and } Used in command definitions





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# $ % & ^{-} _ ^{\ } Can be escaped by ^{\ } in front except ^{\ } itself which is escaped by ^{\ }
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Can be escaped by \setminus in front except \setminus itself which is escaped by \bullet
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- \bullet \footnote{text} Places a footnote at the bottom of the page
- \maketitle Creates a title page
- \tableofcontents Inserts a table of contents
- \appendix The \section{...} commands will be formatted as appendixes
- \include Conditionally include a file
- \input Unconditionally include a file
- \cleardoublepage Makes the next page a right-hand (odd-numbered) page
- \clearpage Ends the current page
- \\ Starts a new line





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- \section{Some section} An ordinary section
- \subsection{Some subsection} An ordinary section
- \section*{Some section} A section without numbering





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- math or \$...\$ Formula env that appear right in the text
- displaymath Formula env that appear on their own line
- equation Same as above but with equation numbering
- array Math arrays
- eqnarray Sequences of aligned equations with numbering





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- table Floating tables
- tabular Align text in columns
- verbatim Print-as-it-looks (typewriter style)
- verb+ text + Print-as-it-looks inside text (typewriter style
- itemize Bulleted list env. Item is specified with \item
- enumerate Enumerated list env. Item is specified as
- center A centered paragraph
- \centering Does not start a new paragraph
- thebibliography Bibliography or reference list
- titlepage For hand crafted title pages





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- \label{key} Assigns the number of the environment to the key
- \pageref{key} Refer to a page number
- \ref{key} Refer to a section, figure or similar

Example

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...see Fig. \ref{key} on page \pageref{key}...
...see Fig. 14 on page 23...
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Linked Cross References in PDF

```
The command in the preamble: 
\usepackage[hyperindex,pdfmark]{hyperref}
Will make the cross references clickable in the PDF file
```





For powerful bibliography handling. BibTeX uses database files with suffix .bib on the format:





Just type \cite{arghir} to refer to the article

And if you want "References" to appear in the TOC:

\addcontentsline{toc}{section}{References}

To specify the .bib files

\bibliography{reference/cfd,reference/tribo}

The bibliography is included with





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The bibliography is included with:
\bibliographystyle{unsrt}
```



Example: ...Arghir, et al. [1] report a...



M. Arghir, N. Roucou, M. Helene, and J. Frene.

Theoretical analysis of the incompressible laminar flow in a macro-roughness cell.

Journal of Tribology, 125:309-318, April 2003.





The package nomencl provides nomenclature lists:

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\usepackage[noreieq]{nomencl}
\makeglossary

To define a nomenclature entry in the text, write e.g.:
\begin{equation}
Re=\frac{\mathcal{LU}}{\nu}
\end{equation}
\nomenclature{$x$. $v$. $z$}{Coordin...\n
```

And if you want "Nomenclature" to appear in the TOC:

\addcontentsline{toc}{section}{Nomenclature}

The nomenclature is included with:

\printglossary



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To cope with the units, create a command in the preamble like:

```
\newcommand{\nomunit}[1]{\renewcommand%
{\nomentryend}{\hspace*{\fill}#1}}
```





Example:

 \mathbf{u} (u,v) m/s

u, v Velocity in x- and y-direction respectively m/s





- >latex file.tex Produces a viewable device-independent .dvi file
- >bibtex file To compile the bibliography
- >makeindex file.glo -s nomencl.ist -o file.gls To compile the indexing (nomenclature)
- >latex file.tex Run LATEX again two times to be sure to get correct references
- >dvips file.dvi Produces a printable Adobe PostScript .ps file
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- MakeIndex: An Index Processor For LaTeX





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Next Lesson(s)

- LATEX and Figures
- LATEX and PSfrag





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- LATEX and PSfrag





- Sections
- 2 Equations
- Cross References
- Bibliography (BiBTeX)
- Nomenclature (nomencl)
- Table of content
- Index





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Good for now

Go further LATEXing so we can have even more fun later!



