LaTeX Tutorial

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Introduction

- LaTeX is a high-quality typesetting system; it includes features designed for the production of technical and scientific documentation.
- TeX & LaTeX

Introduction

- TeX Release Versions
  - MiKTeX
  - TeX Live
  - MacTeX
- Editors
  - TexStudio (for Windows, Linux, and Mac)
  - TeXworks (TeX Live)
  - WinEdt
  - Sublime Text (LatexTool)
  - ShareLaTeX

Introduction

- Suites
  - Windows:
    - MiKTeX2.9+TexStudio
    - CTeX Chinese Suites (MiKTeX2.9+WinEdt+Chinese Expansion)
  - Linux:
    - Tex Live (containing TeXwork) / Sublime Text (+LatexTools plug-in)
  - Mac:
    - MacTeX / Tex Live for Mac
- CTeX Download: https://mirrors.ustc.edu.cn/ctex/legacy/2.9/
- TeX Release Download: https://www.latex-project.org/get/

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Files

- .tex Source File
- .cls Library File
- .bib Bibliography
- .pdf PDF Document
- Figures
  - Vectorgraph: .pdf .eps ....
  - Bitmap: .png .jpg ....
- Intermediate Files:
  - .aux .log .out .synctex.gz

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Commands

- Basic Commands
  - \documentclass{...} Determining the type of source file
  - \usepackage{...} Loading packages
    - Common packages：algorithm、hyperref etc.
  - \begin{...} ... \end{...} Setting environment
    - Common environments：document、enumerate etc.
- Texts & Paragraphs
  - \textbf{...}、\emph{...}、\underline{...}、...
  - \noindent、\centering、\quad、...
  - \newpage、\newline、...

Commands

- Formulas
  - In-line Formula
    - $...$
  - Display Formula
    - $$...$$
    - \begin{displaymath} ... \end{displaymath}
    - \begin{equation} ... \end{equation}
  - Plugging display formula inside in-line formula
    - $ \displaystyle ... $ $ \dfrac{...}{...} $
  - Plugging in-line formula inside display formula
    - $ \textstyle ... $ $ \tfrac{...}{...} $
  - Eqnarray

Commands

- Tables
  - array (environment)
  - table、tabular (environment)
- Figures
  - minipage (environment)
  - subfigure (command)
- Algorithms（Pseudo Codes）
  - algorithm2e (package)

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References

- .bib file (bibtex)
- \bibitem
- \cite

Citations

- \label{} : Setting labels for citations
- Citing the Labels:
  - \ref{}: Figures, Tables, Sections, Algorithms…
  - \eqref{}: Formulas…

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Notes

- Do not use \\、\newline to start a new line
- Primes：`Left，'Right
- \left(and \right) make the brackets match to height of the formula
- Carefully use \vspace, \hspace
- ……

Thanks !