LaTeX: What, Why and How

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Outline

Introduction

- a document preparation system for high-quality typesetting.
- for medium-to-large technical or scientific documents but also for almost any form of publishing.
- the standard for the communication and publication of scientific documents.

Introduction

It is available as free software.
LaTeX is not a word processor! Instead, LaTeX encourages authors not to worry too much about the appearance of their documents but to concentrate on getting the right content.

LaTeX Features

- Typesetting journal articles, technical reports, books, and slide presentations.
- Control over large documents containing sectioning, cross-references, tables and figures.
- Typesetting of complex mathematical formulas.
- Automatic generation of bibliographies and indexes.

Introduction

LaTeX is not a stand-alone typesetting program in itself, but document preparation software that runs on top of Donald E. Knuth's TeX typesetting system.
TeX distributions usually bundle together all the parts needed for a working TeX system and they generally add to this both configuration and maintenance utilities.

History

TEX is a computer language designed for use in typesetting. Invented by Donald E. Knuth when he was revising the second volume of his multivolume magnum opus ‘The Art of Computer Programming‘.
Bugs Reports: program bugs rise by powers of 2 each year from $1.28 or so to a maximum of $327.68.
Click Here

Outline

Why?

Advantages

- Focus on your content without worrying the format of your document.
- Helpful to process with a lot of files(texts, figures ...).
- High typographical quality of the documents.
- Documents with a lot of mathematics symbols.
- Easy to use ‘git‘ for version control.

Disadvantages

- Take time to learn.
- Not easy to change the design of document.

Outline

How?

Software requirements:

- ‘Texlive‘, ‘MiKTex‘ or other useful LaTeX distributions.
- Editor such as ‘Vim‘.
- PDF Reader such as ‘SumatraPDF‘.
- Or the Online Environment Overleaf

My configuration: Texlive + Vim + Vimtex + SumatraPDF
Reference Link: LaTeX Project, CTAN(Comprehensive TeX Archive Network)

LaTeX Tutorials

- 一份其实很短的 LaTeX 入门文档
- The Not So Short Introduction to LaTeX2ϵ or use the command ‘texdoc lshort‘

Use LaTeX templates

- Latex 工作室
- Templates from Overleaf
- English LaTeX Templates
- zjuthesis
- LaTeX Templates for ZJU

Thanks