Introduction to LaTeX

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What is LaTeX

From Wikipedia, the free encyclopedia

LaTeX (lah-tekh, lah-tek or lay-tek, a shortening of Lamport TeX) is a document preparation system. When writing, the writer uses plain text in markup tagging conventions to define the general structure of a document (such as article, book, and letter), to stylise text throughout a document (such as bold and italic), and to add citations and cross-references. A TeX distribution such as TeX Live or MikTeX is used to produce an output file (such as PDF or DVI) suitable for printing or digital distribution. Within the typesetting system, its name is stylised as LaTeX.

Reference: `https://en.wikipedia.org/wiki/Latex`

Installation of LaTeX

Though there are some other distributions of LaTeX(like MikTeX), TexLive is recommended in this lecture.

Windows & Linux

Download TeXLive on the following website (a mirror provided by HUST, Huazhong University of Science and Technology)
`http://mirror.hust.edu.cn/CTAN/systems/texlive/Images/`

MacOS

Download MacTeX on the following website
`http://tug.org/mactex/mactex-download.html`

Linux (Ubuntu or Debian)

Enter the command (fast with apt source mirror)

```
sudo apt-get install texlive-full
```

Selection of IDEs

There are various IDEs recommended that support LaTeX, for example

Texmaker

http://www.xm1math.net/texmaker/

The installation process for Texmaker could be slow without vpn or Shadowsocks.

Sublime Text

http://www.sublimetext.com/

Follow the instructions on https://www.zhihu.com/question/36038602

Atom

http://www.atom.io/

Install the package atom-latex
(see https://github.com/James-Yu/Atom-LaTeX for details)
They all have cross-platform support for Windows, Linux and MacOS.

Documentation on your computer

If you've installed a full version of TeXLive (as strongly recommended), the LaTeX documentation about all you want to is in front of you.

Open the command line and input the command
texdoc docname

You can also use the online version http://www.texdoc.net/

For example, you can use the following types for the docname

tex	about TeX
article	about documentclass article
beamer	about documentclass beamer (used to create slides)
pgf	about TikZ and PGF (used to draw graphs)

Try to texdoc about all new things and then you'll be an expert in LaTeX.