

L^AT_EX Tutorial

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This is just a beginners guide to writing documents in \LaTeX without prior knowledge of \LaTeX . This slide is designed for the \LaTeX workshop at School of Economics, Peking University.

This file and some other materials can be download from my GitHub repository: https://github.com/MengLingchao/LaTeX_tutorial. Please feel free to download and use it.

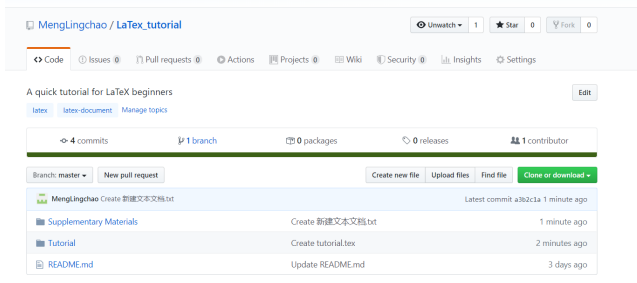


Figure: GitHub Repository

Outline

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Section 1

Introduction

What's L^AT_EX?

L^AT_EX (pronounced either “Lay-tech” or “Lah-tech”)

- is based on Tex, a typesetting system designed by Donald Knuth in 1978 for high quality digital typesetting.
- is a *typesetting system* and *programming language*, not a *word processor*.

This is **my** *first* document prepared in L^AT_EX. I typed it on April 22, 2020.

This is \textbf{my} \emph{first} document prepared in \LaTeX. I \underline{typed} it on \today.

Listing 1: the typesetting nature of L^AT_EX

Why L^AT_EX?

- Donald Knuth says that his aim in creating T_EX is to beautifully typeset *technical documents* especially those *containing a lot of Mathematics*.
- Most English journals have their own L^AT_EX template.
- Even for ordinary text, L^AT_EX is also a good choice.

Installation

On Windows, users have two main choices of TeX system to install: **TeX Live** or **MiKTeX**. I highly recommend Tex Live for the following reasons

- The standard installer for MiKTeX installs 'just the basics' and uses on-the-fly installation for anything else you need; the standard install for TeX Live is 'everything' (about 4.5 Gb!).
- Real-time updates.
- Faster compilation (especially in case of graphics files)

Installation

There are many different editors of \LaTeX .

- professional \LaTeX editors, such as TeXstudio, TeXwork.
- edit \LaTeX files using Vim, Sublime Text, Visual Code, etc.

Recommend Tex Live with TexStudio, you can refer to <https://blog.csdn.net/zywhehe/article/details/83113214>.

Installation

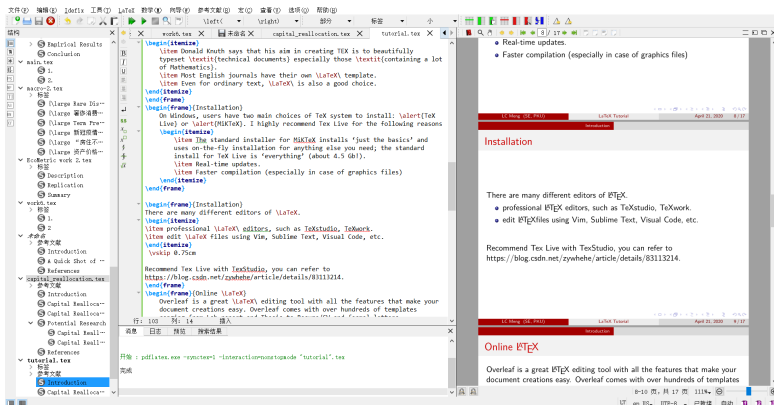


Figure: TeXstudio

Online L^AT_EX

Overleaf(<https://www.overleaf.com/>) is a great L^AT_EX editing tool with all the features that make your document creations easy. Overleaf comes with over hundreds of templates ranging from Lab report and Thesis to Resume/CV and formal letters.

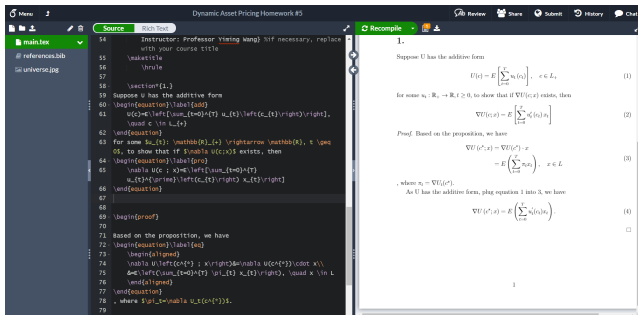


Figure: Overleaf website

Section 2

L^AT_EX Basic

The basic structure of a L^AT_EX file

- 1 The *documentclass* command: define the property of the file
 - article, beamer, report, thesis, letter, book
- 2 Preamble: including the packages, format the article.
- 3 Begin and end of the document: the main body of the file.

```
\documentclass[options]{article}  
Preamble (for LATEX commands only)  
\begin{document}  
Document text (text with embedded LATEX commands)  
\end{document}
```

title

内容...

My First Document

My Name

School of Economics
Peking University

April 22, 2020

A sentence of text.

```

1 \documentclass[a4paper,12pt]{
   article }
2 \title{My First Document}
3 \author{My Name}
4 \date{\today}
5 \maketitle
6 \begin{document}
7   A sentence of text.
8 \end{document}

```

Listing 2: the basic document structure

Basic Typesetting

- Simply enter your content in most times, just like using word or txt.
- When you need to start a new paragraph, add `\par` in the end or empty one line between two paragraphs.

The first paragraph.
The second paragraph.
The third paragraph.

```
1 The first paragraph.\par
2 The second paragraph.
3
4 The third paragraph.
```

Listing 3: new paragraph

Section 3

Basic Typesetting

Font effects

There are \LaTeX commands for a variety of font effects:

hello world

hello world

hello world

HELLO WORLD

hello world

```

1 \textbf{hello world}
2
3 \textit{hello world}
4
5 \underline{hello world}
6
7 \textsc{hello world}
8
9 \textrm{hello world}

```

Listing 4: Font effects

Colored text

- Include the xcolor package in the preamble by `\usepackage{xcolor}`.
- Also can define customized color
`\definecolor{myred}{RGB}{231, 76, 60}`.

- Red
- Gray
- Myred

```

1 \begin{itemize}
2   \item \textcolor{red}{Red}
3   \item \textcolor{gray}{Gray}
4   \item \textcolor{myred}{Myred}
5 \end{itemize}

```

Listing 5: Colored text

Section 4

Capital Reallocation: the Theory

Section 5

Potential Research

Capital Reallocation in China Market

Capital Reallocation and Empirical Asset Pricing

Section 6

References