

# learn LaTeX

muhoushaonian

August 24 2018

## 1 What is LaTeX?

A markdown tool to create professional-looking article.

## 2 Why learn LaTeX?

Acknowledge this tool can make many problem easy. such as table, painting, math formula code etc.

It also plays well in the connection with github.

## 3 What do I learn?

I spend almost a day to learn how to do it.( low efficiency because of bad status.)

### 3.1 preamble

The description of your file. For example: the class of your document, the package you have installed , paper size font size, code mode etc.

### 3.2 author,title,date

Note: It dispalys before the "`\begin{document}`"

Ex: `\title{Learn LaTeX}`

### 3.3 comments

Usage: `%`

### 3.4 font style

1. Bold  
Some of the `\textbf{greatest}` discoveries

2. italics  
by `\textit{accident}`
3. underlining  
in `\underline{science}`

### 3.5 images

Note: Captions, labels and references are involved in this part.

1. Captions It's the description of an image If you want to make it below the image you can do "`\caption{caption-content}`" before `\includegraphics{picture-file}`
2. labels It often occurs with ref. We can understand in this way: label is to rename the element and ref to use it
3. references

### 3.6 lists

usage:

Unordered lists: `\begin{itemize}`  
ordered lists: `\begin{enumerate}`

### 3.7 math

Note : I just know it easily.

the math in LaTeX exists in two ways: inline mode and display mode.

Here I print some complete Formula.

$$T_{j_1 j_2 \dots j_q}^{I_1 I_2 \dots I_p} = T(x^{i_1}, \dots, x^{i_p}, e_{j_q})$$

$$\sin(\beta)$$

$$\cos(\alpha)$$

### 3.8 report

Note: This part plays an important role in writing paper.

- `\part{part}`

- `\chapter{chapter}`
- `\section{section}`
- `\subsection{subsection}`
- `\subsubsection{subsubsection}`
- `\paragarph{parparph}`
- `\subparagraph{subparagraph}`

### 3.9 tables

Ex: `\begin{tabular} —c—c—c— \hline 1 2 3`  
`4 5 6`  
`7 8 9`  
`\hline \end{tabular}`