Let’s get started with a “cold” joke 🤣
Typesetting and \LaTeX

∃ Another beautiful world ∈ \TeX

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Outline

1. Aesthetics and Typesetting
   - Content v.s. Appearance
   - What on earth is beautiful
   - Who is to learn \TeX

2. Basic Knowledge of \LaTeX
   - History and Contributors
   - Installation
   - Happy \TeXing
A Preliminary Comparison
Which is more important?

Content

- Content is the essential (which is out of question)
A Preliminary Comparison

Which is more important?

Content

- Content is the essential (which is out of question)

Appearance

- But appearance do influence on the effect of your expression!
- Nobody would like ugly papers, books, and slides, etc, though it’s not correct to judge people by their appearances.
Intuitional Examples
Tell me your feelings after careful examination

Formula 1
\[ \sum_{p \text{ prime}} f(p) = \int_{t>1} f(t) \, d\pi(t). \]

Formula 2
\[ \sum_{p \text{ prime}} f(p) = \int_{t>1} f(t) \, d\pi(t). \]
Intuitional Examples
Tell me your feeling about this formula

Formula 3

\[ 2 \uparrow\uparrow k \overset{\text{def}}{=} \underbrace{2 \cdot 2 \cdot \cdots \cdot 2}_k. \]

God! Eventually I didn’t find the way to input

\[ \overset{\text{def}}{=} \]

in MS Word...
Intuitional Examples
Even this one!

Formula 4

Oh, please kill me... Orz...
Check Some Papers

- Let’s make further comparisons between MS word and \TeX
Are You “Picky”?  
Being “picky” is not the only reason

- Elegant/Complex (mathematical) characters
- Clean codes (what about HTML? XML? ...)
- Content-focused (Do you agree? \LaTeX{} is based on the idea that it is better to leave document design to document designers, and to let authors get on with writing documents.)
- A little bit time-consuming :-(( Sure, it’ undeniable
My Viewpoints
Again, \TeX\ is not everybody’s business

- Wanna write graceful papers?
- Or wanna write letters to your dear papa and mama?
- Of course you know the difference
What’s \TeX? Who is Donald Knuth? Genius?

- \LaTeX{} is based on Donald E. Knuth’s \TeX{} typesetting language or certain extensions.
- Knuth: Professor Emeritus of *The Art of Computer Programming* at Stanford University
- \TeX{} (\(=\) tau epsilon chi) is a computer language designed for use in typesetting; in particular, for typesetting math and other technical material.
- Of course there’re other contributors such as Hermann Zapf, etc.
How Was TEx Born?
You might be astonished by the interesting reason

In the late 1970s, Donald Knuth was revising the second volume of his multivolume magnum opus *The Art of Computer Programming*, got the galleys, looked at them, and said (approximately) ”bleccch”! he had just received his first samples of the new computer typesetting, and its quality was so far below that of the first edition of Volume 2 that he couldn’t stand it. He thought for a while, realized digital typesetting meant arranging 0’s and 1’s (ink and no ink) in the proper pattern, and said (approximately),
”As a computer scientist, I really identify with patterns of 0’s and 1’s; I ought to be able to do something about this”, so he set out to learn what were the traditional rules for typesetting math, what constituted good typography, and (because the fonts of symbols that he needed really didn’t exist) as much as he could about type design. He figured this would take about 6 months. (Ultimately, it took nearly 10 years, but along the way he had lots of help from some people who should be well known to readers of this list - Hermann Zapf, Chuck Bigelow, Kris Holmes, Matthew Carter and Richard Southall are acknowledged in the introduction to Volume E, Computer Modern Typefaces, of the Addison-Wesley Computers & Typesetting book series.)
Quality of \TeX

- The story of $2.56$
- How many authors can guarantee their programs never (even seldom) break down?
Actually both \TeX{} and \LaTeX{} are free (open source)!

We use \texttt{CTeX} to avoid problems caused by Chinese characters.

Caution! \texttt{WinEdt} (an editor) and \texttt{GSview} are two kinds of shareware! (There’s also alternative free editor, e.g. \texttt{TeXnicCenter}, etc.)

Usually what you see is just WinEdt other than \TeX{} or \LaTeX{
Let’s March for TEX!
A simple beginning

WinEdt

- Say goodbye to my lovely “WYSIWYG” :-(
- Besides, I have to mention the pitfalls of “WYSIWYG”

Structure of a document

```latex
\documentclass{article}
\begin{document}
Small is beautiful.
\end{document}
```
Happy \TeXing
Thanks!