

Let's get started with a “cold” joke



Typesetting and L^AT_EX

∃ Another beautiful world ∈ T_EX

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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 \TeX ing

A Preliminary Comparison

Which is more important?

Content

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

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Content

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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

$$2 \uparrow\uparrow k \stackrel{\text{def}}{=} 2^{2^{\cdot^{\cdot^{\cdot^2}}}} \}^k .$$

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

$$\stackrel{\text{def}}{=}$$

in MS Word...

Intuitional Examples

Even this one!

Formula 4

$$\begin{array}{ccccccc}
 & & & & 0 & & \\
 & & & & \downarrow & & \\
 0 & \longrightarrow & \mathcal{O}_C & \xrightarrow{\iota} & \mathcal{E} & \xrightarrow{\rho} & \mathcal{L} \longrightarrow 0 \\
 & & \parallel & & \downarrow \phi & & \downarrow \psi \\
 0 & \longrightarrow & \mathcal{O}_C & \longrightarrow & \pi_* \mathcal{O}_D & \xrightarrow{\delta} & R^1 f_* \mathcal{O}_V(-D) \longrightarrow 0 \\
 & & & & & & \downarrow \theta_i \otimes \gamma^{-1} \\
 & & & & & & R^1 f_* (\mathcal{O}_V(-iM)) \otimes \gamma^{-1} \\
 & & & & & & \downarrow \\
 & & & & & & 0
 \end{array}$$

Oh, please kill me... Orz...

Check Some Papers

- Let's make further comparisons between MS word and T_EX

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? L^AT_EX 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, T_EX 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 T_EX? Who is Donald Knuth?

Genius?

- L^AT_EX is based on Donald E. Knuth's T_EX typesetting language or certain extensions.
- Knuth: Professor Emeritus of *The Art of Computer Programming* at Stanford University
- T_EX (= 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 T_EX 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),

How Was T_EX Born?

Continued

"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 T_EX

- The story of \$2.56
- How many authors can guarantee their programs never (even seldom) break down?

C_TE_X

Chinese T_EX

- Actually both T_EX and L^AT_EX are free (open source)!
- We use **C_TE_X** to avoid problems caused by Chinese characters.
- Caution! **WinEdt** (an editor) and **GSview** are two kinds of *shareware*! (There's also alternative *free* editor, e.g. **TeXnicCenter**, etc.)
- Usually what you see is just WinEdt other than T_EX or L^AT_EX

Let's March for T_EX!

A simple beginning

WinEdt

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

Structure of a document

```
\documentclass{article}  
\begin{document}  
Small is beautiful.  
\end{document}
```

Happy T_EXing



Thanks!

THANKS

THANKS

THANKS

THANKS