

Minimalism

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¹and protect my footnotes

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1 Start

I read that Knuth divides the people working with T_EX into T_EXnicians and T_EXperts.

Today is September 27, 2021

...when Einstein introduced his formula

$$e = m \cdot c^2 , \tag{1}$$

which is at the same time the most widely known and the least well understood physical formula.

...from which follows Kirchoff's current law

$$\sum_{k=1}^n I_k = 0 . \tag{2}$$

Kirchoff's voltage law can be derived ...

...which has several advantages.

$$I_D = I_F - I_R \tag{3}$$

is the core of a very different transistor model. ...

shelfful

shelfful

Mr. Smith was happy to see her

cf. Fig. 5

I like BASIC. What about you?

Footnotes² are often understood by people using L^AT_EX.

²This is a footnote.

If you use emphasizing inside a piece of emphasized text, then \LaTeX uses the normal font for emphasizing.

2 Document Layout

2.1 Emphasized

*You can also emphasized text if it is set in italic, in a *sans-serif* font, or in *typewriter* style.*

2.2 Environment

2.2.1 Itemize, Enumerate, and Description

1. You can mix the list environment to your taste:

- But it might start to look silly.
- With a dash.

2. Therefore remember:

Stupid things will not become smart because they are in a list

Smart things, though, can be presented beautifully in a list.

2.2.2 Flushleft, Flushright, and Center

This text is
left-aligned. \LaTeX is not trying to make each line the same length.

This text is right-
aligned. \LaTeX is not trying to make each line the same length.

At the center
of the earth.

This text is default.
 \LaTeX is not trying to make each line the same length.

2.2.3 Quote, Quotation, and Verse

A typographical rule of thumb for the line length is:

On average, no line should be longer than 66 characters.

This is why \LaTeX pages have such large borders by default and also why multicolumn print is used in newspaper.

I know only one English poem by heart. It is about Humpty Dumpty.

Humpty Dumpty sat on a wall:
 Humpty Dumpty had a great fall.
 All the King's horses and all the King's men
 Couldn't put Humpty together again.

2.2.4 Print words by words

The \ldots command ...

```
10 PRINT "HELLO WORLD" ;
20 GOTO 10
```

```
UUUUthe_starred_version_of
UUUUtheUUUUverbatim
UUUUenvironment_emphasizes
UUUUthe_spaces_in_the_text
```

2.2.5 Table

7C0	hexadecimal
3700	octal
11111000000	binary
1984	decimal
Welcome to Boxy's paragraph. We sincerely hope you'll all enjoy the show.	

no leading space

	Pi expression	Value
leading space left and right	π	3.1416
	π^π	36.46
	π^{π^π}	80662.7

Ene
Mene Muh!

2.3 Protect Command

2.4 I am considerate ³

3 Mathematics

3.1 Basic Knowledge

Add a squared and b squared to get c squared. Or, using a more mathematical approach: $c^2 = a^2 + b^2$

T_EX is pronounced as $\tau\epsilon\chi$.

³and protect my footnotes

100 m³ of water

This comes from my ♡

Add a squared and b squared to get c squared. Or, using a more mathematical approach:

$$c^2 = a^2 + b^2$$

And just one more line.

$$\epsilon > 0 \tag{4}$$

From (4), we gather ...

$$\lim_{n \rightarrow \infty} \sum_{k=1}^n \frac{1}{k^2} = \frac{\pi^2}{6}$$

$$\lim_{n \rightarrow \infty} \sum_{k=1}^n \frac{1}{k^2} = \frac{\pi^2}{6}$$

$$\forall x \in \mathbf{R} : \qquad x^2 \geq 0 \tag{5}$$

$$x^2 \geq 0 \qquad \text{for all } x \in \mathbf{R} \tag{6}$$

$$x^2 \geq 0 \qquad \text{for all } x \in \mathbb{R}$$

3.2 Groups

$$a^x + y \neq a^{x+y} \tag{7}$$

3.3 Set mathematical formula module

$$\lambda, \xi, \pi, \mu, \Phi, \Omega, \alpha$$

$$a_1 \qquad x^2 \qquad e^{-\alpha t}$$

$$e^{x^2} \neq (e^x)^2 \quad \sqrt{x} \qquad \sqrt{x^2 + \sqrt{y}} \qquad \sqrt[3]{2}$$

$$\sqrt{[x^2 + y^2]}$$

$$\frac{m+n}{\qquad} \qquad \frac{m+n}{\qquad}$$

$$\underbrace{a+b+\cdots+z}_{26}$$

$$y = x^2 \qquad y' = 2x \qquad y'' = 2$$

$$\vec{a} \quad \overrightarrow{AB}$$

$$v = \sigma_1 \cdot \sigma_2 \tau_1 \cdot \tau_2$$

$$\lim_{x \rightarrow 0} \frac{\sin x}{x} = 1$$

$$\binom{n}{k} \qquad \frac{x}{y+2} \qquad \int f_N(x) \stackrel{!}{=} 1 \qquad a,b,c \neq \{a,b,c\}$$

$$1 + \left(\frac{1}{1-x^2}\right)^3$$

$$\left((x+1)(x-1)\right)^2\qquad \left(\left(\left(\left(\right)\right)\right)\right)$$

3.4 Math White Space

$$\iint_D g(x,y)\,\mathrm{d}x\,\mathrm{d}y$$

instead of

$$\int\int_D g(x,y)\mathrm{d}x\mathrm{d}y\qquad \iint$$

3.5 Vertically Aligned

$$\mathbf{X} = \left(\begin{array}{ccc} x_{11} & x_{12} & \cdots \\ x_{21} & x_{22} & \cdots \\ \vdots & \vdots & \ddots \end{array}\right)$$

$$y = \left\{\begin{array}{ll} a & \text{if } d > c \\ b+x & \text{in the morning} \\ l & \text{all day long} \end{array}\right.$$

$$\left(\begin{array}{c|c} 1 & 2 \\ \hline 3 & 4 \end{array}\right)$$

$$f(x) \quad = \quad \cos x \tag{8}$$

$$f'(x) \quad = \quad -\sin x \tag{9}$$

$$\int_0^x f(y)\mathrm{d}y \quad = \quad \sin x \tag{10}$$

$$\sin x = x - \frac{x^3}{3!} + \frac{x^5}{5!} - \qquad \qquad \qquad - \frac{x^7}{7!} + \cdots \tag{11}$$

$$\begin{aligned} \cos x = 1 - \frac{x^2}{2!} + \\ + \frac{x^4}{4!} - \frac{x^6}{6!} + \cdots \end{aligned} \tag{12}$$

3.6 Phatom

$$\begin{array}{ccc} {}^{12}_6\mathrm{C} & \text{versus} & {}^{12}_6\mathrm{C} \\ \Gamma_{ij}^{\;\;k} & \text{versus} & \Gamma_{ij}^k \end{array}$$

3.7 Math Font

$$2^{\text{nd}} \quad 2^{\text{nd}} \quad (13)$$

$$\text{corr}(X, Y) = \frac{\sum_{i=1}^n (x_i - \bar{x})(y_i - \bar{y})}{\left[\sum_{i=1}^n (x_i - \bar{x})^2 \sum_{i=1}^n (y_i - \bar{y})^2 \right]^{1/2}}$$

3.8 Definition

Law 1 *Dont' hide in the witness box*

Jury 2 (The Twelve) *It could by you! So beware and see law 1*

Law 3 *No, No, No*

Murphy 3.8.1 *If there are two or more ways to do something, and one of those ways can result in a catastrophe , then someone will do it.*

3.9 Bold Symbols

$$\mu, M \quad \mathbf{M} \quad \boldsymbol{\mu}, \boldsymbol{M}$$

$$\mu, M \quad \boldsymbol{\mu}, \boldsymbol{M}$$

4 Special Function

4.1 Bibliography

Part1 [1] has proposed that ...

References

- [1] H. Part1: *GermanT_EX* TUGboat Volume 9, Issue 1 (1998)

4.2 Index

5 DIY LaTeX

5.1 Set up new command/environment/package

5.1.1 Set up new command

This is "The not so Short Introduction to L^AT_EX" ... "The not so Short Introduction to L^AT_EX"

- This is the *not so* Short Introduction to L^AT_EX
- This is the *very* Short Introduction to L^AT_EX

5.1.2 Set up new environment

■ My humble subjects ... ■

5.1.3 Set up new package

5.2 Font and Size

5.2.1 Font Transform commands

The small and **bold** Romans ruled all of great big *Italy*.
 He likes large and small letters. This is not true. But then
 again, what is these days ...

5.3 Seperators Between Objects

5.3.1 Row Distance

5.3.2 Paragraph

5.3.3 Surface Distance

This is a white space with 1.5cm.

x x x

5.3.4 Vertical Distance

5.4 More Details of Length

$$a^2 + b^2 = c^2$$

Where: a, b – are adjunct to the right angle of a right-angled triangle.
 c – is the hypotenuse of the triangle and feels lonely.
 d – finally does not show up here at all. Isn't that puzzling?

5.5 Box

c e n t r a l

s p a c e

Guess I'm framed now!

Bummer, I am too wide

never Candy so read this?