LaTeX Tutorial

By Derek Banas

December 21, 2018

Contents

Chapter 1

Chapter Name

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

1.1 A Section

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. $\sin^2(\alpha)+\cos^2(\beta) = 1$. If you read this text, you will get no information $E = mc^2$. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. $\sqrt[n]{a} \cdot \sqrt[n]{b} = \sqrt[n]{ab}$. This text should contain all letters of the alphabet and it should be written in of the original language. $\frac{\sqrt[n]{a}}{\sqrt[n]{b}} = \sqrt[n]{\frac{a}{b}}$. There is no need for special content, but the length of words should match the language. $a\sqrt[n]{b} = \sqrt[n]{a^n b}$. Hello, here is some text without a meaning. $\mathrm{d}\Omega = \sin\vartheta \mathrm{d}\vartheta \mathrm{d}\varphi$. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. $\sin^2(\alpha) + \cos^2(\beta) = 1$. This text should contain all letters of

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- First item in a list
- Second item in a list
- Third item in a list
- Fourth item in a list
- Fifth item in a list

1. First item in a list
2. Second item in a list
3. Third item in a list
4. Fourth item in a list
5. Fifth item in a list

First item in a list

Second item in a list

Third item in a list

Fourth item in a list

Fifth item in a list

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Wrap Image

Figure 1.1: Pretty Picture

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Spacing

This is our first LaTeX document. It is quite amazing. The 1st line isn't indented.

The second line is indented. If we use multiple spaces it won't matter

Special characters can be escaped % $ & _ \

1.2 Smoothie Recipe

- 1 Cup Spinach
- 1 Cup Frozen Blueberries
- 2 Bananas
- 1.5 Cups Almond Milk
- Powders
  - 1 Tbs PB2
  - 1 Tsp Ambla Powder
- 6 Dates

1.3 Perfect Meal Recipe

I Add the following and cook for 2 minutes
- 1 tsp Olive Oil
- 1 Cup Onion, diced
- 3 cloves Garlic, minced
- 1 tsp Salt
- 1 Cup chopped Portobello Mushrooms

II Add the following and stir for 2 minutes
- 2 TBs Curry Powder
- 1 tsp Fresh Minced Ginger
- 2 TBs Tomato Paste

III Add the following and simmer for 15 minutes
- 1 cup uncooked Lentils
- 4 cups Vegetable Broth

IV Add the following and simmer for 20 minutes
- 2 cups chopped Carrots
- 4 Cups cubed Yams

V Add the following and cook for 10 minutes
- 2 cups boiled diced Collard Greens
- 1 cup frozen diced Spinach

Philtrum The vertical groove on the median line of the upper lip
Darkle Becoming cloudy or dark
Pogonotrophy Growing and grooming a beard or other facial hair
Interrobang A punctuation mark designed for use especially at the end of an exclamatory rhetorical question; usually written as ?!

Customer Name	Street	City
Derek Banas	123 Main St	Pittsburgh

	Name		Age
First	Last		
Derek	Banas	44	//
Sally	Smith	42	

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1.4 Type Emphasis & Sizing

If you want font changes to continue *italic, slanted,* SMALL CAPS, upright, back to normal

Name	Command	Sample Text
emphasize	`\emph`	*abcdefgh*
italic	`\textit`	*abcdefgh*
slanted	`\textbf`	**abcdefgh**
bold	`\emph`	*abcdefgh*
small capped	`\textsc`	ABCDEFGH
medium	`\textmd`	abcdefgh
upright	`\textup`	abcdefgh
roman family	`\textrm`	abcdefgh
sans serif	`\textsf`	abcdefgh
typewriter	`\texttt`	`abcdefgh`
combo	`\textup{\textbf{}}`	***abcdefgh***

Table 1.1: Ways to emphasize text

Get Smaller : normal, small, footnote, script, tiny

Get Bigger : large, larger, larger, huge, Hugest

I want to use a big font

Back to normal

1.5 Font Families

We can temporarily change a font family, `or change it for the rest of the document`

> "I like long walks, especially when they are taken by people who annoy me." - Fred Allen

1.6 Math Formulas

$ax^2 + bx + c = 0$

This $ax^2 + bx + c = 0$ is the quadratic equation

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Greek letters $\alpha\beta\gamma\delta\epsilon\zeta\eta\theta\vartheta\iota\kappa\lambda\Lambda\mu\nu\xi\Xi\pi\Pi\rho\varrho\sigma\Sigma\tau\upsilon\Upsilon\phi\varphi\Phi\chi\psi\Psi\Omega\omega$

Script letters $\mathcal{A}, \mathcal{B}$
Subscript t_0

Superscript x^2

Vectors $\vec{a} \cdot \hat{x} = a_x$
Matrices $\begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix}$
Integrals $\Delta x = \int_{t_0}^{t_1} v(t)dt$

Limits $\lim_{x \to 0} \frac{1}{x} = \infty$

Summations $e^x = \sum_{n=0}^{\infty} \frac{x^n}{n!}$

Operators $\arccos, \arcsin, \arctan, \arg, \cos, \cosh, \cot, \coth, \deg, \det, \dim, \exp, \gcd, \hom, \inf, \ker, \lim, \lg, \liminf, \limsup, \ln, \log, \max, \min, \Pr, \sec, \sin, \sinh, \sup, \tan, \tanh$

Arrows $\leftarrow, \Leftarrow, \rightarrow, \Rightarrow, \leftrightarrow, \rightleftharpoons, \uparrow, \downarrow, \Uparrow, \Downarrow, \Leftrightarrow, \Updownarrow, \mapsto, \longmapsto, \nearrow, \searrow, \swarrow, \nwarrow, \leftharpoonup, \rightharpoonup, \leftharpoondown, \rightharpoondown$

Relational Operators $\geq, \gg, \leq, \ll, \neq$

Binary Operation/Relation Symbols $\approx, \asymp, \bowtie, \cong, \dashv, \doteq, \equiv, \frown, \mid, \models, \parallel, \perp, \prec, \preceq, \propto, \sim, \simeq, \smile, \succ, \succeq, \vdash$

1.7 Custom Commands

You can use custom commands : New Think Tank or **New Think Tank**
Style to `typewriter`.

1.8 Text Columns

Get in the middle of me
Okay

I used to think I was indecisive, but now I'm not too sure.

Always remember that you're unique. Just like everyone.

I always wanted to be somebody, but I should have been more specific.

When I was a kid my parents moved a lot, but I always found them.

One advantage of talking to yourself is that you know at least somebody's listening.

1.9 Referencing

The answer you're looking for is inside of you, but it's wrong.[2]

There is a great table on Type Emphasis is in this section 1.4 on page 7 There is a pretty picture in section 1.1 on page 6

How I learned my ABCs [1].

[2] author unknown

Bibliography

[1] Walter Abish *The Alphabetical Africa*, 1974

When I was born I was so ugly the doctor slapped my mother - Rodney Dangerfield

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1.9.1 A Subsection

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