CHAPTER 5: TYPING TEXT

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Abstract. We will review

- The keyboard
- Spacing rules
- Commands and environments
- Symbols not on the keyboard
- Comments and notes
- Changing font characteristics
- Lines, paragraphs, and pages
- Spaces
- Boxes

$\sqrt[3]{5}$ $\sqrt[4]{f(x) - \sqrt{x^2}}$

December 21, 2011is the day compare to: December 21, 2011 is the day

Let's look at example H. See what we get?

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"She replied, 'No.'" "She replied, 'No.' "

Let's print the special characters: \, |, ∗, @, {, }, & ˆ, $, _, #, %, ˜ ... vs . . .

look at the dotless i: ɪ

look at the dotless j: ȷ

Let's type some accents: ó, ǒ, ŏ, ç, ô, ü, ő, ò ɪ, í, ō, ġ, ů, o͡o, ñ, ṃ, o̲, ȷ, ǰ

TEXand LATEX

2011 420 12 21. So the date is 12/21/2011. We could also write this as December 21, 2011.

Sometimes LATEXcannot properly hyphenate a word so you must hyphenate the word for this program to understand. Note how these hyphens are not typeset.

To see how LATEX hyphenates a word, use the \showhyphens command.

The \showhyphens command shows you the hyphenation in the log file.

If you need to comment out large amounts of text, use the comment environment:
You didn't see what was above because it was commented. Also, the comment environment requires the verbatim package. The comment environment is excellent for finding errors in code.

Here is a footnote[1]. And here is another footnote[2].

Here are a few fonts you may use:
emphasis which can also be written as *emphasis*
bold which can also be written as **bold**
`typewriter style` which can also be written as `typewriter style`
SMALL CAPITALS which can also... SMALL CAPITALS
emphasis
emphasis

What is the difference between *emphasis* and *italics*? I think I know: the document class specifies how emphasis will be typeset. It is italic or slanted unless the surrounding text is italic or slanted, in which case it is upright. Check this out: *we will describe a* lattice *in which it is blah.* To the \emph command is more versatile than the \textit command

Note that if you don't want something hyphenated (one instance) you can write \text and the argument is the word you are going to type that you don't want hyphenated at the instance you want to use the word.
*don't forget the italic correction M*M. See how it helps? Compare this to:
*don't forget the italic correction M*M. (This is bad)
However, the shape environment need not the correction:
*don't forget the italic correction M*M.

Text is small

but growing every so slowly

until it becomes big enough

to be read well enough

to be considered normal text

[1] footnotes are easy to place
[2] my second footnote

like this

but it keeps on growing

without fail

and growing and growing

becoming as large as possible

until it reaches its fullest size.

we can also use the \larger command to increase the text by the number of sizes specified by the optional argument. The sample applies for the \smaller command with an optional argument as well.

Something you didn't know is that the \\ command can take on an optional argument.

I just looked at my bio modeling grade. How depressing.
For double spacing I can include the command
\renewcommand{\baselinestretch}{1.5}

Did you even consider the \indent command for when there otherwise wouldn't be an indent??

We see that to set a hanging indent we must use the \setlength and \hangindent commands. Remember boys and girls that there are 72.27 points in an inch.

When there are blank lines in the .tex file the text surrounding is no longer indented... New paragraph means back to default formatting.

To create horizontal spacing, use the \hspace command with the mandatory argument to specifiy how long the space will be. It is possible to have negative spacing. Here is a negative space-negative space.

alpha gamma
beta epsilon
gamma

alpha beta
epsilon
alpha beta gamma epsilon

Normally space before a new
line is removed but the ∗-ed variant of \hspace
prevents this.

The command \vspace is analogous to \hspace. Standard amounts of vertical space are provided by the commands \smallskip (3 pts), \medskip (6 pts), and \bigskip (12 pts). There is an analogous phantom command which is called \vphantom.

So there are different units for vertical and horizontal spacing. We have points (pt), inches (in), centimeters (cm). There is also a useful measurement that is relative to the text. They are the *em* and *ex*. The em is the width of an M in the current font. The ex is the height of an x in the current font. Use em and ex just as if they were units in \hspace and \vspace, etc. Note that the \vspace command applies once the line it has been entered on ends. So end the line once you enter the \vspace command, please.

So apparently the \text command is all a single character so if i want to find out what happens for a really long argument I can type This is going to be a super long argument and I'm not quite sure what will happen. Clearly the text over-runs the margin.

The command \makebox or \mbox create an invisible box surrounding the text inside and it's all one character. The optional arguments include the width (which may take the arguments \height, \depth, \totalheight, and \width) and alignment (l, r, c, s). For example, compare 1 with 1 in which the second is actually a square box.

There's also another cool box we can make. It's the \framebox or \fbox. This is a framed box.

There's also a cool command that allows you to create a paragraph box. Note that normal boxes don't wrap around lines and go past the margin. A paragraph box is created by the \parbox command and it has two required arguments: the width of the box and the text you will put in. You can make a framed paragraph box using the \fbox command:

This is a paragraph box and as you can see the text wraps around. This is all one character and cannot be broken...

The full version of the command is:
\parbox[*alignment*][*height*][*inner-alignment*]{*width*}{*text*}

Note that the alignment option is the horizontal alignment of the text and the inner-alignment argument is the vertical alignment of the text.

There's also the \marginpar command. I am not sure how to format with optional arguments. :(see what i mean?

Struts are solid boxes of zero width. They are used to help typeset by altering the vertical alignment. The command is \strut or \mathstrut. See this: ab ab ab ab

You can make solid boxes, like those used at the end of a proof, with the \rule[*displacement*]{*width*}{*height*} ■

Lastly we can fine tune boxes with the command \raisebox{*distance raised/lowered*}[*height above top*][*distance below bottom*]{*text*}.
Fine-$^{\text{tun}}_{\text{ing}}$.