

Customizing L^AT_EX

Son To *

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1 New commands, Environments and Packages

1.1 New commands

The format for the new commands is:

`\newcommand{name}[num]{definition}`

An example of this is The not so short introduction to L^AT_EX 2_ε, and hey, we have The not so short introduction to L^AT_EX 2_ε.

Another example is:

- This is the *not so* short Introduction to L^AT_EX 2_ε
- This is the *very* long Introduction to L^AT_EX 2_ε

L^AT_EX will allow overwriting available commands only if we use `\renewcommand`, with the same syntax as `\newcommand`. Also, the `\providecommand` works the same as `\newcommand`, but L^AT_EX will silently ignore it if the command exists!

1.2 New environments

`newenvironment{name}[num]{before}{after}`

Let's try an example.

■ I am Edward Longsharks... ■

Similar to new commands, we have `\renewenvironment`

1.3 Extra space

I lied.

I have an healthy baby boy.

Same

here.

When creating a new environment, extra spaces can easily creep in. Fix this problem with `\ignorespaces` and `\ignorespacesafterend`

I lied.

I have an healthy baby boy.

Same

here.

1.4 Own package

Use `\ProvidesPackage{package name}` on .sty files containing new modifications.

2 Fonts and Sizes

2.1 Changing Font commands

- Groups are important for limit the effect of font size (and of most \LaTeX commands)
- Font size changes line spacing only if the paragraph ends within the group. See

My name is Darth Vader.

not Palpatine

and

My name is Darth Vader.

not Palpatine

2.2 L^AT_EX, the basic idea

The basic idea of L^AT_EX is to separate the logical from visual markup presentation.

Do not **enter** this room, it's occupied by **machines** of unknown origin and purpose.

`\emph{}` is context aware while changing fonts is absolute.

You can also emphasize text if it is set in italics, in a sans-serif font, or in typewriter style.

3 Spacing

3.1 Line Spacing

`\linespread{factor}`

to change line inter-line spacing in a document. Use `\linespread{1.3}` for “one and a half” line spacing. Use `\linespread{1.6}` for “double” line spacing.

Use the command

`\setlength{\baselineskip}{1.5\baselineskip}`

if you really want to space lines for good reason.

This paragraph is typeset with the baseline skip set to 1.5 of what it was before. Note the `par` command at the end of the paragraph.

This paragraph has a clear purpose: it shows that after the curly brace has been closed, everything is back to normal.

3.2 Paragraph Formatting

Use

```
\setlength{\parindent}{0pt}  
\setlength{\parskip}{1ex plus 0.5ex minus 0.2ex}
```

to influence paragraph formatting in L^AT_EX. Additionally, we can put

```
\indent and \noindent
```

at the beginning of the paragraph.

3.3 Horizontal space

`\hspace{length}` and `\stretch{n}` If a space should be kept no matter what, use `\hspace*`

3.4 Vertical space

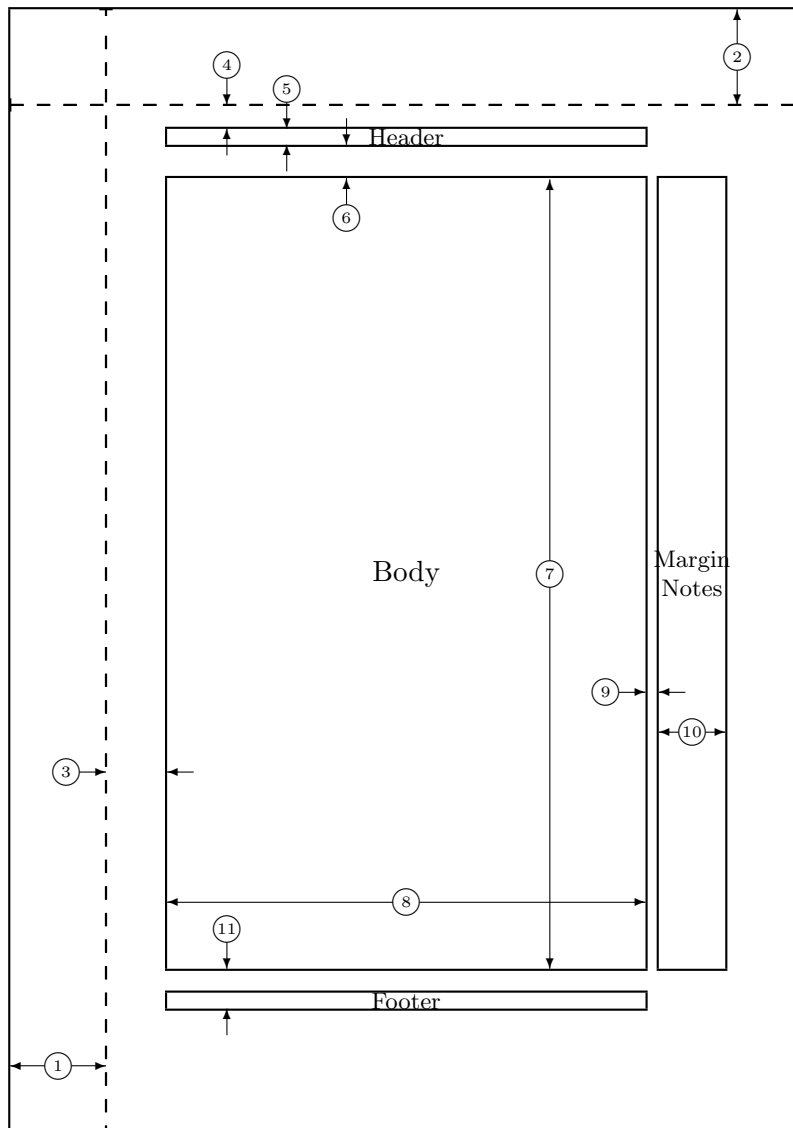
```
\vspace{length}  
\vspace{\stretch{1}}
```

 with `\pagebreak` typesets the last line of the page.
Also, if two lines in the same paragraph, use `\\{length}`. Moreover, `\bigskip` and `\smallskip` come in handy vertically.

4 Page Layout

Pay attention to these two commands, especially the second one. And look at the layout in the next page.

```
\setlength{parameter}{length}  
\addtolength{parameter}{length}
```



- | | | | |
|----|-----------------------|----|----------------------------------|
| 1 | one inch + \hoffset | 2 | one inch + \voffset |
| 3 | \oddsidemargin = 46pt | 4 | \topmargin = 18pt |
| 5 | \headheight = 12pt | 6 | \headsep = 25pt |
| 7 | \textheight = 595pt | 8 | \textwidth = 360pt |
| 9 | \marginparsep = 10pt | 10 | \marginparwidth = 50pt |
| 11 | \footskip = 30pt | | \marginparpush = 5pt (not shown) |
| | \hoffset = 0pt | | \voffset = 0pt |
| | \paperwidth = 597pt | | \paperheight = 845pt |

5 More Fun With Lengths

A modification of format based on the size of other page elements is more useful.

```
\settoheight{variable}{text}
\settowidth{variable}{text}
\settodepth{variable}{text}
```

Now, an example with `\nicespace{}`...

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

Where: a , b – are adjoin 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?

6 Boxes

Paragraph: Pack a paragraph into a box with either

`\parbox[pos]{width}{text}` or

`\begin{minipage}[pos]{width}text\end{minipage}`

with $[pos]=c,t,b$

Horizontally aligned box: `\mbox` to prevent separation of a series of boxes. Also, `\makebox[width][pos]{text}` in which

- $[pos] = c, l, r, s$
- $[width]$ can be `\width`, `\height`, `\depth`, `\totalheight` w.r.t *text* width.
- `\framebox` works exactly the same with the addition of having a drawn box around.

Example:

c e n t r a l

c e n t r a l

Guess I'm framed now!

Bummer, I am too wide

never say never, so this?

Can you read this?

Vertically aligned box:

`\raisebox{lift}[extend-above-baseline][extend-below-baseline]{text}`

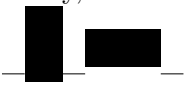
Example:

Aaaaar she shouted, but not even the next one in line noticed that something terrible had happened to her.

h

7 Rules

`\rule[lift]{width}{height}`
is used to, usually, draw a box.

Examples: 

Sayonara.