

The SMILETEX Documentation

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1 What is SMILETEX?

SMILETEX is a small tool which creates LaTeX files out of normal (and always shorter) text files. These text files must be structured in a intuitive way using a handful of very simple and short commands. It comes together with some other tools which allow the inclusion of nearly any graphics file as well as Microsoft Excel tables and using a LaTeX distribution it automatically creates PDF, DVI or HTML files.

All in all, SMILETEX lets the user write simple LaTeX documents in a much faster manner, because the most commonly used commands (e.g. `\section`) are replaced by much shorter commands or even inserted by analyzing the contents (e.g. `\url`).

1.1 What Types of Text are Easy to Create Using SMILETEX ?

It's easy to create nice formatted scientific documents of any length. Equations, graphics, tables, multi-column text, footnotes and a lot more are possible. As SMILETEX is an extension to LaTeX, nearly every LaTeX command can be included.

1.2 What Types of Text are Hard to Create Using SMILETEX ?

It's not possible to format everything as the user wants since SMILETEX follows strict rules to keep the SMILETEX files as short as possible.

But even if the SMILETEX layout is not sufficient, it is always possible to write the complete document using SMILETEX and to modify the generated LaTeX file afterwards to gain a different layout (which will be faster than to type the LaTeX document from the scratch).

2 How To Write SMILETEX Documents

2.1 General Rules

As in LaTeX, paragraphs are separated by empty lines and the number of space characters between two words does not matter.

Additionally, SMILETEX knows special paragraphs. These are paragraphs for graphics, equations, tables, lists, descriptions and bibliography items. They are generally detected automatically, but they also follow some rules (see the following corresponding chapters).

A paragraph in SMILETEX always starts and ends with an empty line and the paragraphs first word (or line) is analyzed to see of which type it is (graphics, table, equation, etc.). A space as the paragraphs's first character prevents this check and always assumes text (because LaTeX does not care about this additional space character).

2.2 Special Characters

There exist some characters, having a special meaning for SMILETEX . These are the exclamation mark !, the lower < and greater > characters, the colon : and the percent sign. The exclamation mark is used to indicate commands, < and > are used as brackets for commands and the colon starts labels and references.

To display <, > or % simply type !<, !> or !%. The colon and the exclamation mark can be used as normal.

Example Yes! Text is !<emphasized!> like this.

Output Yes! Text is <emphasized> like this.

2.3 Document Header

All text up to the first >section command (see Chapter 2.7) is called the header. Within the header, the first line must contain the title and the second line must be the author. A third line may be used for the date - if left out, \today will be used. The !language, !newpage, !titlepage and !tableofcontents commands are allowed in the header (and comments of course).

Additionally, LaTeX usepackage commands are allowed in document header to include some extra packages.

Adding more than three lines of text to the header (lines containing only comments or the commands mentioned above do not count) makes SmileTeX use a LaTeX titlepage environment, i.e. the title page may be designed freely using LaTeX and SmileTeX commands together.

Example

2.4 Title Page

There are two ways to create a title page. The first is to use the `!titlepage` command in the document header. This creates a standard title page. The second method is to write all text and commands necessary into the header - SmileTeX will automatically insert a LaTeX titlepage environment.

Example

2.5 Table of Contents

Use the `!tableofcontents` command in the header to add a table of contents.

2.6 Different Languages

Use `!language` in the header to choose the desired language. It affects the layout and also words like "Contents" are translated into the desired language. Possible languages are: *afrikaans, american, austrian, bahasa, brazil, brazilian, breton british, catalan, croatian, czech, danish, dutch, english esperanto, estonian, finnish, francais, french, galician, german, greek, polutonikogreek, hebrew, hungarian, irish, italian lower-sorbian, magyar, norsk, nynorsk, polish, portuges, portuguese romanian, russian, scottish, slovak, slovene, spanish, swedish turkish, uppersorbian, ukrainian, welsh, UKenglish, USenglish.*

Example `!french`

2.7 Sections

Sections, subsections and subsections are inserted by writing `>`, `>>` or `>>>` followed by the desired text at the beginning of a line.

Example

```
>Mechatronics
>>What Is It?
>>Mechanical Engineering
>>Electrotechnics
>>Computer Science
```

2.8 Emphasized Text

Text is emphasized by simply embracing it with `<` and `>`.

Example This is `<important>`.

Output This is *important*.

2.9 Labels and References

SMILETEX labels are inserted by typing a colon : followed by the desired name at the beginning of a line. No other text is allowed in the same line. SMILETEX references are inserted by typing !?? followed by the desired name. They are automatically enhanced with the corresponding name (chapter, page, etc.).

Example

```
...this will be described later (:chaNumComputing).
...
>Numerical Computing
:chaNumComputing
```

2.10 Lists

2.10.1 Unnumbered Lists

Unnumbered lists can be produced by simply typing a dash (-) as a paragraph's first character. Every following dash as a line's first character inserts a new item. Typing two or more dashes forces the next list level (maximum four levels). The next blank line ends the list.

Example

```
...the following ingredients.

-two apples
-wine
--one bottle of red wine
--one bottle of white wine
-orange juice
-...
```

Next paragraph.

Output

```
...the following ingredients.

• two apples

• wine

  – one bottle of red wine
```

- one bottle of white wine
- orange juice
- ...

Next paragraph.

2.10.2 Numbered Lists

Numbered lists can be produced by simply typing "1." as the paragraph's first characters. Every following dash as a line's first character inserts a new item. Typing another "1." forces the next list level. As for the unnumbered lists, typing two or more dashes gives the desired list level (maximum four levels) and the next blank line ends the list.

Example

...the following ingredients.

```
1.two apples
-wine
1.one bottle of red wine
--one bottle of white wine
-orange juice
-...
```

Next paragraph.

Output

...the following ingredients.

1. two apples
2. wine
 - (a) one bottle of red wine
 - (b) one bottle of white wine
3. orange juice
4. ...

Next paragraph.

2.10.3 Mixed Lists

They follow the same rules as numbered (Chapter 2.10.2) and unnumbered (Chapter 2.10.1) lists. The maximum for every list type is still four, but the sum of unnumbered and numbered levels may go up to six.

Example

```
1.first level
1.level 2
---level 3
----level 4
-----level 5
-----level 6
-----level 5 again
----level 4 again
---level 3 again
--level 2 again
-first level again
```

Output

1. first level
 - (a) level 2
 - level 3
 - level 4
 - * level 5
 - level 6
 - * level 5 again
 - level 4 again
 - level 3 again
 - (b) level 2 again
2. first level again

2.11 Descriptions

Descriptions are inserted by typing a dash (-) as a paragraph's first character following by the topic embraced in < and > characters. Every following -<topic> as start of a line inserts a new item. The next blank line ends the list.

Example

```
-<Example>This is an example.
-<Output>This is the resulting output.
```

Output**Example** This is an example.**Output** This is the resulting output.**2.12 Formulas**

LaTeX formulas can be included everywhere without the need to type the dollar signs (\$). They have to be limited by space characters or the end of a line. SMILETEX will recognize all formulas containing special LaTeX formula characters or commands. In the case you want something different to be a formula (e.g. a single x) you have to type an exclamation mark as the formula's first character. An exclamation mark as the last character skips the following white space. If the last character is a punctuation character, it will automatically be excluded from the formula.

Example Let $x=e^{j\phi}$, j is the imaginary unit and $\phi=2\pi$ then x equals 1.

Output Let $x = e^{j\phi}$, j is the imaginary unit and $\phi = 2\pi$ then x equals 1.

2.13 Equations

Equations can be produced by typing a formula (Chapter 2.12) after a blank line. SMILETEX takes the whole paragraph (up to the next blank line) as equation. If there's a label (Chapter 2.9) found, the equation will be numbered.

You may also explicitly use other LaTeX math environments (e.g. eqnarray).

Example

```
...this is the last paragraph.
```

```
a_i b^i=\sum_{i=1}^n a_i b^i
:eqnSumEinstein
```

```
This is the next paragraph.
```

Output

```
...this is the last paragraph.
```

$$a_i b^i = \sum_{i=1}^n a_i b^i \quad (1)$$

```
This is the next paragraph.
```

2.14 Text on the Left and Right Side

To put text, images, etc. on the or right side of other text, etc. the commands *!leftside*, *!rightside* and *!endside* are used. Internally, minipage environments are used and as floating figures are not allowed inside minipages, the "here" option for images is automatically used and thus not necessary.

Example

```
!leftside
The picture at the right shows the half sized \smiletex icon
without any rotation.
!rightside

logo.bmp,50%

!endside
```

Output The picture at the right shows the half sized SMILETEX icon without any rotation.



2.15 File Inclusion

Generally, files are included by typing their name at the beginning of a new paragraph. Following the file name, separated by commas, options may occur. For graphics and tables, the second line is reserved for the caption and the third for a label. There's no need to use a caption or a label.

2.15.1 LaTeX Files

Any LaTeX file can be included simply by typing it's name into a new paragraph. It will be included using the LaTeX `\input` command.

Example

```
...last paragraph.

test.tex

Next paragraph.
```

2.15.2 Text Files

Same as for LaTeX files. They will be included using the LaTeX `\verbatiminput` command.

2.15.3 SMILETEX Files

Same as for LaTeX files. They will be converted to a separate LaTeX file.

2.15.4 Graphics Files

There exist some options for graphics files. They are typed behind the file's name separated by commas. Some examples are presented next.

here image will be fixed at the given position (without here it will float like normal LaTeX figures)

10cm image width 10cm, height according to aspect ratio

10x5cm width 10cm, height 5cm

1.5in width 1.5 inches, height according to aspect ratio

45° rotated by 45°

175% scaled to 175% of image's normal size

height=50mm image height 50mm, width according to aspect ratio

width=150mm image width 150mm, height according to aspect ratio

angle=90 rotated by 90°

scale=1.5 scaled to 150%

frame creates a small black frame around the image

frame=1cm creates a black frame of thickness 1 cm around the image

Nearly every image format is supported by SMILETEX since *ImageMagick* is used to convert them automatically to formats understood by LaTeX. Important to notice that meta formats (like .emf or .eps) will be scaled without loss of quality.

Example

```
...last paragraph.
```

```
logo.bmp,here,5cm,45°
The SmileTeX logo
:figLogo
```

```
Next paragraph.
```

Output



Figure 1: The SmileTeX logo

2.15.5 Microsoft Excel Tables

For Microsoft Excel tables, there's only one option: here. It fixes the table and thus prevents floating around. The tables are converted using *TeXcel* and then included as normal LaTeX files. The rest is the same as for graphics files.

Example

```
commands.xls,here
All SmileTeX commands
:tabCommands
```

2.16 LaTeX Inclusion

Normally, any LaTeX command can be used as normal inside SMILETEX documents. To explicitly stop SMILETEX from processing some text as SMILETEX text (e.g. to avoid wrong formatting), the `!latex<ignored text>` command can be used. The text will then be included 1:1 in the resulting LaTeX file.

For longer LaTeX passages, `!latex` command without parameters comes handy. It starts a LaTeX section in which all SmileTeX commands are ignored. It ends at the next `!latex` command found.

Example

```
!latex
here comes LaTeX! $\cup$
!latex
```

Output here comes LaTeX! U

2.17 Hyperlinks

Hyperlinks and email addresses are also recognized automatically and hotlinked.

Example

Please write an email to `smiletex@8ung.at` or have a look at `www.8ung.at/smiletex`.

Output Please write an email to `smiletex@8ung.at` or have a look at `www.8ung.at/smiletex`.

2.18 Footnotes

To insert footnotes, please use the `!footnote<text>` command.

Example Have a look at the SMILETEX homepage. `!footnote<www.8ung.at/smiletex>`

Output Have a look at the SMILETEX homepage.¹

2.19 Colors

This simplest way to include colored text is using the `!nameofcolor<text>` command. The following colors are defined up to now (all case-insensitive): *aliceblue, antiquewhite, aqua, aquamarine, azure, beige, bisque, black, blanchedalmond, blue, blueviolet, brown, burlywood, cadetblue, chartreuse, chocolate, coral, cornflowerblue, cornsilk, crimson, cyan, darkblue, darkcyan, darkgoldenrod, darkgray, darkgreen, darkkhaki, darkmagenta, darkolivegreen, darkorange, darkorchid, darkred, darksalmon, darkseagreen, darkslateblue, darkslategray, darkturquoise, darkviolet, deeppink, deepskyblue, dimgray, dodgerblue, feldspar, firebrick, floralwhite, forestgreen, fuchsia, gainsboro, ghostwhite, gold, goldenrod, gray, green, greenyellow, honeydew, hotpink, indianred, indigo, ivory, khaki, lavender, lavenderblush, lawngreen, lemonchiffon, lightblue, lightcoral, lightcyan, lightgoldenrodyello, lightgrey, lightgreen, lightpink, lightsalmon, lightseagreen, lightskyblue, lightslateblue, lightslategray, lightsteelblue, lightyellow, lime, limegreen, linen, magenta, maroon, mediumaquamarine, mediumblue, mediumorchid, mediumpurple, mediumseagreen, mediumslateblue, mediumspringgreen, mediumturquoise, mediumvioletred, midnightblue, mintcream, mistyrose, moccasin, navajowhite, navy, oldlace, olive, olivedrab, orange, orangered, orchid, palegoldenrod, palegreen, paleturquoise, palevioletred, papayawhip, peachpuff, peru, pink, plum, powderblue, purple, red, rosybrown, royalblue, saddlebrown, salmon, sandybrown, seagreen, seashell, sienna, silver, skyblue, slateblue, slategray, snow, springgreen, steelblue, tan, teal, thistle, tomato, turquoise, violet, violetred, wheat, white, whitesmoke, yellow, yellowgreen*

Any other color can be achieved using the `!color<color-definition><text>` command. The color-definition may be one of the following:

- three values: red, green and blue (should be preferred as it works in the most cases)

¹`www.8ung.at/smiletex`

- four values: cyan, magenta, yellow and black
- one value: gray

The values can be given between 0 and 1, hexadecimal between 00 and ff (also without commas, Internet style) or as percent between 0% and 100%.

Leaving out the <text> parameter changes the text color up to the next color command.

Example

```
This is !red<very> important.
This is !red very !black important.
This is !color<1,0,0><very> important.
This is !color<ff0000><very> important.
```

Output This is **very** important. This is **very** important. This is **very** important. This is **very** important.

2.20 Comments

As in LaTeX it is possible to start a comment using the percent sign %. It lasts until the end of the list and all text will be ignored.

2.20.1 Long Comments

An additional feature are long comments. These are similar to the ones used in programming languages. %< starts a long comment, >% ends it.

Example This is %<uncommented...
...and this, too...>% visible.

Output This is visible.

2.21 Index

A simple index generation using makeindex is included in SMILETEX . Use *!index<text>* to include the text in the index and use *!index* to write the index to the document.

Example

```
... !index<SmileTeX> ...
... more text
!index
```

Output Have a look at the index.

3 Coming More or Less Soon...

3.1 SMILETEX Presentations

- PDF format
- colored/gradient backgrounds
- transition effects
- absolute position for graphics
- a lot more...

3.2 Encryption and Compression

- passwords for PDFs (allowing/denying printing, viewing, etc.)
- compression for PDFs (they become as small as ZIP files)

3.3 Headers and Footers

3.4 More...

4 The SMILETEX Homepage...

...can be found at www.8ung.at/smiletex. Have a look at it for news concerning SMILETEX .

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