Chapter 3: Text formatting and styling

1 Text Formatting

Here are some basic instructions to format a text.

Instruction	**Result**
`\textbf{...}`	**Bold text**
`\textit{...}`	*Italic text*
`\underline{...}`	Underlined text
`\emph{...}`	*Emphasized text* (change the appearance according to surrounding text)

The font (text, symbols, ...) size is set by default to 10pt; it can be modified in the `\documentclass` options. Inside the document, the font size can be changed using one of these commands (ordered from the smallest size to the largest one):

`\tiny`, `\scriptsize`, `\footnotesize`, `\small`, `\normalsize`, `\large`, `\Large`, `\LARGE`, `\huge`, `\Huge`.

2 Text styling

Long documents have to be divided, so these are sectioning commands in LaTeX , hierarchically ordered.

Instruction	**Result**
`\part{...}`	Divides a book or a report into multiple parts
`\chapter{...}`	Creates a chapter in a book or report
`\section{...}`	Creates a section in any document (book, report, article, ...)
`\subsection{...}`	Creates a subsection within a section in any document
`\subsubsection{...}`	Creates a subsubsection within a subsection in any document
`\paragraph{...}`	Creates a paragraph in any document. Unnumbered and does not appear in the Table of Contents
`\subparagraph{...}`	Creates a subparagraph in any document. Unnumbered and does not appear in the Table of Contents

Between the two braces, the title of the part, chapter, section, etc. is inserted. The sectioning is automatically numbered, except for the last two. The numbering can be omitted by adding an asterisk `*` at the end of the command name: `\chapter*{...}`, `\section*{...}`, etc.

Remarks:

- Pressing the Enter key once does not create a new line. A line break can be seen in the source file, but the result is a single line.
- Adding a double backslash \\ creates a new line.
- Pressing the Enter key twice (the first to insert a line break and the second to leave a blank line) creates a new paragraph.
- Comments can be added after a percent sign %.

3 Environments

Some paragraphs are special: lists, definitions, theorems, and so on. The texts of these paragraphs are enclosed in environments that give them special styling.

An environment, let us call it for example `Tlemcen`, has the following structure:

```
\begin{Tlemcen}
  ... (here the paragraph is inserted) ...
\end{Tlemcen}
```

Here are some of these environments.

1. Lists: Two types of lists can be distinguished.
   - Numbered (ordered) list (the `enumerate` environment):

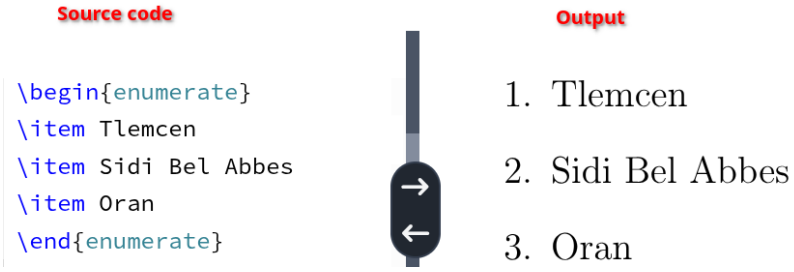

Figure 1: Numbered list

   - Unnumbered (unordered) list (the `itemize` environment):

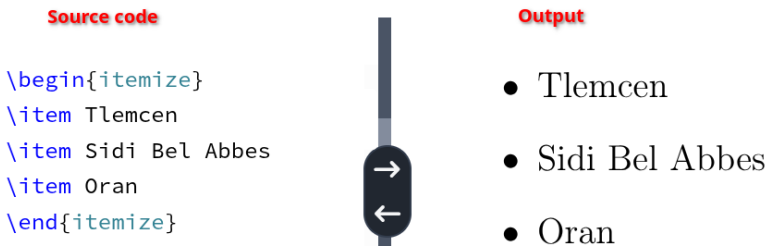

Figure 2: Unnumbered list

2. Definitions, theorems, examples, etc.

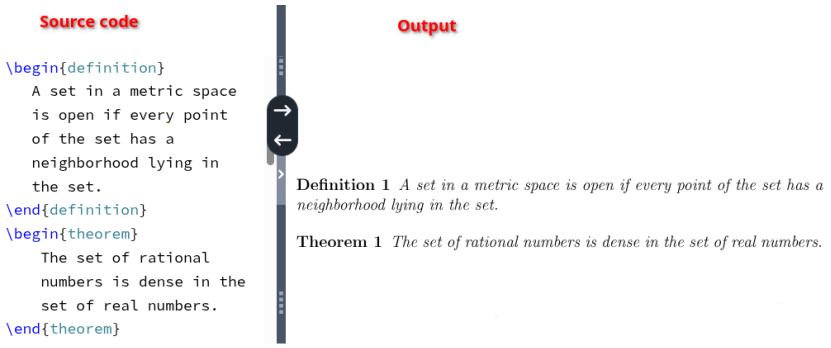

Figure 3: Definition, theorem

Remarks:

- In the first type, each entry in the list has to begin with the command `\item`.
- The second type of environment has to be defined in the preamble by:

  `\newtheorem{definition}{Definition}`

  This instruction has two arguments:

  – The first is the name of the environment that is defined and used in the source code: `\begin{definition}...\end{definition}`.
  – The second is the output word, which is in bold (for example, "Definition 1") at the beginning of the environment.

  These two arguments can be different or the same. Any new environment must be defined as the instruction above.

Tables

The default environment for creating tables in LaTeX is the `tabular` environment, used with `\begin{tabular}[...]{...}`. This instruction has an argument that specifies the number of columns and the alignment of the text in each column.

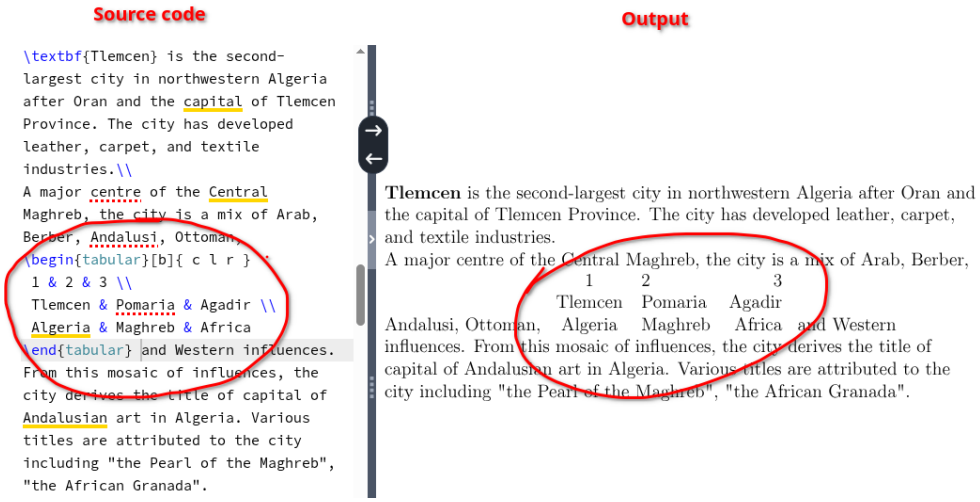

Figure 4: Tabular environment

In the above example:

- There are three parameters (separated with spaces) as arguments `{c l r}`. This means that the output table will have three columns: the first centered, the second left-aligned, and the third right-aligned.
- The optional parameter `[b]` aligns the bottom of the table (the last line) with the surrounding text. Use `[c]` to center it and `[t]` to align it with the first line of the table.
- Every line ends with a double backslash `\\`, except the last one.
- The cells of a line are separated with an ampersand `&`.
- The content of the table is enclosed in the environment `\begin{tabular}[b]{c l r}...\end{tabular}`.

Remarks:

- The table can be inserted without any surrounding text by enclosing it in the `center` environment.
- The argument of the `tabular` environment can be modified to `{|c|c|c|}` to set separator lines between columns.
- Horizontal lines can be inserted with the command `\hline`.
- A caption for the table can be added with the `table` environment, which should contain the `tabular` environment.

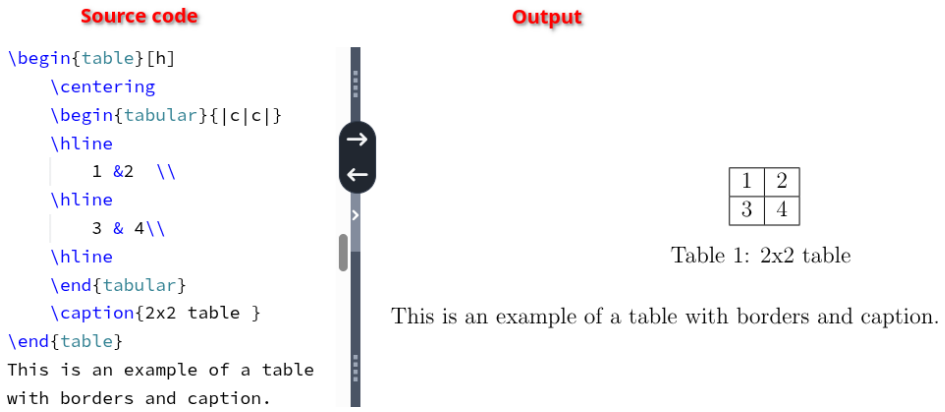

Figure 5: Borders and caption