POLITECNICO

MILANO 1863

polimi-thesis manual

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Nomenclature

POLIMI   Politecnico di Milano

CDL   Corso di Laurea

CCS   Consigli di Corsi di Studio

CFU   Crediti Formativi Universitari

1 | Chapter one

In this section there will be useful information about how to style chapters, sections and so on. Be sure to read the **Typst** guide for LaTeX users [1].

In LaTeX, the canonical sections division is as follows:

```
\chapter{}
\section{}
\subsection{}
\subsubsection{}
```

in **Typst**, there are just headings [2] (similar to Markdown) – so the LaTeX system maps to:

```
= Chapter             // Heading level 1
== Section            // Heading level 2
=== Subsection        // Heading level 3
==== Subsubsection    // Heading level 4
```

If you need to turn off the numbering you will call the `heading` function:

```
#heading("Heading title", level: n, numbering: none)
```

In LaTeX, there are many environments (`equation, equation*, aligned`) – in **Typst** there is just the equation environment called with dollars [3]:

- Inline math, same as LaTeX:

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

- Block math, by adding whitespaces before and after the content:

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

Now a more complex equation:

$$\begin{cases} \Delta \cdot \boldsymbol{D} & = \rho, \\ \Delta \times \boldsymbol{E} + \dfrac{\partial \boldsymbol{B}}{\partial t} & = 0, \\ \Delta \cdot \boldsymbol{B} & = 0, \\ \Delta \times \boldsymbol{H} - \dfrac{\partial \boldsymbol{D}}{\partial t} & = \boldsymbol{J}. \end{cases}$$

By default, the equations are **not** numbered – however if you need to:

$$\begin{cases} \Delta \cdot \boldsymbol{D} = \rho, \\ \Delta \times \boldsymbol{E} + \dfrac{\partial \boldsymbol{B}}{\partial t} = 0, \\ \Delta \cdot \boldsymbol{B} = 0, \\ \Delta \times \boldsymbol{H} - \dfrac{\partial \boldsymbol{D}}{\partial t} = \boldsymbol{J}. \end{cases} \tag{1}$$

And to reference it just type Equation 1.

Via the `figure` environment [4], as you would do in LaTeX:

Figure 1.1: Caption in the List of Figures.

However, since Typst does not *natively* support subfigures (see related issue), the packages smartaref [5] and hallon [6] have been integrated:

(a) Left Polimi logo.

(b) Right Polimi logo.

Figure 1.2: A figure composed of two sub figures, similar to `\subfloat{}`.

You can reference either the main Figure 1.2; or a single subfigure: Figure 1.2a, or Figure 1.2b.

	Column 1	Column 2	Column 3
row 1	1	2	3

	Column 1	Column 2	Column 3
row 2	α	β	γ
row 3	alpha	beta	gamma

Table 1.1: Caption of the Table to appear in the List of Tables.

As you can see, it could be useful to implement a default style for every table [7].

For algorithms, there are a lot of packages on **Typst** universe [8]. The following are my recommendations.

- `lovelace` [9]

Algorithm 1.1: My cool algorithm

---
1 Initial instructions
2 **for** *for − condition* **do**
3 | Some instructions
4 | **if** *if − condition* **then**
5 | Some other instructions
6 | **end if**
7 **end for**
8 **while** *while − condition* **do**
9 | Some further instructions
10 **end while**
11 Final instructions

See Algorithm 1.1.

- `algo` [10]

```
Name of Algorithm
 1  Initial instructions
 2  for for − condition do
 3      Some instructions
 4      if if − condition then
 5          Some other instructions
 6      end if
 7  end for
 8  while while − condition do
 9      Some further instructions
10  end while
11  Final instructions
```

Theorem 1.1. *Write here your theorem.*

Proposition 1.1. *Write here your proposition.*

Proof. If useful you can report here the proof. □

Powered by [11].

Normal list:
- First item
- Second item

Numbered list:
1. First item
2. Second item

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https://www.biblio.polimi.it/en/tools/courses-and-tutorials

You can also attend the courses which are periodically organized on "Bibliographic citations and bibliography management".

Your thesis must contain a suitable Bibliography which lists all the sources consulted on developing the work. The list of references is placed at the end of the manuscript after the chapter containing the conclusions. We suggest to use the BibTeX package [12] and save the bibliographic references in the file `Thesis_bibliography.bib`. This is indeed a database containing all the information about the references.

To cite in your manuscript, use the `cite` [13] command as follows:

Here is how you cite bibliography entries: [14] or chained [15], [16].

As it would have been in LaTeX, the bibliography [17] is automatically generated.

Bibliography

[1] "**Typst** LaTeX migration guide." [Online]. Available: https://typst.app/docs/guides/guide-for-latex-users/

[2] "**Typst** Headings Documentation." [Online]. Available: https://typst.app/docs/reference/model/heading/

[3] "**Typst** Equation Documentation." [Online]. Available: https://typst.app/docs/reference/math/equation/

[4] "**Typst** Figure Documentation." [Online]. Available: https://typst.app/docs/reference/model/figure/

[5] "Smartref Documentation." [Online]. Available: https://typst.app/universe/package/smartaref

[6] "Hallon Documentation." [Online]. Available: https://typst.app/universe/package/hallon

[7] "**Typst** Table Guide." [Online]. Available: https://typst.app/docs/guides/table-guide/

[8] "**Typst** Universe." [Online]. Available: https://typst.app/universe

[9] "Lovelace Documentation." [Online]. Available: https://typst.app/universe/package/lovelace

[10] "Algo Documentation." [Online]. Available: https://typst.app/universe/package/algo

[11] "Great theorems." [Online]. Available: https://typst.app/universe/package/great-theorems

[12] B. cheat sheet, "BiBTeX Documentation." [Online]. Available: https://tug.ctan.org/info/biblatex-cheatsheet/biblatex-cheatsheet.pdf

[13] "Typst Cite Documentation." [Online]. Available: https://typst.app/docs/reference/model/cite/

[14] D. E. Knuth, "Computer Programming As an Art," *Commun. ACM*, pp. 667–673, 1974.

[15] D. E. Knuth, "Two notes on notation," *Amer. Math. Monthly*, vol. 99, pp. 403–422, 1992.

[16] L. Lamport, *LaTeX: A Document Preparation System.* Pearson Education India, 1994.

[17] "Typst Bibliography Documentation." [Online]. Available: https://typst.app/docs/reference/model/bibliography/