
Università degli Studi di Milano - Bicocca
**Dipartimento di Informatica, Sistemistica e Comunicazione**
**Corso di Laurea in Informatica**

# Title

**Relatore:** Prof. xxx

**Correlatore:** Dott. yyy

**Tesi di Laurea di:**
Nome Cognome
Matricola 000000

**Anno Accademico 20__-20__**

# Contents

# List of Figures

# List of Tables

# Acronyms

**gcd** GCDGreatest Common Divisor

# Chapter 1

# Step1: structure of the document

## 1.1 Introduction

This is the first section.

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Etiam lobortisfacilisis sem. Nullam nec mi et neque pharetra sollicitudin. Praesent imperdietmi nec ante. Donec ullamcorper, felis non sodales...

## 1.2 Second Section

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Etiam lobortis facilisissem. Nullam nec mi et neque pharetra sollicitudin. Praesent imperdiet mi necante...

### 1.2.1 First Subsection

Praesent imperdietmi nec ante. Donec ullamcorper, felis non sodales...

#### First subsubsection

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Etiam lobortis facilisissem.

**First paragraph** Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Etiam lobortis facilisissem.

**First subparagraph** Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Etiam lobortis facilisissem.

## Unnumbered Section

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Etiam lobortis facilisissem...

# Chapter 2

# Step2: Text style

## 2.1 Bold

Example of bold **text**.

## 2.2 Italic

Example of italic *text*.

## 2.3 Underline

Example of underlined text.

## 2.4 mixed

Example of mixed ***word***

## 2.5 emph

**Example of emph *word***
*Example of emph* word

# Chapter 3

# Elements of the document

## 3.1 Images


Figure 3.1: Example image

Reference to the image 3.1.

## 3.2 Tables

Reference to the table 3.1.

## 3.3 List

Example of an unordered list:

- List entries start with the `\item` command.

| | | |
|---|---|---|
| cell1 | cell2 | cell3 |
| cell4 | cell5 | cell6 |
| cell7 | cell8 | cell9 |

Table 3.1: Example table

- Individual entries are indicated with a black dot, a so-called bullet.
- The text in the entries may be of any length.

Example of an ordered list:

1. This is the first entry in our list.
2. The list numbers increase with each entry we add.

Example of nested list:

1. First level item
2. First level item
   (a) Second level item
   (b) Second level item
      i. Third level item
      ii. Third level item
         A. Fourth level item
         B. Fourth level item

## 3.4 Equations

This is an example of an in-line equation: $E = MC^2$
This is an example of an display mode equation:

$$E = MC^2 \tag{3.1}$$

This is a reference to the Equation 3.1.

## 3.5 Code Snippet

### 3.5.1 verbatim

```
Text enclosed inside \texttt{verbatim} environment
is printed directly
and all \LaTeX{} commands are ignored.
```

### 3.5.2 listings

```
import numpy as np

def incmatrix(genl1,genl2):
    m = len(genl1)
    n = len(genl2)
    M = None #to become the incidence matrix
    VT = np.zeros((n*m,1), int)  #dummy variable

    #compute the bitwise xor matrix
```

```
    M1 = bitxormatrix(genl1)
    M2 = np.triu(bitxormatrix(genl2),1)

    for i in range(m-1):
        for j in range(i+1, m):
            [r,c] = np.where(M2 == M1[i,j])
            for k in range(len(r)):
                VT[(i)*n + r[k]] = 1;
                VT[(i)*n + c[k]] = 1;
                VT[(j)*n + r[k]] = 1;
                VT[(j)*n + c[k]] = 1;

                if M is None:
                    M = np.copy(VT)
                else:
                    M = np.concatenate((M, VT), 1)

                VT = np.zeros((n*m,1), int)

    return M
```

### 3.5.3 algpseudocode

$i \leftarrow 10$
**if** $i \geq 5$ **then**
  $i \leftarrow i - 1$
**else**
  **if** $i \leq 3$ **then**
    $i \leftarrow i + 2$
  **end if**
**end if**

### 3.5.4 algorithm

reference to algorithm 1

## 3.6 href

For further references see Something Linky or go to the next url: `http://www.overleaf.com`

**Algorithm 1** An algorithm with caption

**Require:** $n \geq 0$
**Ensure:** $y = x^n$
  $y \leftarrow 1$
  $X \leftarrow x$
  $N \leftarrow n$
  **while** $N \neq 0$ **do**
    **if** $N$ is even **then**
      $X \leftarrow X \times X$
      $N \leftarrow \frac{N}{2}$ ▷ This is a comment
    **else if** $N$ is odd **then**
      $y \leftarrow y \times X$
      $N \leftarrow N - 1$
    **end if**
  **end while**

# Chapter 4

# Positioning and Size

## 4.1 package adjustbox


## 4.2 Figure environment


Figure 4.1: h image


Figure 4.2: Top image


Figure 4.3: ! image

# Chapter 5

# Advanced images and table

## 5.1 Double figures

Praesent in sapien. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Duis fringilla tristique neque...


(a) Caption1 (b) Caption 2

Figure 5.1: Caption for this figure with two images

Praesent blandit blandit mauris. Praesent lectus tellus, aliquet aliquam, luctus a, egestas a, turpis. Mauris lacinia lorem sit amet ipsum. Nunc quis urna dictum turpis accumsan semper.

## 5.2 Wrapped images

Praesent in sapien. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Duis fringilla tristique neque. Sed interdum libero ut metus. Pellentesque placerat.

Figure 5.2: Caption1

Praesent in sapien. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Duis fringilla tristique neque. Sed interdum Lorem ipsum dolor sit amet, consectetur adipisici elit, sed eiusmod tempor incidunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquid ex ea commodi consequat. Quis aute iure reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint obcaecat cupiditat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

### 5.2.1 Wrapped Tables

Ciao! **knuthwebsite**. Questo è il sito di Knuth.

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Table 5.1: A wrapped table going nicely inside the text.

| Header-1 | Header-1 | Header-1 |
|---|---|---|
| 2 | 3 | 5 |
| 2 | 3 | 5 |
| 2 | 3 | 5 |

# Chapter 6

# Additional concepts

## 6.1 Terms

The Latex typesetting markup language is specially suitable for documents that include maths. Formula are rendered properly an easily once one gets used to the commands.

## 6.2 Acronym

Given a set of numbers, there are elementary methods to compute its GCD (gcd), which is abbreviated gcd. This process is similar to that used for the lcm.

# Chapter 7

# Multiple files management

## 7.1 Multiple file 1

**Hello world!**


Figure 7.1: U14

Hello, here is some text without a meaning...

## 7.2 Multiple file 1

Lorem ipsum dolor sit amet, consectetur adipisici elit, sed eiusmod tempor incidunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquid ex ea commodi consequat. Quis aute iure reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint obcaecat cupiditat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

# Chapter 8

# Citations

Let's cite! Einstein's journal paper **einstein** and Dirac's book **dirac** are physics-related items.

# Appendix A

# Appendix

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# Appendix B

# Appendix-B

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