# Exploration and Presentation - Assignment 2 - Task 2

## Martin Høigaard Rasmussen

## $March\ 2021$

## Contents

1	Dar	nish characters	2						
2	Gra	Graphics							
	2.1	Image with caption over it							
	2.2	Image with caption below it							
	2.3	Image label							
	2.4	Images next to each other							
3	Sec	Sections							
	3.1	Subsection							
		3.1.1 Sub subsection							
4	List	Lists							
	4.1	Bullet points							
	4.2	Alternate bullet symbols							
	4.3	Enumerated lists							
		4.3.1 Alternate enumerated list in Roman literals							
5	Table with multiple columns								
	5.1	Various horizontal alignments in columns (left, center, right)							
	5.2	Cell spanning multiple Columns							
	5.3	Vertical alignment in multi-line cells							
	5.4	Table description, label and reference							
6	Cod	Code listing							
	6.1	Verbatim							
	6.2	With emphasized key words in your favorite programming lan-							
		guage (python in example below)							

7	Math equations							
	7.1	Inline	- in text	6				
	7.2	Displa	y equations (on separate line)	6				
	7.3	7.3 Fractions, summations, products, roots, powers						
		7.3.1	Fractions	6				
		7.3.2	Summations	6				
		7.3.3	Products	7				
		7.3.4	Roots	7				
		7.3.5	Powers	7				
8	Bib	liograp	ohy	7				

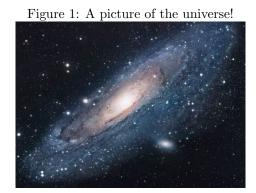
## 1 Danish characters

æøå

## 2 Graphics

## 2.1 Image with caption over it

make images appear in correct places



## 2.2 Image with caption below it

#### 2.3 Image label

This is a label that references 2.3 on page 3

## 2.4 Images next to each other

### 3 Sections

This is a section



Figure 2: A picture of the universe!





Figure 3: image one.



Figure 4: image two.

### 3.1 Subsection

This is a subsection

#### 3.1.1 Sub subsection

This is a sub subsection

### Unnumbered subsection

This is an unnumbered subsection

#### 4 Lists

#### 4.1 Bullet points

- One entry in the list
- Another entry in the list

#### 4.2 Alternate bullet symbols

- o One entry in the list with alternative symbol
- Another entry in the list with alternative symbol

#### 4.3 Enumerated lists

- 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

#### 4.3.1 Alternate enumerated list in Roman literals

- I. One
- II. Two
- III. Three

## 5 Table with multiple columns

## 5.1 Various horizontal alignments in columns (left, center, right)

Left aligned	Center aligned	Right Aligned
cell1	cell2	cell3
cell4	cell5	cell6
cell7	cell8	cell9

Table 1: This is a table caption/description

Product	1	2	3	4	5
Price	124	136	85	156	23
Guarantee [years]	1	2	-	3	1
Rating	89%	84%	51%		45%
Recommended	yes	yes	no	no	no

#### 5.2 Cell spanning multiple Columns

Multi-column				
Column 1 value	Column 2 value			

#### 5.3 Vertical alignment in multi-line cells

a few rows of text	a few rows of text	a few rows of text	a few more more rows of text
Three	Four	5	6

#### 5.4 Table description, label and reference

This is a reference to table 1

## 6 Code listing

#### 6.1 Verbatim

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

## 6.2 With emphasized key words in your favorite programming language (python in example below)

```
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 + r[k]] = 1;
        VT[(j)*n + r[k]] = 1;
        VT[(j)*n + c[k]] = 1;
        VT[(j)*n + c[k]
```

## return M

## 7 Math equations

#### 7.1 Inline - in text

The well known Pythagorean theorem  $x^2 + y^2 = z^2$  was proved to be invalid for other exponents. To put your equations in inline mode use one of these delimiters:

#### 7.2 Display equations (on separate line)

To put your equations in separate line mode use these delimiters:  $\[\]$ , \$\$ \$\$

$$x^n + y^n = z^n$$

#### 7.3 Fractions, summations, products, roots, powers

#### 7.3.1 Fractions

 $\frac{x}{y}$ 

#### 7.3.2 Summations

$$\sum_{n=1}^{\infty} 2^{-n} = 1$$

7.3.3 Products

$$\prod_{i=a}^{b} f(i)$$

**7.3.4** Roots

 $\sqrt[n]{x}$ 

**7.3.5** Powers

 $x^n$ 

## 8 Bibliography

make links work in bibliography

## References

- [1] Albert Einstein. Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]. *Annalen der Physik*, 322(10):891–921, 1905.
- [2] Kenneth Leo Hansen. Latexassignment.
- [3] SOFT instructors. Bachelor project.
- [4] Donald Knuth. Knuth: Computers and typesetting.
- [5] Andrzej Sapkowski. Sword of Destiny. Orion Publishing Co, 2020.