Exploration and Presentation - Assignment 2 - Task 2

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Contents

1   Danish characters

æ ø å

2   Graphics

2.1   Image with caption over it

Figure 1: A picture of the universe!

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

- 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)

```python
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
```

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:

`\( \), $ $ or \begin{math} \end{math}`

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.