Latex cheatsheet

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Contents

1 Introduction

How to make danish letters Æ Ø Å æ ø å

2 Graphics

Let's find a picture of a cake

Figure 1: caption below, centered

Delicious cake. This text is not left alligned perfectly and i dont know why.

(a) caption above, left   (b) caption above, right

Figure 2: A figure with 2 subfigures

3 References

Reference to first cake picture 1 on page 2
Reference to second cake picture 2a on page 2 in section 2
Reference to third cake picture in subfigure 2b in figure 2 on page 2 in section 2

4 Sections

Sections are by default numbered.

Non-numbered section

But this one isn't

5 Lists

- this

- is a

- bullet point list

Break text

- this

- is a

  - ⋆ stars!
  - ⋆ more stars!

- bullet point list

Break text

1. now they

2. have numbers

   (a) now they have letters

       i. now they're roman

          A. Capital letters!

6 Tables

cell1	cell	multiple
cell4	columns	cell6
cell7	cell8	cell9

Col1	Col2	Col2	Col3
1	6	87837	787
2	7	78	5415
3	88	788	6344

Table 1: Table to test captions and labels

The table 1 is an example of referenced LaTeXelements.

7   Code Listing

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

Python code test

```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
```

8   Math equations

Square clamps centers and makes it look like an equation

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

Dollar signs allow inline math symbols

In physics, the mass-energy equivalence is stated by the equation $E = mc^2$, discovered in 1905 by Albert Einstein[2].

You can also do this

$$E = mc^2 \tag{1}$$

Fractions can be used alongside the text, for example $\frac{1}{2}$, and in a mathematical display style like the one below[1]:

$$\frac{1}{2}$$

Summations

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

Products[3]
Product $\prod_{i=a}^{b} f(i)$ inside text
Roots $\sqrt{2}$
Powers x^2

References

[1]   Paul Adrien Maurice Dirac. *The Principles of Quantum Mechanics*. International series of monographs on physics. Clarendon Press, 1981. ISBN: 9780198520115.

[2]   Albert Einstein. "Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]". In: *Annalen der Physik* 322.10 (1905), pp. 891–921. DOI: http://dx.doi.org/10.1002/andp.19053221004.

[3]   Donald Knuth. *Knuth: Computers and Typesetting*. URL: http://www-cs-faculty.stanford.edu/~uno/abcde.html. (accessed: 01.09.2016).