### Bachelor Project

Copenhagen Business Academy



Vejledernavn (vejleder)

# A BUG IT'S NOT A BUG IT'S A Feature



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#### INDHOLD

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## Del I First Part of this document

## Packages and styles

#### 1.1 Packages

```
DANISH CHARACTERS = \usepackage[utf8]{inputenc}

DANISH LANGUAGE = \usepackage[danish]{babel}

GRAPHICS = \usepackage{graphicx}

GRAPHICS PATH = \graphicspath{ {./images/} }

HYPERLINKS = \usepackage{hyperref}

TABLES = \usepackage{tabularx}

COLOR = \usepackage{color}

CODE LISTNING = \usepackage{listings}

TODO NOTES = \usepackage{todonotes}

CHANGE TO REFERENCES FROM BIBLIOGRAPHY = \usepackage[nottoc,notlof,notlot]{tocbibing}

CHANGE TO REFERENCES FROM BIBLIOGRAPHY = \renewcommand\bibname{References}

HEADER = \usepackage{fancyhdr}

NUMBER OF LASTPAGE = \usepackage{lastpage}

HEADER HEIGHT = \setlength{\headheight}{25pt}
```

#### 1.2 Styles

```
\fancyhf{}
\chead{\leftmark}
\cfoot{\thepage\ of \pageref{LastPage}}
\renewcommand{\headrulewidth}{0.4pt}
\renewcommand{\footrulewidth}{0.4pt}
}
```

## Danish characters

æ

Ø

ă

ÆØ

Å

 $\operatorname{Br}$ ød

Slå

Æbler

## **Graphics**

https://www.overleaf.com/learn/latex/Captioning\_Figures

#### 3.1 Image caption

#### 3.1.1 Caption over image

Figur 3.1: Caption over image



#### 3.1.2 Caption under image



Figur 3.2: Caption under image

#### 3.2 Image Label

```
\label{fig:centering} --> Det som står efter "fig:" er referencen på billedet - det

EKSEMPEL:
\begin{figure}[ht]
\centering
\includegraphics[width=0.25\textwidth]{coverpage/itisnotabugitisafeature.jpg}
\caption{Centering}
\label{fig:centering}
\end{figure}
```

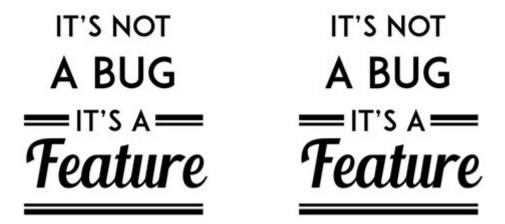
#### 3.3 Centering

\end{figure}

```
\centering --> Skrives øverst når der indsættes billede.

EKSEMPEL:
\begin{figure}[ht]
   \centering
   \includegraphics[width=0.25\textwidth]{coverpage/itisnotabugitisafeature.jpg}
   \caption{Centering}
   \label{fig:centering}
```

#### 3.4 Two images next to each other



Figur 3.3: Image 1

Figur 3.4: Image 2

## References To Images

https://www.overleaf.com/learn/latex/Referencing\_Figures

#### 4.1 Reference to image

Caption over - Billede nummer 3.1. Caption under - Billede nummer 3.2. Image 1 - Billede nummer 3.3. Image 2 - Billede nummer 3.4.

#### 4.2 Reference to page containing the image

Caption over - Side nummer 7. Caption under - Side nummer 7. Image 1 - Side nummer 8. Image 2 - Side nummer 8.

## Section, subsection, subsubsection, paragraph, subparagraph

https://www.overleaf.com/learn/latex/sections\_and\_chapters https://www.overleaf.com/learn/latex/paragraph\_formatting

#### 5.1 Numbered section

Table of contents - YES

#### Non-numbered section

Table of contents - NO

#### 5.1.1 Subsection

Table of contents - YES

#### Subsubsection

Table of contents - NO

paragraph paragraph

subparagraph subparagraph

## Lists

https://www.overleaf.com/learn/latex/lists

#### 6.1 Bullet points

- Test1
- $\bullet$  Test2

#### 6.2 Alternative bullet symbols

- Test1
- Test2
- \* Test1
- \* Test2
- . Test1
- . Test2

#### 6.3 Nested Lists

- 1. Top
  - Nested1
  - Nested2
- 2. Top

## 6.4 Enumerated lists - Roman numbers and letters

- 1. Enumerated
- 2. Enumerated
  - (e) Letter
  - (f) Letter
    - i. Roman numbers
    - ii. Roman numbers
      - A. Letters
      - B. Letters

## Table with multiple columns

https://www.overleaf.com/learn/latex/tables

#### 7.1 Simple table

Te	ext1	Text2	Text3
T	ext1	Text2	Text3
T	ext1	Text2	Text3

## 7.2 Various horizontal alignments in columns (left, right, centered)

Text1	Text2	Text3
Text1	Text2	Text3
Text1	Text2	Text3
Text1	Text2	Text3

#### 7.3 Cell spanning multiple columns

Text1	Text2	Text3		
Text1	Text2	Text3		
Cell spanning text				

#### 7.4 Table description and label

Table description

Text1	Text2	Text3		
Text1	Text2	Text3		
Cell spanning text				

Tabel 7.1: Table caption

#### 7.5 Reference to table

Table 7.1 is on page 14

## Code listing

https://www.overleaf.com/learn/latex/code\_listing

## 8.1 With emphasized key words in your favorite programming language

```
private static class Person
               //Comment
               private final String email;
               private final String name;
                /**
                JavaDoc1
               JavaDoc2
10
               public Person(String email, String name) {
11
                    this.email = email;
                    this.name = name;
13
               public String getEmail() {
                    return email;
17
19
               public String getName() {
                    return name;
21
               @Override
```

```
public boolean equals(Object o) {
25
                    if (this == o) return true;
26
                    if (o == null || getClass() != o.getClass()) return false;
27
                    Person person = (Person) o;
29
                    if(!email.equals(person.email)) return false;
31
                    return name.equals(person.name);
               }
33
34
                @Override
35
                public int hashCode() {
36
                    int result = email.hashCode();
37
                    result = 31 * result + name.hashCode();
                    return result;
39
               }
40
41
                @Override
42
               public String toString() {
43
                    return "Person{" +
44
                             "email='" + email + '\'' +
                             ", name='" + name + '\'' +
46
                             '}';
47
               }
48
           }
```

## Math equations

https://www.overleaf.com/learn/latex/mathematical\_expressions

#### 9.1 Inline equations (in text)

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

9.2 Display equations (on separate line)

$$E = m (9.1)$$

- 9.3 Fractions, summations, products, roots, powers
- 9.3.1 Fractions

 $\frac{1}{2}$ 

9.3.2 Summations

 $\sum$ 

9.3.3 Products

П

#### 9.3.4 Roots

This is a simple math expression  $\sqrt{x^2+1}$  inside text. And this is also the same:  $\sqrt{x^2+1}$  but by using another command.

This is a simple math expression without numbering

$$\sqrt{x^2+1}$$

separated from text.

#### **9.3.5** Powers

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

$$E = mc^2$$

## Bibliography with book, article and internet link

https://www.overleaf.com/learn/latex/bibliography\_management\_with\_bibtex

#### 10.1 Book

Text about book.[1]

#### 10.2 Article

Text about article.[2]

#### 10.3 Link

Text about link.[3]

## Todo notes of own choice

Text test test test test test. TODO new text

## Litteratur

- [1] Michel Goossens, Frank Mittelbach, and Alexander Samarin. *The LATEX Companion*. Addison-Wesley, Reading, Massachusetts, 1993.
- [2] Albert Einstein. Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]. *Annalen der Physik*, 322(10):891–921, 1905.
- [3] Overleaf. Hyperlinks.