Suitably impressive thesis title

Suitable subtitle

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Copenhagen Business Academy

A thesis presented for the degree of

Bachelor of Software Development

Denmark, April 14, 2021

Thesis Title

Thesis Subtitle

Author Name

Abstract

An abstract is a brief summary of a research article, thesis, review, conference proceeding, or any in-depth analysis of a particular subject and is often used to help the reader quickly ascertain the paper's purpose [1].

Acknowledgement

Personal

This is where I thank my advisor, colleagues, family and friends.
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Institutional

This is where I thank the institution for helping me reach my goals.
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Contents

List of Figures

List of Tables

Chapter 1

Introduction

1.1 Introduction

Replace dummy text with real text!

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Donec ultrices ipsum quam, nec faucibus leo pulvinar sed. Pellentesque ligula lectus, vehicula eget est vitae, consectetur ornare tellus. Aenean facilisis in magna a scelerisque. Aliquam eu augue risus. Vivamus tempus urna vel augue finibus ultricies. Orci varius natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Vestibulum rutrum ante nec eros vehicula faucibus nec sed diam.

Chapter 2

Assignment Tasks

2.1 First Task

Find requirements of bachelor thesis. Write a LATEX document explaining your findings. Document your sources.

Based on my research i conclude that the following is the most common requirements for a Bachelor Thesis [2] [3] [4]:

Report Setup

- **Front/Title Page**: including title of research, name of the author, name of the degree programme, topic, year and date and also the schools logo
- **Abstract/Summary**: A short summary of the research
- **Table of Contents**
- **Results**: List of figures, tables, methods, etc
- **Introduction**
- **Research**
- **Discussion**
- **Conclusion**
- **Appendix**
- **Bibliography**

2.2 Second Task

Produce a template (in LaTeX, of course) that you can use in your bachelor thesis. It should be rich with examples of the following (ie. one of each):

... this is my template

Chapter 3

Clearing requirements for ??

3.1 Danish Letters

I included UTF-8, therefor I can include Æ, Ø, Å in my LaTeXdocument!

3.2 Graphics

On figur 3.2 you see a figure displaying common features of a graph

Figure 3.1: Look, this caption is above the image!

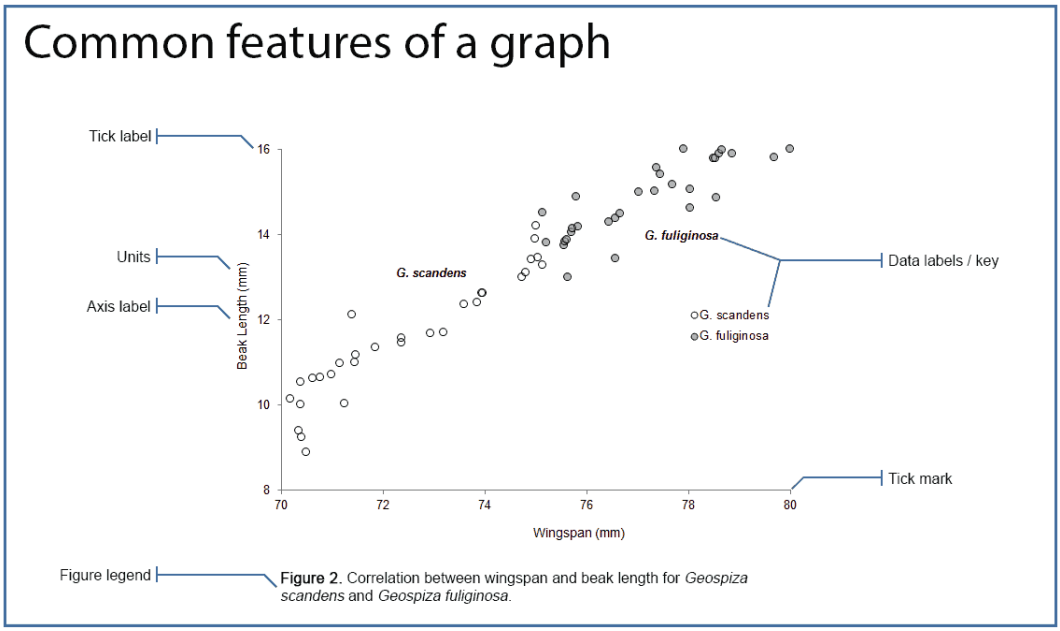
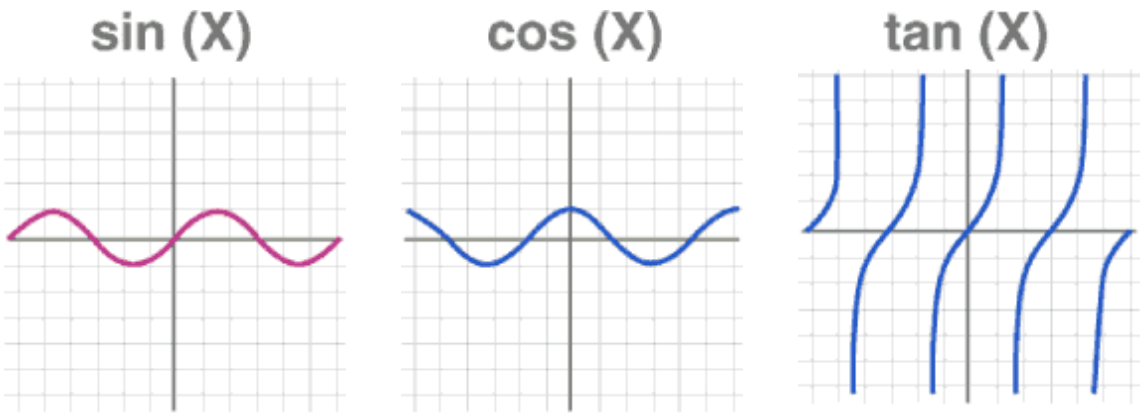


Figure 3.2: This is just an example graph

Mauris ut ultrices augue. Vestibulum at tristique nibh. Pellentesque elit nibh, tincidunt at lorem nec, dignissim malesuada lorem. Donec tristique nisi vitae odio finibus, id tincidunt augue congue.



(a) $sin(x)$ (b) $cos(x)$ (c) $tan(x)$

Figure 3.3: Three sample graphs (i added a third image for extra flair)

Sed varius diam risus, ut condimentum nibh bibendum nec. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi aliquam lectus congue, porttitor erat eu, malesuada quam. Cras facilisis tellus eu euismod efficitur. Aliquam eget imperdiet est, faucibus egestas ligula.

3.3 Referencing

Figure 3.3 on page 10 represents three different sample graphs placed next to each other.

3.4 Section

This is a regular section

3.4.1 Subsection

This is a subsection to the regular section

Sub-subsection

This is a subsection to the subsection to the regular section

Paragraph This is a paragraph

Subparagraph This is a subparagraph

3.5 Lists

3.5.1 Bullet point list

- Item 1
- Item 2
- Item 3

3.5.2 Alternative Bullet Symbols

∗ Item 1

∗ Item 2

∗ Item 3

3.5.3 Enumerated List Roman

(I) Item

(II) Item

(III) Item

(IV) Item

(V) Item

3.6 Table with multiple columns

3.6.1 Various horizontal alignments in columns

Left	Center	Right
1	2	3
4	5	6

Table 3.1: very basic table

Suspendisse ultrices luctus neque, ac suscipit sapien venenatis eu. Vestibulum efficitur orci id ligula sollicitudin, ac posuere metus ornare. Duis non turpis dolor. Pellentesque consequat a justo a pharetra.

3.6.2 Cell spanning multiple colums

Country List			
Country Name or Area Name	ISO ALPHA 2 Code	ISO ALPHA 3 Code	ISO numeric Code
Afghanistan	AF	AFG	004
Aland Islands	AX	ALA	248
Albania	AL	ALB	008
Algeria	DZ	DZA	012
American Samoa	AS	ASM	016
Andorra	AD	AND	020
Angola	AO	AGO	024

Etiam gravida lectus ut sollicitudin hendrerit. Nam et tortor elit. Sed molestie mollis justo mollis iaculis. Praesent pulvinar lectus sit amet nunc eleifend, quis lacinia justo ultricies.

3.6.3 Reference a table

Table 3.1 on page 11 represents three cells that are aligned differently.

3.7 Code listing

The below code from my Text Simlarity assignment in the Data Science class [5].

```
## Vectorisation of Text Data
# The process of converting or transforming a data set into c

# import libraries
import pandas as pd
import sklearn as sk
import math

# Calculate dot product of two vectors, divide it by the mag
# Use the result as a correlation coefficient
```

```
from collections import Counter

def cosine(vector1, vector2):
    # calculate nominator as a dot product
    intersect = set(vector1.keys()) & set(vector2.keys())
    numerator = sum([vector1[x] * vector2[x] for x in inters

    # calculate the denominator
    sum1 = sum([vector1[x] ** 2 for x in list(vector1.keys()
    sum2 = sum([vector2[x] ** 2 for x in list(vector2.keys()

    denominator = math.sqrt(sum1) * math.sqrt(sum2)
    if not denominator:
        return 0.0
    else:
        return float(numerator)/denominator


## Assignment
with open('textfiles/A.txt', 'r', encoding='utf8', errors='ig
    A = a.read().replace('\n', '')
with open('textfiles/B.txt', 'r', encoding='utf8', errors='ig
    B = b.read().replace('\n', '')
with open('textfiles/C.txt', 'r', encoding='utf8', errors='ig
    C = c.read().replace('\n', '')

A1 = A.split(" ")
B1 = B.split(" ")
C1 = C.split(" ")

# join the sets of words to remove duplications
all= set(A1).union(set(B1).union(C1))
#print(all)

def convertTextToVector(text):
    x = dict.fromkeys(all, 0)
    for word in text:
        x[word]+=1
    return x
```

```
def compareVectors():
    AVector = convertTextToVector(A1)
    BVector = convertTextToVector(B1)
    CVector = convertTextToVector(C1)

    corrAB = cosine(AVector, BVector)
    print("Similarity on A and B: ", corrAB)

    corrAC = cosine(AVector, CVector)
    print("Similarity on A and C: ", corrAC)

    corrBC = cosine(BVector, CVector)
    print("Similarity on B and C: ", corrBC)

    suggestion = ""

    highest = 0
    corrarray = [corrAB, corrAC, corrBC]
    for i in corrarray:
        if highest < i:
            highest = i

    if highest == corrAB:
        suggestion = "Text A = X, Text B = X, Text C = Y"
    elif highest == corrAC:
        suggestion = "Text A = X, Text B = Y, Text C = X"
    else:
        suggestion = "Text A = Y, Text B = X, Text C = X"
    return suggestion

suggestion = compareVectors()
print(suggestion)
```

3.8 Math equations

3.8.1 Inline equations (in text)

Have you ever heard of Pythagorean theorem: $a^2 + b^2 = c^2$? It's pretty neat.

3.8.2 Display equations (n separate lines)

In physics, the mass-energy equivalence is stated by the equation:

$$E = mc^2$$

Albert Einstein discovered it in 1905!

3.8.3 Fractions, summations, products, roots, powers

Fractions
This is 0.5 presented as a fraction: $\frac{1}{2}$. Neat right?

Summation can be inserted as shown on Eqn. 3.1

$$\sum_{x=1}^{n} x^2 = 1 \tag{3.1}$$

Product sequence can be inserted as shown in Eqn. 3.2

$$\prod_{x=1}^{n} x^2 \tag{3.2}$$

Square Root
The square root of 100 is $\sqrt{100} = 10$.

Power
Two to the power of five is $2^5 = 32$.

Chapter 4

Conclusion

4.1 Conclusion

Replace dummy text with real text!

Nunc elementum sapien vitae tincidunt ornare. Sed dapibus purus nec convallis vestibulum. Sed vitae interdum lacus, vel dapibus tortor. Nam posuere purus vel nunc ullamcorper, sed lobortis est malesuada. Aenean hendrerit nisl massa, ac pretium ipsum rhoncus ut. Phasellus vel dolor mollis, hendrerit magna nec, consectetur odio. Nunc ultrices lorem ante, vel cursus neque hendrerit sed. Pellentesque varius, purus in vestibulum volutpat, metus ex egestas est, ac tempus sapien nibh in mauris. Donec gravida accumsan nisl, et bibendum nisi mattis accumsan. Integer laoreet urna sed metus aliquet, lobortis sagittis neque dignissim. Proin bibendum lacus ut urna iaculis mattis. Praesent non ante lectus. Pellentesque eleifend sed massa quis pharetra. Aenean cursus iaculis augue. In congue nibh ut tortor lobortis bibendum ac sit amet ante [prenote 6].

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Etiam nec nibh pulvinar, ultricies diam non, porttitor libero. Sed

purus ex, suscipit ac vehicula in, egestas ac arcu. Duis malesuada mauris sapien, eget semper ex pulvinar eu. Nulla non turpis sem. Vestibulum mollis vulputate nunc, sed gravida ante eleifend in. Aliquam at magna vitae sapien feugiat porta ac sit amet ipsum. Praesent sit amet purus elementum, consequat nisl eget, viverra orci. Maecenas vitae tincidunt sapien. Integer rhoncus lorem id ultrices pharetra. Sed non tempor erat. Ut ac varius erat. Pellentesque blandit lectus hendrerit iaculis posuere [see 8, page 4].

Appendix A

Appendix Title

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