THIS IS AN EMPTY TITLE-PAGE TEMPLATE
Reflective Journal

by

Insert author name

Submitted for Assessment in

Insert Title

at

Noroff University Collegge

Noroff
School of technology
and digital media

Contents

1 Introduction

THIS IS A SAMPLE INTRODUCTION SECTION

Blue text:	Help text. Short description of how to use an environment or a section in the template.
«text placeholder»:	Text between angle brackets are placeholders. Indicates a string to be replaced with input text.
Normal text/black fonts:	Real note/example text, how the section is intended to be used.

Course: «course code» «course name»

«course moodle path»

1.1 Key dates

Duration:	6 weeks
Start:	1900-01-01
End:	1900-01-01
Formative assessment:	TBD
Assessment 1 - Submission date:	TBD
Assessment 2 - Submission date:	TBD

1.2 Course Tutors

Course leader:	Arthur Dent
Course lecturer:	Ford Prefect
Course tutor:	John Crichton
course tutor:	Aeryn Sun
Support tutor:	Ka D'Argo
Support tutor:	Chiana
Support tutor:	Rygel
Support tutor:	Pa'u Zotoh Zhaan

1.3 Study goals

- Working with database (SQLite)
  - Find Moya
  - Escape from Scorpius
  - Feed Rygel
  - Save the galaxy

THIS IS A FILLED SAMPLE SECTION
...with realistic notes...

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2 Lesson 1: Course Introduction

Original URL: `https://www.noroff.no`

2.1 Reflection on the days lecture and tutorial

Lesson 1 was an introduction on the subject of *Programming Databases*. It gave a nice overview about the subject, how it is layed out, and perhaps most importantly the study goal. Compared to the 3 other subjects taken since the start of this course, it is the first subject where the subject was clearly outlined along with the goals.

There was a statement, see quote on page 2 from Prof. Johan Van Niekerk, which is important to keep in the back of mind. It should perhaps be pinned to the wall as a reminder of a pitfall to be cognizant of when surmounting challenging study phases. A reminder to wisely allocate the effort exerted, and lower the level of pondering on the vastness of relevant topics, but stay in focus inside the subject domain, at hand.

The statement resonated with me personally, since I regard lack of focus and wasted effort as one culprit of my struggle to keep up on course materials and assessments. I find it very easy to veer of on a tangent and wander away from the study material. For example, making search queries and delving into statistics, while addressing probability in discrete math.

2.2 Reflection Topics

None applicable for this lesson. No reflection topics given for this lesson.

2.3 Key Take-Away

Lesson date: 2077 01 15
Date taken: 2077 01 15
Revisited: N/A

Items/bullet points outlines below outlines key information from the day's lesson.

- Working with database (SQLite)

- Acquire fundamental skill about working with databases
- How to design as simple normalized database
- Understand database storage and data structure
- Understand database Normalization
- Be able to query and interface with databases
- How to script and automate database connection, mangagement and datamining
- Automate data manipulation and analysis, generating reports and statitics etc on data in databases, dataframes etc.
- Understanding and being able to manage and work with databases is therefore key to the field of Cyber-Security.

Course: UC1PR2101 - Programming Databases

1. New lesson structure.

   (a) The course is layed out to be taken with a more individual approach, akin to remote studies. More preparation are expected prior to lecture sessions.

   (b) Lessons are broken up into smaller topics.

   (c) Reflective Journals are not mandated. 20% of the mark will not be allocated to Reflective Journal submition.

   (d) Quizes will be smaller and with a formative purpose. There will be a practice Quizes.

   (e) Overall reduced number of submition for assessment. Course grades will be based on 1 or 2 larger assessments, instead of many smaller assessments.

   (f) Course assessment targets, along with target dates to be posted soon.

2. New Lecture structure.

   (a) Students are expected to engage with study material at least 1 day ahead.

   (b) Students are expected to be more prepared for each lecture topics.

   (c) Referenced resources are not "mandatory", students must choose what materials are applicable and important.

3. Tools and applications

   (a) SQLite

   (b) Python

   (c) PANDAS(?)

Learning Databases itself is a comprehensive part of software engineering and software development, which cannot be condensed in a 6 week course.

We are not software developers. Our purpose is to learn enough to be able to understand enough to know what we are looking at when we are working with someone elses (database) design templates...
`- Prof.  Johan Van Niekerk`

Analogous to learning enough foriegn language; One is not expected to be a fluent speaker. But know enough, to converse and to be able to accomplish a specific goal. Deeper knowledge are obtained along the way, where fluency comes through effort and immersion over time.

My personal take on this (to make it relatable to the course) is as follows: A car crash forrensic investigator should know enough about a car to tell the pieces from eachother, but is not expected to fix, design or engineer a car to prodution.

2.4   Lessons Learned

This subsection summarizes the day's lesson topic.

- Why databases (in relation to CyberSecurity)?
  - Acquire fundamental skills about the purpose of databases
  - Understand how databases are key to modern data and information infrasctructure
  - Get an overview of the majority of todays transactional databases today and their use of relational database
  - Understand how systems and data breach are on the database connectivity and transactional level
- What is a database?
  - Acquire fundamental skills about what a database is
  - What databases are used for
  - What types of databases are in use
- Where does database fit into the ecosystem of "data"?
  - Be able to identify different ways of storing, structuring and organizing data.

Databases

Databases organize data/information by following examples.

- Catagorization
- Quantify
- Itemization
- Relation etc.

Database systems aims to resolve some data storage issues such as problemetic *Data redundancy/duplication*:

- Storage, takes space
- Overhead, when updating
- Itegrity, data consistency

Glossary:

| Key Word/Expression	Elaboration/Comment
Database	A logical way to organize, store, label and describe relationships of data.
Third Normal Form	Relational databases. A database schema design see "Other source material" table in section 2.6. Ensures update and insert integrity to the database.
(Working in) Disconnected mode	A safe way to work with data in Databases, to avoid data curruption or data integrity error. Such curruption or error can occur when multiple connections are made and edits the same data at the same time. Tracking which changes, by which connections, is the most recent and valid change will be difficult. Working in "Disconnected Mode" will remedy this issue.
SQL	**S**tructured **Q**uery **L**anguage - a standardized language to interface with databases
DDL	**D**ata **D**efinition **L**anguage - tells a database how it data will be stored or organized.
DML	**D**ata **M**anipulation **L**anguage - tells the database how to operate the data.
Database Normalization	Structuring a relational database, reduce data duplication and improve data integrity.
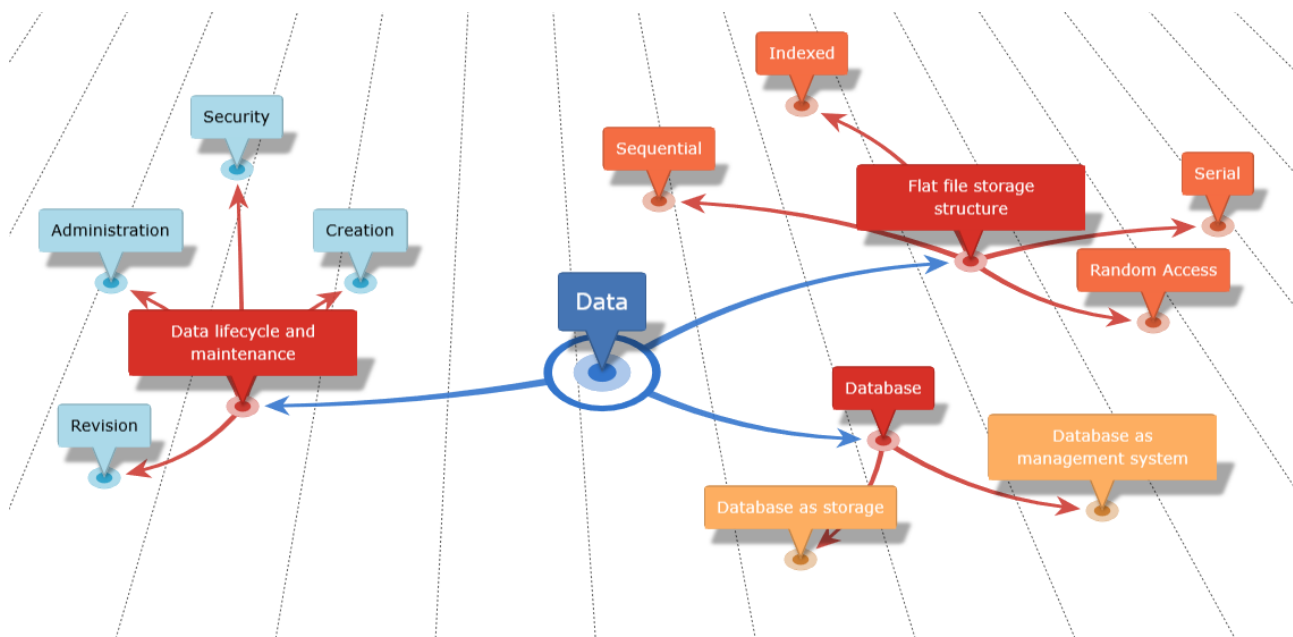
Figure 1: Data Mindmap
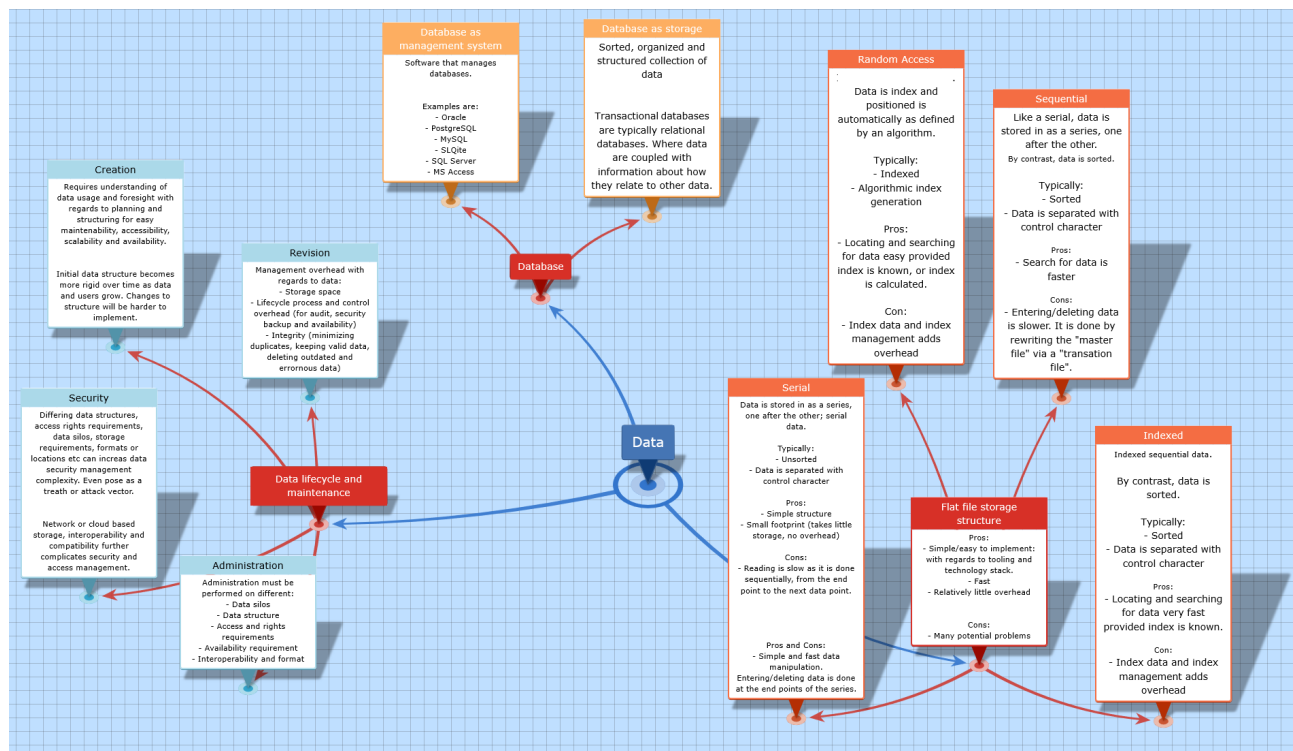
Figure 2: Data Mindmap - with detailed notes expanded

2.5 Action Points - Further Reading/Enquiry

Action Point	To-do description	Assigned to	Target date	Comment/Status
1	Verify/enroll to Teams channel membership for the course	N/A	ASAP	Assigned
2	Setup a home-lab with SQLite	N/A	ASAP	Assigned
3	Look up and learn SQL (DDL, DML etc)	N/A	ASAP	Assigned
4	Look up and learn UML	N/A	ASAP	Assigned

2.6 Other source materials

Resource Type	Source description, Book title, URL, etc.
Wikipedia - 3rd Normal Form	`https://en.wikipedia.org/wiki/Third_normal_form`
Wikipedia - SQLite	`https://en.wikipedia.org/wiki/SQLite`
Youtube - SQLite	`https://www.youtube.com/watch?v=byHcYRpMgI4`
YouTube - SQLite usecases	`https://www.youtube.com/watch?v=Jib2AmRb_rk`
SQLite - Official	`https://sqlite.org/index.html`

2.7 Issues Noted and Area of Improvements

Issue number	Issue description / Area of Improvement
1	N/A
2	N/A

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3   Lesson «*number*»: «*Lesson topic*»

Replace the double angle brackets with the lesson number and name.

Original URL: «*link to the original blog post on the Moodle blog*»

Replace the double angle brackets with the URL to the reflective journal blog.

3.1   Reflection on the days lecture and tutorial

Add critical reflective thoughts about your learning experiences. Delete this text

Lesson/Topic Objectives Study Plan:

- Identify the basic components of a relational model

- Understand ERD

- Understand data models

- Understand data modeling, its objectives of storing and managing, real word data. Data modeling entails organizing, structuring and utilizing stored data for optimized storage, accessibility, searchability and security.

3.2   Reflection Topics

When there are guided topics add them as sub-headings and include your critical discussion of the topic(s)

«*Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.*»

«*Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.*»

3.2.1 Provided topic 1

topic 1 example reflective discussion

«*Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.* »

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3.2.2 Provided topic 2

topic 2 example reflective discussion

3.3 Key Take-Away

Lesson date: «*yyyy mm dd*»
Date taken: «*yyyy mm dd*»
Revisited: «*comment or yyyy mm dd*»

This subsection outlines key information from the day's lesson in bullet points.

1. «*Main Item 1*

   (a) *sub item 1 1*
   (b) *sub item 1 2*
   (c) *sub item 1 3*
   (d) *sub item 1 4*
   (e) *sub item 1 5*
   (f) *sub item 1 6*

2. *Main Item 2*

   (a) *sub item 2 1*
   (b) *sub item 2 2*
   (c) *sub item 2 3*
   (d) *sub item 2 4*

3. *Main Item 3*

4. *..*

5. *.* »

3.4   Lessons Learned

This subsection summarizes the day's lesson topic.

Bold heading

«*Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.* »

Glossary:

Expand and elaborate on new words, expressions and topic terminology with a glossary list.

Key Word/Expression	Elaboration/Comment
«*Input*»	«*Input*»

3.5   Action Points - Further Reading/Enquiry

To-do list relevant to complete/expand on the lesson topic.

Act Pnt	To-do description	Assigned to	Target date	Comment/Status
1	«*Task name/description*»	«*Task owner*»	«*Deadline yyyy-mmm-dd*»	«*Comments or status*»
2	«*Task name/description*»	«*Task owner*»	«*Deadline yyyy-mmm-dd*»	«*Comments or status*»

3.6   Other source materials

External course related material. Insert book title, ISBN, URL etc.

Item num.	Resource Type	Source description, Book title, URL, etc.
1	«*Input*»	«*Input*»

3.7   Issues/Solutions Noted and Area of Improvements

Issues noted; what has failed with regards to tools, the lecture itself, missing course material, wrong information or solution in the course assignment etc. Any area of improvement with regards to how previous task has been managed, how to more efficiently proceed with the course personally. Suggestions for improvement suggestions to course leader.

Item num.	Issue description / Area of Improvement	Comments / Solution
1	«*input*»	«*input*»

Item num.	Issue description / Area of Improvement	Comments / Solution
1	«*input*»	«*input*»

4   This is body_section3 heading

THIS IS AN EMPTY SAMPLE SECTION
...single page, no subsections...

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«Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language. »

5   This is body_section4 heading

THIS IS AN EMPTY SAMPLE SECTION
...single page, no subsections...

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«Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language. »

6 Conclusion

THIS IS A SAMPLE SECTION

Conclusion

This section exhibits usefull LATEX packages relevant for Noroff year 1 course.

7 Code snippet sample

7.1 Stylized Code Typesetting Sample

```python
print('Hello World')
```
Listing 1: This is "Hello World" in Python

Every code tutorial has a "Hello World"!

```python
# This is a simple python code for testing.

def mySquareFunc(myVal):
    myRes = int(myVal) ** 2
    return myRes

mySquareFunc(input("Type in a number to square"))
```
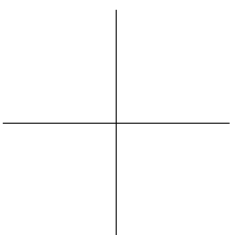Listing 2: This is another Python code

This is the conclusion page with a code listing.

8 TiKZ package

8.1 TiKZ package - Graph and illustration Sample

A very simple use of TiKZ package.

Source: https://ctan.uib.no/graphics/pgf/base/doc/pgfmanual.pdf

8.2   TiKZ package - Drawing Sample

A drawing with TiKZ
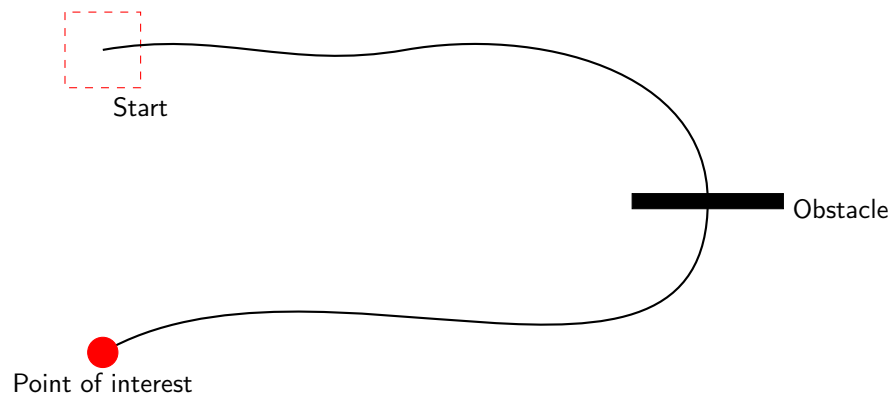
Figure 3: An example graphic made with tikz.

Source: https://www.latex-tutorial.com/tutorials/tikz/

8.3   TiKZ package - Venn diagram Sample

A venn diagram with TiKZ

Source: https://texample.net/tikz/examples/venn/
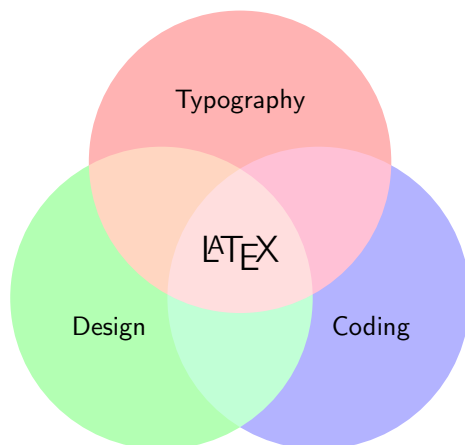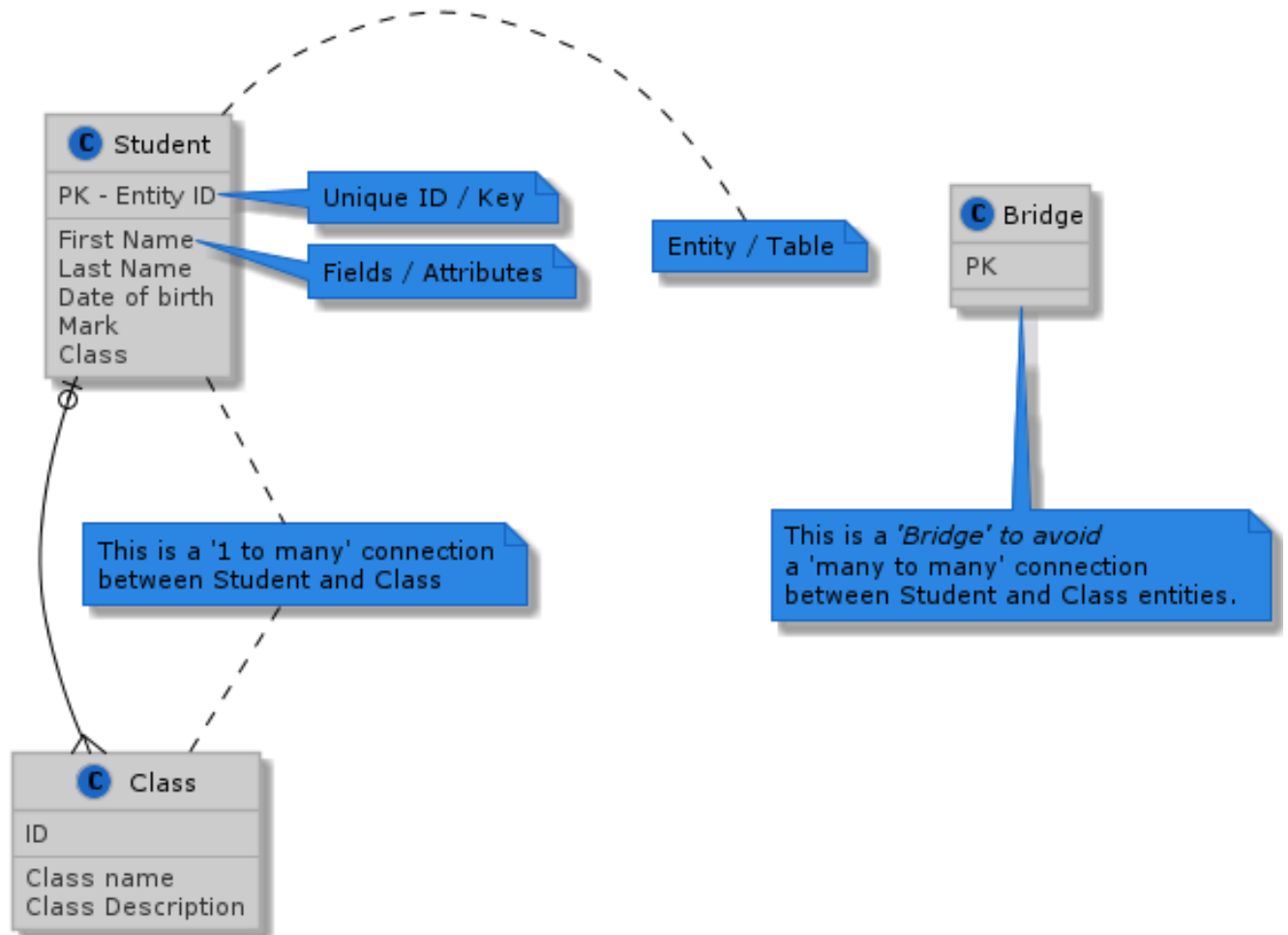
9 PlantUML .png in LaTeX

Figure 4: Sample ERD .png

10 Custom environments

Follow-up - Search for...!!!
Query something...

Notes - Notes title:
This is a note.

Question - What is???
This is a question.

11   Bibliography and Citation Sample

You site a source by referring to a source in the .bib file.

This information is cited from an article from Enisa (2012). 2'nd citation is from Goodwin & Nicholas (2013).

A   Appendix

This is the appendix

B Bibliography

References

Enisa. (2012). National Cyber Security Strategies. (December), 15. Retrieved from `http://www.enisa.europa.eu`

Goodwin, C. F., & Nicholas, J. P. (2013). *Developing a National Strategy for Cybersecurity: Foundations for Security, Growth, and Innovation* (No. October).