

LAB 1

Project Background

Start by reading the case study to find out what the customers' requirements for this project. Create suitable schemas with all the attributes domains using the case study, as part of Homework 1 and 2. The database can benefit from being normalized at this stage. The features you implement will also be used for the next lab. Make sure to backup all your files!

Rules

The installation guide provides students with the proper software needed to complete this lab.

1. The labs must be done in groups of exactly two people. No larger groups are allowed, and if you have extraordinary extenuating circumstances that force you to do the labs alone, you must obtain permission to do so from the course leader. Both students in a group must be able to present all of the lab for the group to pass. Lab assistants do not record partial labs.
2. You must present correct and valid solutions to all the given tasks in order to pass the lab.
3. Presenting P+ assignments are optional for a higher grade if the given tasks are completed and passed.
4. Each correct and valid P+ assignment will result in a P+ point.
5. This is a PSQL lab. No other programming languages, either embedded in the database or external to it, are allowed.
6. Please refrain from creating any [functions](#) since this lab is designed to assess query programming languages

Lab Presentation

Course related terminology is expected during the lab presentation.

Make sure you have the following ready to be presented to the TA:

1. Thorough description of the database design using schemas with domains according to the format presented in lectures.
2. Code for the database creation showing keys, domains etc.
3. Simple executable select statements to show the contents of the database.

LAB 1

Creating and populating the Database

Create the tables that are necessary for the LMS. The whole database must have:

1. Proper names for each table.
2. Proper names for each attribute.
3. Sensible domains for each attribute.
4. Sensible primary key for each table.

After constructing the tables, add data to each table fulfilling the following requirements.

1. At least
 - a. 10 different books.
 - b. 10 different students.
 - c. 5 different admins.
 - d. 5 borrowed books that have not been returned.
 - e. 5 borrowed books that have been returned.
 - f. 5 fines.

It's a good idea to do the data manipulating actions lastly, when you are certain the relations won't need altering, because updating lots of data can be very tedious work. Check the relations thoroughly to make sure the data is inserted correctly.

Finally, check that the data has been properly added to the LMS.
For each table, write in the prompt:

```
SELECT * FROM <table name>;
```

LAB 1

1. P +

Implement audio books and add at least 5 audiobooks that share a unique title with existing books in the database.

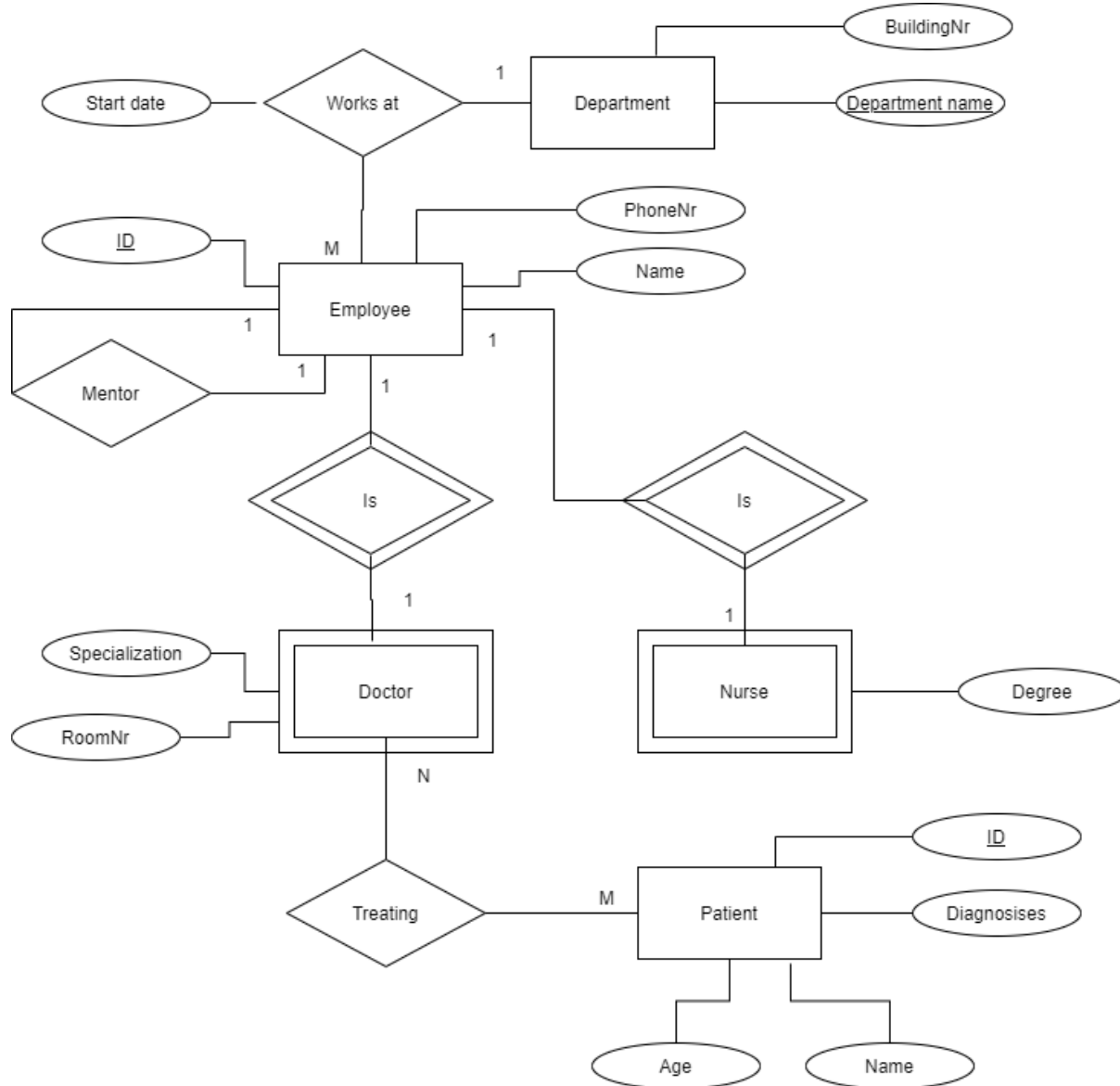
During the presentation you are expected to present:

- The schemas before and after the implementation
- Select statements that showcase the newly inputted data with no errors.
- Motivations for your solutions.

LAB 1

2. P +

Make the CREATE TABLE statements in PSQL for the following ER Diagram.



During the presentation you are expected to present:

- Create table statements for each relation.
- Motivations for your solutions.