

INFO 210 — Database Management Systems

Assignment – Milestone 3

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1 Logistics

The following exercises are for the INFO 210 course in the year 2023. Solutions for the example must be provided as two SQL files (that can be read using psql) and uploaded to the course's Moodle page (Assignment 3) by 18:10, November 24, 2023. The solutions for the given examples will be discussed in the lab session one week later.

Note that given the deadlines are strict, with a two-day grace period!

This assignment will be done in groups of 4 students like in the previous assignments.

2 Creating and Populating a Database

The goal of the third assignment of your project is to

1. implement the schema as a PostgreSQL database, and
2. fill your PostgreSQL database with data.

For this milestone, you will have an occasion to apply the material from the lectures on (1) the relational model, (2) the translation of ER models into relational schemas, and (3) the basic data definition and manipulation facilities of SQL. In the following, we will describe the single steps in more detail.

3 Implementation of the Schema in PostgreSQL

Write an SQL script with the commands to create the tables of your database. An SQL script is simply a file with SQL commands. You can find an example of a script in the file `solutions.sql` that you can reach from the Web page with the exercises of this course.

The CREATE TABLE statements must specify

1. appropriate types for the attributes;
2. the primary key;
3. constraints such as NOT NULL and UNIQUE whenever appropriate;
4. default values and value constraints where appropriate;

5. FOREIGN KEY constraints, together with the policy for reacting to changes (remember that the default is ON DELETE NO ACTION)

Write comments into the script that explain the rationale behind the definition of your constraints. Comments in SQL can be written in two ways:

- over several lines enclosed in `/* . . . */`, i.e., in the form `/* <Comment> */`
- in a single line after two hyphens `'-'`, i.e., in the form `-- <Comment>`

4 Loading Data

Load data into the database. Write a second script that contains INSERT statements for your relations. You may have to pay attention to insert records in such an order that the foreign key constraints are not violated.

5 Deliverables

The deliverable will be two files that must comprise SQL statement executable using PostgreSQL.

- an SQL script that creates the tables of your database and contains comments on the constraints you have chosen;
- a second script with SQL insert statements.

Use the following names for the files: `createDB.sql` for creating the database tables, and `insertData.sql` for inserting data into the tables. Please add your group number to the first line of each file as an SQL comment. You should also add the name of your group members as a comment.

6 Deadline

The work is to be submitted as two files, which can be executed using SQL to generate the database and fill data into the database. **Please use the following names for the files: `createDB.sql` for the creation of the database and the tables, and `insertData.sql` for inserting data into the database.** The deadline is

Friday 24 November, 2023; 18:10 pm