

Databases – Exercise 5 : DDL and SQL

Due date: Thursday 27.11.14

Exercise submission:

- In this exercise you should create a single zip file out of the files of Question 1 and Question 2, and submit the zip file via ex5 submission link on the course homepage, before 23:55.
- You should name the submitted files, the tables, and each attribute in each table, exactly as instructed in each question. You should not submit the files in folders.

Question 1:

Consider the following relational schema. Actors have aid which identifies them, as well as a name (string) and a salary (integer). Movies have mid that identifies them, a title (string), length in minutes (integer) and rating (integer). The relation Played contains pairs of aid,mid such that the actor with that id, played in that movie (an actor can play in several movies, and several actors can play in the same movie). The attributes aid, mid are a key in Played.

- ❖ Actor (aid: integer, name: string, salary: integer)
- ❖ Movie (mid: integer, title: string, length: integer, rating: integer)
- ❖ Played (aid, mid)

Rating is at least 1 but not more than 10. Length has default value of 60. Length is at least 1 but not more than 200. Movies of length more than 100 always have a rating of at least 3. All the fields are always known except for salary. Salary has default value of 3000.

- a) Write DDL statements in a file **create.sql** that creates these tables. In your DDL commands, make sure to include any constraints (key, foreign key, check, etc.) that should be defined over the tables.
- b) Write DDL statements in a file **drop.sql** that drop these tables.

Running create.sql and then drop.sql should cause all tables created to be dropped. Note that we are not requiring you to insert any tuples into the tables in this exercise.

Question 2:

Consider the following relations:

- ❖ Chef (cid, cname, age)
- ❖ Recipe (rid, rname)
- ❖ Cooked (cid, rid, price)

Write the following queries in SQL. Pay attention to these guidelines, as most of this exercise will be tested automatically:

1. Write each query in a separate file named **querya.sql**, **queryb.sql**, etc.
2. In all queries, remove duplicates and order the result by the single output column.
3. Do not change the names of the fields in your queries (Do not use "as" in order to rename **any** field).
4. Do not use views to define your queries.
5. To test your queries, you can create the tables and insert tuples. However, only submit the files of your queries.

The queries:

- a) Find the names of all chefs who cook "Pizza" for less than 15 (dollars).
- b) Print the maximal price of a "Sushi" dish.
- c) Find all rname of recipes which both chefs Nikib and Goren cooked.
- d) Find names of all chefs who cooked all of the recipes chef Shani cooked.
- e) Find names of all chefs that earned at least 100 (dollars) for every recipe they cooked.
- f) Find the cid of chefs who have earned the most money (the total amount earned by a chef is the sum of all prices for recipes she or he cooked).
- g) Find all rname of recipes which 3 or less chefs cooked.

Good luck!