INF 551 – Fall 2017

Homework #3

Due: October 20, Friday
100 points

This homework uses the MySQL “sakila” sample database. Please follow the instructions posted to install the database on your EC2 instance, create a MySQL account: mysql@localhost , and install the Python-MySQL connector.

1. [55 points] For each of the following questions, write a SQL query to answer the question.
    a. Show the title and category of all films, ordered by film title (ascending).
    b. Show the number of films for each category (name), sorted by category (ascending).
    c. Show the number of films for each category (name) that has at least 60 films, sorted by the number (descending).
    d. Which category (name) has the largest number of film?
    e. Find all (unique) actors (show their names in the form of "first_name last_name", e.g., "John Smith", and in ascending order) who have played in more than one films.
    f. Find out how many (active) customers have rented "Action" (category) films.
    g. Find out how many customers have rented "Action" films but never rented "Horror" films.

2. [15 points]
    a. Create a view called “action_view” that lists distinct customers (show their ids) who have watched “Action” movies.
    b. Create a view called “horror_view” that lists distinct customers (show their ids) who have watched “Horrow” movies.
    c. Use the above two views to answer the question 1.g.

3. [30 points] Write a Python script “search.py” that takes a category name and outputs the number of films in that category. Your script should ignore the case when matching the categories. For example, “python search.py action” will find all action films (where category = “Action”).

Submission:

- For questions 1 and 2: submit a **text** file for each query/view separately, named as follows. q1-a.sql, q1-b.sql, …, q2-a.sql, …, and q2-c.sql.
- For question 3: submit the script “search.py”.
- Please prepend your name to the submission files as before to facilitate the grading.