INF 551 – Spring 2018

# Homework #3

## Due: March 21, Wednesday
## 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, release year and category of all films, ordered by release year (ascending).
    b. Show the number of films for each category (name), sorted by the number (descending).
    c. Show the number of films for each category (name) that has at least 50 films, sorted by category name (ascending).
    d. Which category (name) has the smallest 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 (inactive) customers have rented "Comedy" (category) films.
    g. Find out how many customers have rented "Horror" films but never rented "Comedy" films.

2. [15 points] For each of the following questions, write a SQL statement to answer the question.
    a. Create a view called "comedy_view" that lists distinct customers (show their ids) who have watched "Comedy" movies.
    b. Create a view called "horror_view" that lists distinct customers (show their ids) who have watched "Horror" movies.
    c. Use the above two views to answer the question 1.g.

3. [30 points] Write a Python script "search.py" that takes two category names as arguments and outputs the answer to 1.g with custom categories.
    - Your script should ignore the case when matching the categories.
    - Your script should connect to the mysql database named "sakila" at localhost(127.0.0.1), with user name "inf551", password "inf551".
    - **Please use python 2.7.** You may use mysql.connector and Python Standard Library in this homework. But no other libraries may be used.
    - For example, "python search.py horror comedy" will output (print) how many customers have rented "Horror" films but never rented "Comedy" films.

**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 all the submission files as before to facilitate the grading. e.g. *firstname_lastname_q1-a.sql*, *firstname_lastname_search.py* … **DO NOT** place them in a folder or zip file.
- Please submit your files to Blackboard by the due time and note that only your last attempt will be viewed and graded.