CS217 HW 3 – More SQL

In this assignment, you will be asked to write 10 SQL queries: 2 on `Recipes.sqlite`, 4 on `EntertainmentAgency.sqlite` and 4 on `SchoolScheduling.sqlite`.

Instruction

Step 1: Create a folder and name it as hw3_yourNetid. For example, if your netid is abc1234, your folder name should be `hw3_abc1234`.

Step 2: Put the attached py file `hw3.py` and the database files in the folder. The database files can be found on canvas in the "Files" section.

Step 3: To answer the questions in this assignment, you can construct the queries in the SQLite Studio first and then copy your code as a string in the appropriate location provided in the py file.

Step 4: After you finish all the questions, please make sure you can execute the py file and obtain results for each of the query. The output format of query in python are in tuples, which is fine. The content should be the same as in SQLite Studio.

Step 5: For submission, package your folder as a zip file. For example, if your netid is abc1234, your submission should be `hw3_abc1234.zip`.

After unzipping your submission, the directory structure should look like the following.
```
hw3_netid/
hw3_netid/hw3.py
hw3_netid/Recipes.sqlite
hw3_netid/EntertainmentAgency.sqlite
hw3_netid/SchoolScheduling.sqlite
```

Questions

You should write one single query to answer each of the question. Similar to the previous assignment, you should not hard code intermediate results in your query. You should not read information manually from the database.

Recipes.sqlite

Q1. Print the name of every recipe that contains more than 8 ingredients. (Note: DO NOT use ReicpeSeqNo information since some ReicpeSeqNo is not ordered in the Recipe_Ingredients table.)

Q2. List all ingredients that are not used in any recipe yet (in alphabetic order).

EntertainmentAgency.sqlite

Q3. Print the name of all customers who have a preference to the "Modern Rock" music style.

Q4. List the entertainer's StageName and the name of the Agent for every Engagement (show) of which the date includes 2012-10-20 (inclusive).

Q5. List the StageNames of all entertainers who perform in the 60's or 70's Music style.

Q6. We want to study the gender distribution of entertainer members by city. List the proportion of female member for each city. The resulting table should contain two columns (city, female proportion).

SchoolSchedule.sqlite

Q7. For every student, print their first name, last name, major name, and the number of classes they took (only consider the classes that are not withdrawn).

Q8. Print the average grades in each subject, ordered from highest average to lowest (only consider the grades of students who completed the class).

Q9. Find all classes that: 1) are scheduled in the building "College Center"; 2) happen in semester 1, and 3) meets more than 4 days a week; 4) have at least one student in the class (enrolled or completed). Print a list of distinct subjects in the format of (subject code, subject name).

Q10. Print the name of all students who have never withdrawn from a class.