

CS130 Databases

Laboratory 6 Assessment: AGGREGATE FUNCTIONS

In this optional lab you must connect to your OWN schema in the PostgreSQL database. This means that when you connect to PostgreSQL on webcourse.cs.nuim.ie you do not click on the public schema. **You scroll through the cs130 database to find YOUR schema.** Your schema will match your USERNAME – for example u181234 or p189876. When you have clicked on YOUR schema then you can open the PGAdmin query tool.

You will need to download one SQL file from Moodle to complete this lab. You should complete the following steps.

1. Connect to your own schema on the cs130 database on webcourse.cs.nuim.ie using phpPgAdmin and open an SQL editor window.
2. Download the SQL File **CS130_Lab_Optional_Aggregates.sql** to your computer.
3. Go back to the phpPgAdmin window. **OPEN A PGADMIN SQL EDITOR WINDOW**, use 'Choose File' to select your downloaded file. When you have the file open, press the EXECUTE button to create the tables automatically. *Alternatively you can copy and paste the text into the editor window and then press the EXECUTE button to create the tables.*
4. If you make a mistake at any point in your lab today you can always repeat step 3 above to recreate your tables and restore them back to their original state.

When you are writing SQL code below DO NOT COPY AND PASTE SQL code directly from the lecture slide PDFs into PGAdmin. You will get errors related to character encoding indicating that there is a character error with your SQL You should TYPE YOUR OWN SQL in to the PGAdmin Editor window.

The CS130Trip Advisor is a similar system to Trip Advisor. The database provides details on a set of reviews of a number of hotels in Las Vegas. Each review (row in the table) is a different, unique, user supplying the review. Many users supply reviews for the same hotel. To make the database anonymous the userid is blurred and replaced with an integer value. All reviews were submitted in 2016 and 2017. None of the questions below are concerned about the actual year when reviews were submitted to the system.

Userid - the userid of the user who has submitted this review.

Country - the country of residence of the user who has submitted this review.

Continent - the continent of the country of residence.

Reviews - the total number of reviews to CS130Trip Advisor that this user has created.

Helpvotes - the total number of helpvotes that this user has received.

Stay - the general time when the user stayed at the hotel.

Traveller - the traveller category that the user is in.

Casino - does the hotel have a casino or not?

Hotelname - the name of the hotel.

Rooms - the number of rooms in the hotel.

Reviewmonth - the Month when the user submitted their review.

Rating - the rating that the user gave the hotel.

Reviewtime - the time of day when the user submitted the review.

QUESTION 1: Write an SQL statement to find the average number of reviews previously submitted to CS130TripAdvisor by all of the users from the continent of North America. Moodle will require an integer answer. You should round your answer to the nearest Integer.

QUESTION 2: Write an SQL statement to find the average number of helpvotes previously obtained on CS130TripAdvisor by all of the users from the country UK. Moodle will require an integer answer. You should round your answer to the nearest Integer.

QUESTION 3: Write an SQL statement to find the most frequently occurring review month - that is the most frequent month upon which users from anywhere submitted reviews to CS130TripAdvisor.

The Moodle Quiz will ask you to provide the name of the month which is the most month with the most frequent number of reviews submitted.

QUESTION 4: Write an SQL statement to find the most frequently occurring continent, traveller combination based on all of the users who submitted reviews to CS130TripAdvisor. The Moodle Quiz will ask you for the most frequently occurring continent-traveller combination (in that order).

QUESTION 5: Write an SQL statement which displays the top ten countries in terms of provision of reviews to CS130TripAdvisor. You should list the countries in descending order of the number of reviews they have provided. The Moodle Quiz will ask for the 5th country in this list.

QUESTION 6: Write an SQL statement which displays the name of the hotel which had the greatest number of stays in the period Jun-Aug. In Moodle you must supply the name of the hotel.

QUESTION 7: Write an SQL statement which displays the number of traveller types per country – The Moodle Quiz will ask you how many rows are returned.

QUESTION 8: Write an SQL statement to find the name of the hotel which has the HIGHEST average rating based on all of the ratings supplied by users to CS130TripAdvisor. The Moodle Quiz will ask you to find the name of the hotel with the highest average rating.

QUESTION 9: Write an SQL statement to find the name of the hotel which has the HIGHEST average rating based on all of the ratings supplied by users to CS130TripAdvisor where the Traveller group is 'Families'. The Moodle Quiz will ask you to supply the name of this hotel.

QUESTION 10: Write an SQL statement to find the average rating submitted by any user who submitted a rating AFTER 6pm, regardless of the month or year of review submission. Your calculation should be rounded to two decimal places. The Moodle Quiz will ask for this average rating.

QUESTION 11: Write an SQL statement to find the month on which the most reviews were submitted for all hotels which have casinos. In Moodle Quiz you will be asked for the name of the month on which the highest number of reviews were submitted.

You will need to input your answers to the Moodle Quiz for this lab session. This will be the only way you will be assessed for the CA for this lab. You are advised to save your work regularly and to make note of the answers to these questions. You can only submit your answers to the Moodle Quiz twice.