

Database Systems, CSCI 4380-01

Homework # 6

Due Friday October 11, 2019 at 11:59:59 PM

Homework Statement. This homework is worth 2% of your total grade. If you choose to skip it, Midterm #2 will be worth 2% more. This homework uses the same database as Hw 5, both for data model and instance. Connect to database `hw5` to test your queries.

1 Problem Description

Write the following queries in SQL. In all your queries, use the simplest possible expression possible. These queries do not require any advanced expressions. If you want to use them, feel free. But, I highly recommend you try to use simpler expressions as much as possible.

Query 1 Return the id and name of listings in the region `'Upper West Side'` requiring at least 2 days of minimum stay that are available for 2 days in a row and have at least one comment that mentions `'Central Park'`. Order results by name.

Query 2 Return all listings and hotels that are within 0.04 miles of `40.7484405,-73.9878531` (Empire State Building). For the results, return the name, the lodging type (`'AirBnB'` or `'Hotel'`), price (formatted as value for AirBnB and as range for hotels) and the distance to the given location. Order results by distance ascending.

Query 3 Find hotels with more than 300 reviews in the database.

Note that hotels with the same name may be listed multiple times with different IDs. In this query, we will identify hotels with same name and address (`street1,street2,zip` combined) as the same hotel (even if they have different id).

For each hotel, return their name, full address as a single string (`street1, street2` and `zip`, concatenated); lowest of low price values and highest of high price values listed for this hotel, and the average review values for: `value`, `cleanliness` and `location` (each formatted to 2 digits after comma). Order the results by average value descending.

Query 4 So, we are shopping for some good values. Find and return the regions in which the mean airbnb price for `'Entire home/apt'` is lower than the median rental prices for a `'Studio'` for `yearmonth=2019-08-01`. Use only the region name to find listings and rental_homes for the same region.

Note: the AirBnB price is for a single day, while the rental price is for 30 days, so comparison should be for a daily rate. Also, AirBnB prices are of type money, which needs to be converted to floats for comparison. I found the following works: `price::numeric::float`.

Query 5 Find AirBnB listings within 0.05 miles of a hotel with an average overall value of 4.5 in reviews (`ta_reviews.value`). The returned listings should be `'Entire home/apt'`, they should be cheaper than the low price for the given hotel and must have at least 100 reviews (`listings.number_of_reviews`).

Return the id, name, price of AirBnB listing, name, low/high price of the hotel. Order results by the listing names.

SUBMISSION INSTRUCTIONS. You will use SUBMITTY for this homework.

Submit a single ASCII text file named `username_hw6ans.sql` that contains all your queries to SUBMITTY. The script should have the same format as `hw5`.