

Database Design, CSCI 340, Spring 2016
SQL – GROUP BY, HAVING, subqueries, Chapter 6, pages 151-157, Jan. 22

The following refer to the HotelReservations mysql database.

Write the SQL commands to do the following:

1. For each city, list the number of hotels in that city. (The result is 4 hotels in Butte, 1 in London, and 3 in Missoula.)

```
SELECT city, COUNT(*)  
FROM Hotel  
GROUP BY city;
```

2. List all cities and state pairs which have more than 1 hotel. (The result is Butte, MT and Missoula, MT.)

```
SELECT city, state  
FROM Hotel  
GROUP BY city, state  
HAVING COUNT(*) > 1;
```

3. For each room type, list the average room price, from highest to lowest, for that room type.

```
SELECT type, AVG(price)  
FROM Room  
GROUP BY type  
ORDER BY AVG(price) DESC;
```

4. Give the room numbers of the cheapest rooms in the database. Note that your query must work for any extension of the database, not just the current extension. (Room number 110 and 303 are the cheapest rooms in the current extension of the database.)

```
SELECT roomNo  
FROM Room  
WHERE price =  
      (SELECT MIN(price)  
       FROM Room);
```

5. Give the room numbers of the cheapest rooms in the database but do not use the MIN aggregate function.

```
SELECT roomNo
FROM Room
WHERE price <= ALL
(SELECT price
FROM Room);
```

6. List the name, address and city of all Montana hotels which are not in Butte. (The result will contain 3 records.)

```
SELECT hotelName, street, city
FROM Hotel
WHERE city NOT IN ('Butte') AND
State='MT';
```

7. List the name and address of all Butte hotels which are on Park Street. (The result will contain 2 records.)

```
SELECT hotelName, street
FROM Hotel
WHERE street LIKE '% Park Street %';
```

8. A hotel clerk remembers that there was a guest in the database whose last name started with Sad and whose first name started with F. Write a query which retrieve the names of all such guests. (The result will contain 1 record.)

```
SELECT guestName
FROM Guest
WHERE guestName LIKE 'F% Sad%';
```

9. Is pattern matching using LIKE and NOT LIKE case sensitive in mysql?

No

10. Give the cost of the cheapest room in the database. (The cheapest room is \$58.00.)

```
SELECT MIN(price)
FROM Room;
```

Challenge:

11. List all cities and state pairs which have more than 2 types of hotel. (The result is Butte, MT . Missoula isn't included because two of its hotels are of the same type, namely Holiday Inn.)

```
SELECT city, state
FROM Hotel
GROUP BY city, state
HAVING COUNT(DISTINCT hotelName) > 2;
```