Homework 5: Advanced SQL (Total Points: 100)
Due: April 8, 11:59PM ET

Problem 1: Create a DB and load data (Points: 25)

1.1. First create the database and load the sample data we are providing. To make your job easier, we have provided all the SQL statements needed to accomplish this in the files create_objects.sql and load_data.sql. Download these files using the preceding Canvas links, and upload them to your EC2 instance to a location/folder where you have read, write, and execute privileges. In section, we will cover in full detail how to transfer the files and change folder/file permissions so that the scripts are executable.

Start mysql from the directory where you placed the files and execute the following commands at the mysql prompt in this order:

```
source create_objects.sql;
source load_data.sql;
```

After each one of these commands you should see multiple messages like this (the number of rows affected may be 0 or 1):

```
Query OK, 1 row affected (0.01 sec)
```

Note: *These scripts were sourced from https://www.sqlservertutorial.net/sql-server-sample-database/ and adapted for MySQL.*

No need to share any screenshots for this portion; we will know you were successful if you are able to complete the next set of tasks. (5 points)

1.2. Execute the following commands:

```
DESCRIBE TABLE orders;            (5 points)
DESCRIBE TABLE order_items;       (5 points)
DESCRIBE TABLE staffs;            (5 points)
SELECT COUNT(*) FROM customers;   (5 points)
```

and provide screenshots of the results:

```

```

```

```

Problem 2: Retrieve order data by created date (Points: 25)

Create a SELECT statement that lists the first_name, last_name and email of any customer that
has placed an order between March 1, 2018 and March 10, 2018 **inclusive**.
Sort the results by first_name and last_name in ascending order.

2.1. Provide the SQL statement used. (15 points)

```

```

2.2. Provide a screenshot showing the last 10 rows of the results obtained by the SQL
statement shown above. Make sure it includes the line that indicates how many total rows
were returned. (10 points)

```

```

Problem 3: Retrieve order data by creation date and location (Points: 25)

Obtain the list of orders placed in California between March 1, 2018 and March 10, 2018
inclusive, and the orders placed in New York between March 11, 2018 and March 15, 2018
inclusive. List the first_name, last_name and email of the user, along with the id and date of
the order and the store name and state.

3.1. Provide the SQL statement used. (15 points)

```

```

3.2. Provide a screenshot showing the full result set. Make sure it includes the line that indicates how many rows were returned. (10 points)

Problem 4: Prepare complete contact list for Marketing Team (Points: 15)

In preparation for an upcoming grand opening event for a new BikeStores location, the marketing team has tasked you with putting together a SINGLE list of all customers and employees. The list should contain the following: id, person's full name, last_name, first_name, email, phone number, and a flag designating if the person is a customer (flag = 'Y' or 'N'). Additionally, the list should be ordered in ascending order by person last_name. (Hint: Ensure that you only include active employees)

The report headers should be labeled as such:

- person_id
- person_full_name
- person_last_name
- person_first_name
- person_email
- person_phone_no
- person_is_customer

4.1 Provide the SQL statement used. (10 points)

4.2 Provide a screenshot of the header row with column names and the last 10 rows from the results set. Ensure the line indicating the "rows in set" is visible. (5 points)

Problem 5: Manipulating query output that contains NULL values (Points: 10)

This problem involves the use of a MySQL function to substitute a string for NULL values in the query result set (Hint: Greg covered this as part of lecture). Query the customers table for the first 5 records (customer_id 1-5) – use an ORDER BY statement to properly display records. Include the following fields in your result set: customer_id, first_name, last_name, phone, and email. For the phone field, if a customer does not have a phone number (e.g. NULL), instead of NULL in the result set, you should display 'not on file'.

5.1 Provide the SQL statement used. (5 points)

5.2 Provide a screenshot of the entire results set. (5 points)

Bonus – Problem 6: Retrieve a staff report (Points: 10)

Create a SQL statement that shows the first_name, last_name, store_id, email, phone of every manager as well as the number of active staff members reporting to them (tip: A manager for a store reports to Fabiola Jackson). Note: If you wish to include Fabiola Jackon in the results set, you are free to do so, but we will not deduct any points if you do not.

6.1. Provide the SQL statement used. (5 points)

6.2. Provide a screenshot showing the full result set. Make sure it includes the line that indicates how many rows were returned. (5 points)