Lab 1: SQL Practice

**Due date:** Wednesday, April 1, 11:59pm.

# MySQL and MySQL accounts

## MySQL Accounts

Those of you who took CSC 365 in Winter 2015 have your MySQL accounts on the `csc-db0` MySQL server. You should remember your passwords. If you do not, I can reset the password for you.

Those of you who took CSC 365 with Eriq Augustine in Spring 2013 *may* have accounts on our `csc-db0` server (it is a resurrected version of what Eriq used in the course). If you remember your passwords, try them first. If it does not work, try the password given to you by the instructor. If that does not work as well, I will reset your password.

Those of you who took CSC 365 at some other time, have a brand new account on the `csc-db0` domain with login credentials. Information will be handed to you in class.

## MySQL server access

We will be using `csc-db0` MySQL server that was created and used for CSC 365 classes. Here is some information for how access the server from CSL machines.

From command prompt type:

```
$ mysql -h csc-db0.csc.calpoly.edu -p
```

At the prompt, enter your password. You should see the following prompt:

```
mysql[none]>
```

Next, switch to the database you will be using for this lab:

```
mysql[none]> use ebakery
Database changed
mysql[ebakery]>
```

You are now ready to work on the assignment.

For more information on working with mysql command line client, please see the CSC 365 handouts linked to from the CSC 366 web page.

### Assignment Preparation

This is an individual lab. Each student has to complete all work required in the lab, and submit all required materials **exactly as specified** in this assignment.

The assignment uses a modified version of one of the datasets I used in CSC 365. The new dataset, `EXTENDED BAKERY` removes the portion of the old `BAKERY` dataset, and replaces it with some new structures.

The full description of the dataset is distributed as a separate document.

We have created a new database on the `csc-db0` mysql server called `ebakery`. Each of you now have a `SELECT` permissions on `ebakery`. While you can download the files necessary for creating your own version of the dataset from the course web page, this is not required - you can do everything you need to do simply accessing the `ebakery` database.

## SQL queries

Write an SQL script containing SQL statements answering the following information requests. Name your file `lab1.sql`.

1. Find all employees for the San Luis Obispo store. Report their names and positions.

2. Report all dates on which the San Luis Obispo store had at least one sale of `Raspberry Lemonade`. Order the dates chronologically, and report each date only once.

3. Report all sales that occurred in the San Luis Obispo store on January 22 2000. For each sale, report the receipt number and the name of the employee who conducted the sale.

4. List all the least expensive items on the menu. For each type of item list its name (Flavor, Food) and type (drink or pastry).

5. For each Los Angeles location list the total number of recorded sales (receipts) in the database. For each location supply store number,

street address and city. Output the results ordered by the total number of sales.

6. For each store with more than three employees report the total sales amount. Report the store number, city and state and the total sales amount. Sort the output by the total sales amount.

7. Find the bakery/bakeries that sold the largest number of `Walnut Cookies`. Report store number, city, state, street address and the number of cookies sold.

8. For each type (the value of `Food` attribute) of pastry (but not drink)[1], report the total amount in sales from California stores. Sort results in descending order by the total sales amount.

9. Find the employee(s) responsible for the largest number of sales. Report their name(s) and location(s) (store number, city, state, street).

10. For each Arizona and Nevada store report the most popular pastries (that is, the pastry/pastries that the store sold more than other pastries). Report the city, state, street address for the store and the flavor and food type for the pastry.

## Notes

We use the same conventions concerning the use of SQL in this course as I use in CSC 365. In particular:

- Queries must be written using ONLY the information contained in the text description of the information needs. You are not allowed to look up keys in the database and use them - this what joins are for.

- MySQL's `SELECT ... ORDER BY <X> LIMIT 1` construct **CANNOT BE USED** in the outer query implementing a "find objects with minimal/maximal amount of some property" types of queries.

- You may choose between the use of `JOIN` syntax or the use of cartesian product syntax in the `FROM` clauses of your `SELECT` statements.

- Remember that MySQL has `UNION` operator, but does not have `INTERSECTION` and `DIFFERENCE` (or `MINUS`) operators.

- Where possible, privelege the use ANSI SQL rather than MySQL-specific syntax.

- Specifically, if your query contains a `GROUP BY` clause, the use in `SELECT` clause of attributes *not mentioned* in the `GROUP BY` clause (that is - direct use w/o aggregates) is **absolutely prohibited**. Your query will score 0 if you do it regardless of whether it returns correct answer.

[1] Check the values in the `Goods.Type` attribute

- use `AS` for aliasing columns in `SELECT` clause. Use no keywords for aliasing tables in the `FROM` clause.

If in doubt regarding the use of a specfic SQL feature – ask me.

### Submission Instructions

Put all the queries in a single file. Name the file `lab1.sql`.

Submit the file using `handin` as follows:

Section 1:

```
handin dekhtyar lab01-01  lab1.sql
```

Section 3:

```
handin dekhtyar lab01-03  lab1.sql
```