**CS3431 A17 Wong**

**Assignment 1: Basic SQL**

Due Date: R 8-31 at 11:59pm.

Late Policy: 10% off until F 9/1 at 5pm. 0 points afterwards. Maximum grade is 100 points.

Submission: submit your tours.txt file to Canvas using the Assignment 1 link.

The homework is to be done individually. You may speak to your classmates about the assignment but cannot exchange information on the actual SQL code that needs to be written.

You will be creating a database to keep track of tours that vacationers have reserved. The data is located in the spreadsheet attached to the assignment, CS3431-A17 Assignment 1.xlsx. There are 4 tables, one on each spreadsheet tab: ReservedTours, Customers, Tours and Guides. The fifth tab is an example of how to automatically generate the insert statements if you do not want to manually type every line.

Use a text editor to create tours.txt that will include all of your SQL commands:

1. The first four commands will delete the ReservedTours, Customers, Tours, and Guides tables so you can run your tours.txt file over and over. Note that you will need to drop the tables in a specific order because of integrity constraints. Do NOT use the following command for this assignment: drop table <TableName> cascade constraints;
2. (30 points) Write the SQL commands to create the four tables following the instructions below. Use named constraints for primary keys, unique keys, and foreign keys. Note that due to referential integrity constraints, you will need to be careful about the order you create the tables and insert records into them.
   1. For each table, the field name and datatypes are given in the spreadsheet. Use the exact given table and field names.
   2. The first column of each table is the primary key.
   3. In the Guides table, the driverLicense field is unique and must be non-null.
   4. The ReservedTours table contains 3 foreign keys referencing the other three tables.
   5. In the Tours table, the VehicleType is constrained to be boat, bus, or car.
   6. For the Customers, Tours, and Guides tables, the referential integrity should be set so if a record is referenced by the ReservedTours table, the referring field in ReservedTours will be set to null when the record is deleted.
3. Write the following SQL commands to
   1. (10 points) Write a single SQL command that increases the price of Massachusetts tours by $10.
   2. (20 points) list all of the guides who are doing either an Alcatraz tour or are a senior tour guide. Include the guide’s first name and last name. Sort the results in alphabetical order by last name and then by first name. Only for this part, use natural joins. In the subsequent sections, use theta joins.
   3. (20 points) list tours that have both customers who are over 65 and tours that use boats. Include the travel date, customer first name and last name as a single field called ‘fullName’, customer age, and tour name. Sort by tour name and then by customer full names.
   4. (20 points) list the five tours and the names (first and last) of the guides who will be giving those tours. Include the tour name and the guide’s first and last name. Sort by tour name and make sure there are no duplicate listings of the guides for the same tour. For example, the Alcatraz Tour should not list Liam Rodriguez twice, but Liam can also appear as the tour guide for one of the other tours.

Use Filezilla to copy your tours.txt file between your local computer and the CCC server. Use the @ command at the sqlplus prompt to run the file:

sqlplus> @tours.txt

If you encounter problems with step 3, create a part of the SQL command, check it, and then add to it. For example in part 3.c., write the SQL statement for just customers over 65. After verifying that it works, then add the code for tours that use boats. Then include the code to do the sorting.