**CS3431-A22 Wong**

**Assignment 1: Basic SQL**

Submission: zip your **skaa1a.sql** and **skaa1b.sql** files and submit them to Canvas using the Assignment 1 heading 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 an art database to assist the South Kingston Art Association (fictitious), SKAA, in Rhode Island. The association’s biggest fundraising event of the year is the regionally well-known Great Art Heist. Artists donate artwork to the association for exhibition and fundraising. The association sells tickets to the general public and on the last day of the exhibit, tickets are selected at random at the Great Art Heist. When the buyer’s ticket is called, they get to select a work of art that has not already been chosen. Any artwork that has not been chosen, can be purchased at the end of the event for the same price as that year’s ticket price.

A subset of the data is in the spreadsheet CS3431-A22 Assignment1.xlsx. There are 5 tables, one on each spreadsheet tab: Artwork, Artist, Medium, Gallery, and TicketPrice. The first tab, Template, is an example of how to automatically generate the insert statements so you DO NOT manually type every line.

Use a text editor to create your SQL commands below.

**Note: because of the referencing done, there is a specific order that you need to follow in the creation of the tables. Likewise, there needs to be a specific order in which the tables are dropped when the code is re-run.**

1. Creation of the tables and inserting of data. Create a file named **skaa1a.sql** for the following SQL commands.
   1. (5 points) The first five commands will delete the Artwork, Artist, Materials, Gallery, and TicketPrice tables (not necessarily in that order) so you can run your SQL files over and over.
   2. (15 points) Write the SQL commands to create the five tables following the instructions below. All constraints must be named. Insert the spreadsheet data into the tables.
      1. For each table, the field name and datatypes are given in the spreadsheet
      2. The first column of each table is the primary key except for the Artwork table where the combination of year and artworkID is the primary key.
      3. The Artwork table contains foreign keys referencing the four other tables.
      4. In the Artwork table, the purchased field can only have a value of ‘n’ or ‘y’
      5. In the Artist table, artists may only be from New England states (Massachusetts, New Hampshire, Vermont, Connecticut, Maine, and Rhode Island), the state of New York, or the West Coast states (California, Oregon, and Washington).
      6. In the Gallery table, buildings cannot be an empty string.
      7. In the TicketPrice table, ticket prices must be $50 or more.
2. Create a file named **skaa1b.sql** for the following SQL commands. When displaying the order of the fields in the result tables, follow the order given in the instructions. For your own use, create the database schema so you can more easily see what fields are in which tables. PK indicates it is part of the primary key. FK indicates it is part of the foreign key. For example:  
   Artist(firstField PK, secondField FK, thirdField, etc.)  
   Artwork(firstField, secondField, etc.)
   1. (10 points) Display a list of artists from either Massachusetts or Connecticut sorted first by state, then by city, and finally by last name. The first column should have a heading of ArtistName and consist of the artist’s first name, then a space, and then the last name. The second column should have a heading of Location and display the city followed by a comma and space, and then the state abbreviation. As an example of what the format should look like (using different data):

ArtistName Location

Tom Jones Albany, NY

Brian Ryan Exeter, RI

Arabella Savage Exeter, RI

Millie Lang Kingston, RI

* 1. (10 points) In the TicketPrice table, increase ticket prices for years between 2013 and 2021, inclusive, by 10 dollars. Using a second SQL command, delete year 2022.
  2. (20 points) Using natural joins, display a list of artworks including the building and gallery they are in, the title, and the price. Also display the purchased date in the format of Month Day, Year (e.g. SEP 9, 2022). The heading for this last field should be PurchasedDate. Only display those artworks that were purchased or are displayed in the Sculpture Garden in the SKAA building. Sort the results by building, then gallery and finally by artwork title.
  3. (20 points) Using theta joins, display a list of artworks including the first name, last name, the title, the medium used, double the existing price with the column heading of PandemicPrice, and the gallery it is in. Only display those artworks that are originally priced between $100 and $200, inclusive; are in the oil category, and are either in the Gund or Walker gallery. Note that you may need to use parentheses to get the correct results! Sort the results by last name, first name and then title.
  4. (20 points) We would like to know the list of different artwork categories that are represented in each gallery at the Stein Conservatory. Display the gallery and then the category but make sure the results do not have multiple copies of the same category within a single gallery. It should also be sorted by gallery and then category. Use theta joins.