CSCE 156 – Lab 08: SQL I

Worksheet- Summer 2018

Name _____ Role (Select One): Driver/Navigator

For each question, write an SQL query to get the specified result. You are *highly encouraged* to use a GUI SQL tool such as MySQL Workbench and keep track of your queries in an SQL script so that lab instructors can verify your work. If you do, write your queries in the `Lab-SQL_I-Worksheet.sql` script file rather than hand-writing your queries here and turn it along with this worksheet.

Querying Data

1. Write queries to get the following results
    a. A list of all musicians (first name and last name) from the USA

    b. A list of all musicians from England (which includes the UK, England, and Britain)

    c. A list of all individual songs in the database (titles) in alphabetic order

    d. What is the `AlbumID` for the album title "Odelay"?

2. Write a query to find the following—just the number of records, not the actual records. Give the query and the result.
    a. How many albums have the word "Love" in their title?

    b. How many musicians are named "John"?

3. Write a query to find the total running time (in seconds) of all tracks on the album "I Hope You Win!"

4. Write queries to join two or more tables to get the following results
    a. List the title and year of all albums by the band ‘Korn’.

    b. List all the track numbers and song titles of all songs from the album Odelay in the order of their track number

5. List the titles of all songs and their albums by the band ‘Linkin Park’.

6. List the titles of all songs which do not appear in an Album. What was the minimum number of joins necessary and why?

7. The following will require some aggregation queries
    a. List all Albums and the number of tracks on them.

    b. Perform the same query, but limit it to albums that have 12 or more tracks.

8. Write a query that counts the number of songs performed by the “musician” Nick Carter.

Inserting & Deleting Data

9. Write and run queries to delete the following data
    a. Delete the album titled “Kid A”

    b. Attempt to delete the song titled “Paranoid Android” from the Songs table. What happens and why?

c. Write a query or queries that successfully delete the record(s) necessary in order to delete the song “Paranoid Android”, then delete the song itself.

10. Change the album title “Kid” to “Kid A”

11. Choose your favorite album and insert it into the database by doing the following
    a. Write a query to insert the Band of the album

    b. Write a query to Insert the Album

    c. Write two queries to insert the first two Songs of the album

    d. Write two queries to associate the two songs with the inserted album

Advanced Activities

1. SQL supports basic arithmetic operations (+, -, /, *, %) in its queries. Design an SQL query that calculates the total running time for a particular album (identified by AlbumID) by selecting two columns: minutes and seconds which both should be whole integers. Then create a query that returns the running time as a string in the format, “mm:ss” (hint/warning: string formatting is specific to particular databases and is not standard SQL; for MySQL see the LPAD and CONCAT functions).
2. Read up on the syntax for creating a *view*—a stored query that creates a virtual table that can be queried as if it were an actual table in the database. Create a view in your album database to “flatten” the album and song data into one accessible table; include the following columns: AlbumId, AlbumTitle, BandId, TrackNumber, SongId, and SongTitle.

Date_____ Lab Instructor Signature_____