CSC 453 – Database Technologies

FINAL PROJECT

DUE DATE: March 13th 11:30 PM

Total Points: 100 + 15 (Bonus) (35% of Final Grade)

Make sure to test and verify that all the scripts work before submitting it.

Partial credit will **NOT** be provided, for a category, if the associated script fails to execute. Use proper commenting wherever possible, even if it has not been asked for.

Submit a single zipped file with all the files in it. Project description can be a .txt, word, or a pdf file. Only the last submission will be saved in the D2L dropbox, so make sure that the last zip file submission is complete.

1. Project Description (5)

2. Create Relations (Tables) (20) + (5)
   - File to submit for this section: 01_DDL.sql
   - Place the DROP statements at the beginning of the file. The drop statements can be commented out.
   - Make sure to have the DROP statements in order so that the drop for the tables with foreign key gets executed before the one with the primary key.
     - For example: UserActivities (UserId is foreign Key) needs to be dropped before Users table.
   - Create tables with keys, correct attributes and domain constraints
   - Do **NOT** generate queries from the database. Write your own queries.
   - Five tables are the minimum number of relations required
   - Extra credit (5): Ten or more total relations

3. Populate the Relations (15) + (5)
   - File to submit for this section: 02_Insert.sql
   - Write INSERT statements to populate each Relation.
   - Insert a minimum of five tuples into each relation.
   - Extra Credit (5): For two or more tables insert fifty tuples or more.

4. Write SELECT queries against the Relations (20)
    - File to submit for this section: 03_Select.sql
    - Write fifteen queries in total
    - Out of which only a couple should be single relation queries
    - Write multi-relation queries with WHERE, INNER JOIN, OUTER JOIN, Sub queries, GROUP BY, HAVING etc.
    - Write SQL with aggregate operations (COUNT, MAX, MIN, AVG, SUM, etc.)

5. Create a Transaction to perform Insert, Update and Delete operations (15)
    - File to submit for this section: 04_Transaction.sql
    - Create a **single** transaction to perform an update, insert, and delete operations.
        - Put a comment in the file to explain the transaction and the benefit of putting them in a single transaction.

6. Create Trigger (10)
    - File to submit for this section: 05_a_Trigger.sql
    - Implement a trigger on your database.
        - Put a comment in the file to explain what the trigger is for
        - Provide a way for me to execute this trigger: 05_b_ExecuteTrigger.sql

7. Create Stored Procedures (10) + (5)
    - Files to submit for this section:
        - 06_sp_Insert.sql
        - 07_sp_Select.sql
        - 08_sp_Update.sql
        - 09_sp_Delete.sql
        - 10_call_StoredProcs.sql (calls to the stored procs created above)
    - Extra Credit (5): Use temporary table on one or more of the stored procs

8. Use an explicit cursor to store a list of rows from a query and perform conditional SQL on it. (5)
    - File to submit for this section: 11_Cursor.sql