MSBD 6000L: Database Systems

Assignment 2: Table Creation and SQL Queries

Assigned: October 11, 2022 Value: 10% of course grade
Due: 23:00 (11:00 p.m.), October 29, 2022

In this assignment you are to submit two SQL script files that create the relational database required for the fanclub management system and that execute some queries on this database.

IMPORTANT REMINDER

This is an individual assignment. The SQL script files that you submit should be *your own work*. While you may discuss general assignment issues with other students, you are not allowed to collaborate with other students (past or present), to develop common code, to share code or to copy someone else's code. Copying, sharing or collaborating will be severely penalized. All those involved in a copying/sharing/collaborating incident will automatically receive a grade of 0 and may be reported for further disciplinary action.

PART 1: TABLE CREATION

In the provided SQL script file **Assignment2Schemas.sql**, which can be downloaded from the Assignments section of the Assignments tab of Canvas, construct SQL statements to create tables with exactly the same table and attribute names as the relation schemas described in the document **Assignment2RelationSchemas.pdf** which also can be downloaded from the Assignments section of the Assignments tab of Canvas. Moreover, the order of the attributes and their types in each table should be exactly the same as that given in this document. Note that the order of the relation schemas in this document is ***not necessarily the correct order*** for creating the tables; the relation schemas in this document merely describe the attributes, their types and some of the constraints of each relation schema.

Include for each table all attribute-level or table-level constraints that either are described in the application description, are derivable from an example E-R schema for Assignment 1 or are stated in the document **Assignment2RelationSchemas.pdf**.

You can check whether you have defined *some aspects* of your tables correctly with the SQL script file **Assignment2SchemaCheck.sql** which can be downloaded from the Assignments section of the Assignments tab of Canvas. If each tuple in this script file can be successfully inserted into its respective table, then the table has been defined correctly as to the number of the attributes and possibly the order and type of each attribute. However, the order and type of the attributes is not guaranteed to be correct even if a tuple can be inserted successfully. Furthermore, the tuples need to be inserted in the correct order and the order in which they appear in the script file is not necessarily the correct order in which the tables should be created. The tuples may need to be reordered according to the referential integrity constraints that you have defined so that they can be successfully inserted into the tables.

Note: ***You are required to use the relation schemas given in the document Assignment2RelationSchemas.pdf. For Assignment 2 you will not be provided with any sample data to populate the database. You may create your own sample data if you consider that it is necessary to do so.***

PART 2: SQL QUERIES

In the provided SQL script file **Assignment2Queries.sql**, which can be downloaded from the Assignments section of the Assignments tab of Canvas, construct the following SQL queries using the relation schemas in the document **Assignment2RelationSchemas.pdf**.

IMPORTANT NOTE

You are allowed to use only SQL constructs that have been discussed in the lectures. If SQL constructs that have not been discussed in the lectures are used in a query, then no marks will be given for that query.

1. Find the fanclub name and the name of the event for those events that are available for registration and for which no one has registered. Order the result first by fanclub name ascending and then by event name ascending.
2. Find the username, first name, last name, occupation and education level of clubmembers who are not a member of any fanclub and who also have not registered for any event. Order the result by last name ascending.
3. Find the username, first name, last name, education level and number of fanclubs of which they are a member for the clubmembers who are members of the most fanclubs. Order the result by username ascending.
4. Find the name of the fanclub, the total number of their clubmembers who have either a tertiary or a post tertiary education level as well as their total number of clubmembers for the fanclubs that have the highest total number of members with tertiary or post tertiary education levels. Order the result by club name ascending.
5. Find the event name and the fanclub name where all members of the fanclub hosting the event registered for the event. If an event is hosted by more than one fanclub, then if all the members of one of the fanclubs hosting the event registered for the event, then the event name and name of that fanclub should be in the query result. A fanclub should not be in the query result if not all of its members registered for the jointly hosted event. Order the result by event name ascending.

WHAT TO SUBMIT

Submit the two completed SQL script files **Assignment2Schemas.sql** and **Assignment2Queries.sql**. The script file **Assignment2Schemas.sql** should not contain any sample data; it should contain only the SQL statements for creating the tables.

>>> ***Put your student id and name in the indicated place of each script file.***

We will not grade your submission if

- your **Assignment2Schemas.sql** script file violates any of the requirements stated in Part 1,
- you do not put your student id and name in each script file or
- you submit files other than the two specified script files.

Note: ***Each script file will be tested directly in SQL Live. Therefore, you are advised to test your SQL solution statements in SQL Live before submitting the script files. If a script file cannot be run in SQL Live, it will not be graded, and you will get zero for that part of Assignment 2.***

PLEASE NOTE CAREFULLY

You may not share your sql script files for Part 1 or Part 2 with other students in the course. Sharing sql script files will be considered collaboration and will be penalized as stated previously.

HOW TO SUBMIT

1. Put both script files into a folder named "Assignment2XXXXXXXX" where "XXXXXXXX" is your student id.
2. Compress (zip) the folder "Assignment2XXXXXXXX".
3. By 11:00 p.m. on Saturday, October 29, upload your "Assignment2XXXXXXXX.zip" file to Canvas by selecting *Assignment 2* in the Assignments section under the Assignments tab of Canvas, and then selecting the **Submit Assignment** button. To check your submission, select the **Submission Details** button. For help, select the **Help** button.

You are responsible to ensure that your submission is correctly uploaded to Canvas.

Under no circumstances will late submissions or submissions by email be accepted.

GRADING

Item	Value
Part 1: Table creation	~50%
Part 2: SQL queries	~50%

CLARIFICATION AND AMENDMENT OF ASSIGNMENT REQUIREMENTS

You can ask clarification questions regarding the requirements stated in the application description or the document **Assignment2RelationSchemas.pdf**. ***All questions should be submitted to the instructor by email at fred@cse.ust.hk.*** In addition to being answered individually, if appropriate, a submitted question and its reply will be posted to the *Assignments Q&A* module on Canvas. ***You should check this module on a regular basis for further clarification and amendment of assignment requirements.*** Any requirements added or amended in the *Assignments Q&A* module become part of the assignment requirements.