DBMS Lab 2018-19 Spring Semester

Lab Day 2 (January 15, 2019) – 100 Marks

[Penalty for plagiarism/copying: You will be awarded 0 for all the problems for the lab day you were involved in plagiarism/copying and an additional 5 marks will be deducted out of the total of 40 in Lab. All persons involved will be awarded the same penalty irrespective of who has copied from whom. Decision of the lab teachers is final in this respect.]

1. Consider that we need to model the data required for the National Cricket League (NCL). NCL has many teams. Each team has a unique name, a city, a coach, a captain, and a set of players. Each player has a name, a position (such as batsman, wicket-keeper or bowler), a skill level, and a set of injury records. Each player belongs to only one team. A team captain is also a player. For the captain, we need to keep information about the number of matches he has captained, number of matched won/lost/drawn as captain. We need to keep information about the various games. A game is played between two teams and has a date, an outcome and a score for each team.

   Draw an Entity-relationship (E-R) diagram for capturing the above-mentioned information, clearly identifying all the entity sets (strong and weak if any), relationship sets, cardinalities, participation and attributes (including the type of attribute like key attribute, multi-valued attribute, derived attribute, etc.). State all assumptions that you make. They should be reasonable.
   First draw the ER diagram on the piece of paper provided. Then draw it using the ER-Diagram drawing tool suggested during the lab. Write your roll number, name and PC number on the piece of paper.
   Submit (a) The piece of paper where you have drawn the ER diagram and (b) A zip file containing (i) the exported output of the ER diagram and (ii) the image file for it (Name it as Lab2_<Roll_no>_1.zip) through Moodle for Lab Day 2 Assignment 1. **[20+30=50]**

2. Write SQL statements to **[10×5=50]**

   CREATE the following tables
   (a) Create a table **user** having columns **user_id varchar(2)**, **age integer**(3), **city varchar(10)**. **user_id** is the primary key.
   (b) Create a table **message** having columns **message_id** varchar(5), **from_user** varchar(2), **date** date. **message_id** should be specified as primary key.
   (c) Create a table **messageTo** having columns **message_id** varchar(5), **to_user** varchar(2). **message_id** and **to_user** should be specified as primary key.

   INSERT the following rows in appropriate tables
   (d) Insert the following rows in the user table:
   (u1, 22, Delhi), (u2, 20, Delhi), (u3, 24, Kol), (u4, 20, Kol).
   (e) Insert the following rows in the message table:
   (m1, u1, 2019-01-01), (m2, u2, 2019-01-01), (m3, u2, 2019-01-03), (m4, u3, 2019-01-02), (m5, u4, 2019-01-03).
   (f) Insert following rows in the messageTo table:

(m1, u2), (m1, u4), (m2, u1), (m2,u2), (m3, u1), (m4, u4), (m5, u2).

SELECT statements to do the following

(g) List message_id(s) along with sender's (from_id) id, age and city for messages sent on or before 03-01-2019.

(h) List all the messages showing message_id, date, from_user, to_user(s) with age and city of the respective sender and receiver(s).

(i) List all the messages (message_id and date) for which the sender was not one of the recipients

(j) List all the messages (message_id and date) sent to more than one user.

[Note that, all the above Select queries should be such that for other rows also (if inserted in the tables), the result will be retrieved correctly]

Execute your SQL statements on MySQL to check if they are working correctly. Put all the SQL statements in a text file (Name it as Lab2_<Roll_no>_2.txt). At the start of the text file there should be a header containing your information: Roll No, Name, PC Number. Submit the text file through Moodle for Lab Day 2 Assignment 2.