CSIS0278A/COMP3278
Introduction to Database Management Systems
Assignment 2
Programming assignment
SQL & Application development
Due date: 3rd November, 2017, 17:00

The schemas are shown below (The underlined attributes represent the primary key of the relation):

1. **Teams** (teamID:INT(12), name:VARCHAR(64), stadiumID:INT(12))
   Foreign key: stadiumID referencing Stadiums(stadiumID)

2. **Stadiums** (stadiumID:INT(12), name:VARCHAR(64), location:VARCHAR(64))
   Foreign key: none

3. **Players** (playerID:INT(12), teamID:INT(12), name:VARCHAR(64))
   Foreign key: teamID referencing Teams(teamID)

4. **Matches** (matchID:INT(12), date:DATE, stadiumID:INT(12), parentMatch:INT(12))
   Foreign key: stadiumID referencing Stadiums(stadiumID),
   parentMatch referencing Matches(matchID)

5. **Play** (playerID:INT(12), teamID:INT(12), matchID:INT(12), numberOfGoals:INT(12))
   Foreign key: (playerID,teamID) referencing Players(playerID,teamID),
   matchID referencing Matches(matchID)

6. **Participate** (teamID:INT(12), matchID:INT(12), role:ENUM('host','guest'))
   Foreign key: teamID referencing Teams(teamID),
   matchID referencing Matches(matchID)

Requirements

1) [20%] **Build the database using MySQL**.
   a. Using the schemas above, define tables with appropriate **constraints**.
   b. Store the corresponding table definition commands in a sql file called "tables.sql" (Please include also the building of referential constraints in the .sql file, make sure that the files can correctly build the necessary tables and constraints when import to another database).

2) [80%] **Answer queries and display results**.

Please build **q1.php** to **q9.php**, which solve the following 9 queries, and display the result in a web browser. (Please note that besides the 9 php files, you have to include one more file: **q6_submit.php**, we will explain the use of q6_submit.php later.)

Q1.[**sample**] Display the `playerID` and `name` of the player(s) whose `playerID` is 1.

Q2.[5%] Display the `matchID`, `date` and the stadium `name` of all match(es) that are held after 2017-9-30, sort the match(es) such that the later matches are listed ahead of the earlier matches.

Q3. [5%] Display the `stadiumID`, `location` and `name` of all the stadium(s), whose names contain the substring "National".

Q4.[10%] Display the `playerID`, player `name`, `teamID` and total number of goals scored, for the player(s) who played in at least 2 matches.

Q5.[10%] For the player(s) whose scored the most *numberOfGoals* among all matches in the database, display his/her `name`, `playerID`, `teamID` and accumulated number of goals.

Q6.[10%] Display a drop-down menu which contains the `teamID` and team `name` of all the teams.

- Please create q6.php as well as q6_submit.php,
- In q6_submit.php: Consist of a submit button and a drop-down menu with options as "Team ID: Team name" for all the teams. The options should be dynamically generated according to the teams stored in the database.
- After you click the submit button, the page will be directed from q6_submit.php to q6.php.
- In q6.php: Display the `playerID` and `name` of all the player(s) in the selected team.

Q7.[15%] Update q6.php by making the name of the player (say, with `playerID` as x and `teamID` as y) as a hyperlink to `q7.php?playerID=x&teamID=y`.

- In q7.php, for each match that the player has played, display:
  i. The `matchID`, `date` and stadium name of the match.
  ii. The *numberOfGoals* that the player has scored in the match.

Q8.[15%] Display all matches q8.php. For each match, display:

- The `matchID`, `date`, stadium name.
- The `teamID`, `name` and *numberOfGoals* of the host team in the match.
- The `teamID`, `name` and *numberOfGoals* of the guest team in the match.
- Indicate the winner of the match or display "Draw" if the match is a draw game.

Q9. [10%] Update q8.php by making the `matchID` of each match as a hyperlink to `q9.php?matchID=x`

- In q9.php: Display two tables, one for the host team and one for the guest team of match *x*.
- In each table, display the `playerID`, `name` and *numberOfGoals* (in the match *x*) of the players who have play in the match *x*.

Hand in

1. Please compress "tables.sql", and the 10 related PHP files into one zip file and use your student number to name it (e.g. 2008123456.zip).
2. Please submit this zip file through our Moodle system before the deadline.

Important Notes

1. Programs/queries that cannot be run in our system will have a zero score.
2. Table names and attribute names must be **consistent** with the names provided in relation schemas.
3. Tutorials 2 and 3 contain important information about how to install and use PHP and MySQL. Please refer to these tutorials if necessary.
4. MySQL does not implement a few SQL keywords that we taught in the lecture. Please test the queries in MySQL thoroughly before submitting the assignment.
5. For sample query results, you may refer to http://i.cs.hku.hk/~jcfyum/comp3278AA2.html for further information. For sample data, you can download the zip file called ***Assignment2_Sample.zip***. Please do not submit the files with the sample data.
6. The data that we use to grade your assignment may be different from the sample data.