ISE3235

Database Design

Assignment-01

SQL Queries for EPL Database

Overview

In this assignment, you will be working with an **EPL (English Premier League)** database to perform various SQL queries. The database stores information about different football teams and their performance statistics throughout a season.

You are provided with a partially implemented Python script that handles the creation of the SQLite database, manages connections, and creates the **`EPL`** table. Your task is to write the SQL queries for each designated problem in the given areas.

Database Structure

The `EPL` table contains the following columns:

- **id**: A unique identifier for each team (INTEGER, PRIMARY KEY).
- **team_name**: The name of the football team (TEXT).
- **played**: The number of matches played by the team (INTEGER).
- **won**: The number of matches won by the team (INTEGER).
- **drawn**: The number of matches drawn by the team (INTEGER).
- **lost**: The number of matches lost by the team (INTEGER).
- **goals_for**: The total number of goals scored by the team (INTEGER).
- **goals_against**: The total number of goals conceded by the team (INTEGER).
- **goal_difference**: The difference between `goals_for` and `goals_against` (INTEGER).
- **points**: The total points accumulated by the team (INTEGER).

Instructions

1. **Database Setup**:
    - A Python script is provided to create the `EPL` table.
    - You **do not need to write** the SQL query for creating the `EPL` table; it is already included in the script.
    - You **must write** the SQL queries for all other designated tasks.
2. **Tasks**:
    - For each task, you will find a variable named **`sql`** in the provided Python script. Each variable represents a different SQL problem.
    - Write the required SQL query in the variable **`sql`** as specified in the comments.

- Ensure that the SQL query matches the problem statement and solves the task correctly.

3. **Write Your SQL Queries**:
   - The following tasks require your input. Only write the SQL queries in the given areas:
     - **Task 1**: Insert data into the `EPL` table.
     - **Task 2**: Select all records from the `EPL` table.
     - **Task 3**: Select distinct values of matches won.
     - **Task 4**: Select teams with more than 20 wins **AND** a goal difference greater than 50.
     - **Task 5**: Select teams with more than 10 draws **OR** less than 60 points.
     - **Task 6**: Select teams that have not lost any matches.
     - **Task 7**: Update the points of "Manchester United" to 60.
     - **Task 8**: Delete records of teams that have less than 40 points.
     - **Task 9**: Select the top 3 teams based on points.
     - **Task 10**: Select the team with the maximum number of goals scored.
     - **Task 11**: Calculate the average number of points across all teams.
4. **Testing Your Queries**:
   - The provided script includes functions that execute and test your SQL queries.
   - Run the script after writing each query to verify that it functions correctly.
   - Check that each query returns the expected output or performs the desired modification in the database.
5. **Submission**:
   - Only modify the areas marked for writing SQL queries in the provided Python file.
   - Submit your modified Python file.