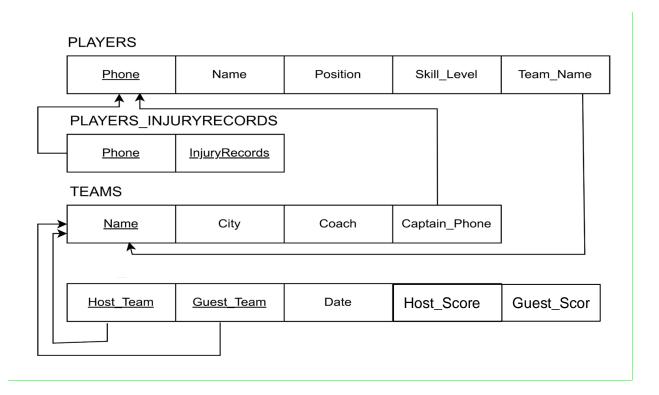
# Practice Sheet Chapter 8 (MySQL)

\*Solutions are at the end of the document. SOLVE IT YOURSELF first. PLEASE NOTE, some questions may have several answers, the given solution is only 1 possible answer.

Consider the following Relational Schema:



- 1. Write appropriate SQL queries for the following questions. For each question write a single query.
  - a. Retrieve all information of all players where the team name has the term "City" in it or if the team name starts with an "A".
  - b. Retrieve all information of the players who have the highest skill level.
  - c. Retrieve all information of the players who have the highest skill level for each Team.
  - d. Retrieve the average score of each host team. The average score should be printed as "host\_average".
  - e. Retrieve the list of cities all teams belong to. There should not be any duplicate cities in the output.
  - f. Retrieve the number of teams in each city sorted by city in alphabetical order.
  - g. Retrieve all game information where the guest team has a higher score than the host team in the year 2023.

- h. Retrieve the maximum score of each guest team if the team has played as guest at least 3 times. The maximum score should be printed as "guest max".
- i. Retrieve the Game information of the last 10 games.
- j. Retrieve all game information for games played on the first recorded date. The information should be sorted by host team name.
- k. Retrieve the information of players who play in the "center forward" position and whose skill level is higher than every single player who plays in the "center back" position.
- 2. Write appropriate SQL queries for the following questions. For each question write a single query.
  - a. Retrieve all information for each team and the captain's information of each team.
  - b. Retrieve the host team name, city, score, guest team name, city, score and game date of all games held in 2022.
  - c. Retrieve the Name, Position and Skill\_Level of players who are members of a Host\_Team and also have the highest skill level.
  - d. Retrieve the Team Name, Captain Name, Phone and Captain's Injury Records of all Teams. The information should be sorted by the captain's phone in ascending order.

#### **SOLUTIONS:**

#### Answer 1:

- a. Select \* from Players where Team Name Like "%City%" or Team Name like "A%";
- b. Select \* from Players where Skill\_Level = (Select max(Skill\_Level) from Players);
- c. Select \* from Players where (Team\_Name, Skill\_Level) in (Select Team\_Name, max(Skill\_Level) from Players group by Team\_Name);
- d. Select Host\_Team, Avg(Score) As Host\_Average from Games group by Host\_Team;
- e. Select Distinct City from Teams;
- f. Select City, count(\*) from Teams group by City Order by City;
- g. Select \* from Games where Guest\_Score>Host\_Score and Date Between "2023-01-01" and "2023-12-31"
- h. Select Guest\_Team, max(Guest\_Score) from Games group by Guest\_Team having count(\*)>=3;
- i. Select \* from Games order by Date Desc Limit 10;
- j. Select \* from Games where Date = (Select min(Date) from Games) order by Host\_Team;
- k. Select \* from Players where Position = "center forward" and Skill\_level > all (Select Skill Level from Players where Position = "center back");

#### Answer 2:

a. Select \* from Teams T Inner Join Players P on T.Captain\_Phone = P.Phone

- b. Select Host\_Team, T1.City, Host\_score, Guest\_Team, T2.City, Guest\_Score, Date from (Teams T1 Inner Join Games G on T1.Name = G.Host\_Team) Inner Join Team T2 on T2.Name = G.Guest\_Team) where Date Between "2022-01-01" and "2022-12-31"
- c. Select P.Name, Position, Skill\_Level from Teams T, Players P, Games G where T.Name = P.Team\_Name and T.Name = G.Host\_Team and Skill\_Level = (Select max(Skill\_Level) from Players)
- d. Select T.Name, P.Name, P.Phone, injuryRecords from (Teams T inner join Players P on T.captain\_phone = P.Phone) inner Join Players\_injuryRecords PI on PI.Phone order by P.Phone

## PRACTICE CHECKLIST:

### **SELECT**

\*

From

Where - condition clause, row wise

Or, And, Not/!

Between

**Distinct** 

Is, In

Like, %, \_

Order By, Asc, Desc

Limit

Lower, Upper, Year functions

Aggregate functions- min, max, sum, avg, count

Group By

Having - condition clause, group wise

Subqueries/nested queries

Any/All

Joins (Inner)