# SSN COLLEGE OF ENGINEERING, CHENNAI.

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**Project Report** 

On

"FIFA18World Cup"

For the course

Database management using SQL

**SUBMITTED BY** 

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## **INTRODUCTION**

The main objective of this project is to create and store information regarding the world cup tournament in a database and then we might be able to answer some business, sports analyst questions

such as who is the best performing player in the tournament, team that finished runner up, names of coaches producing the best prospects etc. using a variety of SQL queries that PostgreSQL offers.

The database contains information of players, teams and referees among all others.

## **DEVELOPMENT TOOLS**

- 1) Language used: SQL(PostgreSQL)
- 2) We use PgAdmin which is a management tool for PostgreSQL and derivative relational databases. It may run either as web or desktop application.
- 3) Web-Browser-Google Chrome

## **SYSTEM REQUIREMENTS(Server side)**

- PostgreSQL
- PgAdmin 4
- Web-Browser(to run PgAdmin as web application)

## **FEATURES**

- User-friendly.
- Data Definition Language- We have SQL commands to define the data.
- Data Manipulation Language-We can manipulate the data to fit our convenience.
- Ease of Management of data.
- High Security- To access server side a master password needs to be bypassed making it highly secure.

## **ABOUT THE DATABASE**

#### **Entities/Tables:**

- 1) Team is a table that has many attributes like team name which uses the data type varchar. Every team has been given a Team ID which is the primary key which is of data type varchar. Team Ranking, Number of players are of the data type integer. There is another attribute goalkeeper which is of multivalued type and accepts varchar data type. Primary key cannot have null value.
- 2) *Player* is an entity type which has an attribute Player Name which is of the data type varchar. It has a primary key, Player ID, which cannot have null value. It has a foreign key, Team ID which is the primary key of the entity, Team. There is a complex attribute, Number of matches played.
- 3) *Referees* is an entity type which has the attributes name and country of origin of data type varchar. The primary key of this is Umpire Id which is of Serail data type. It also has an attribute Number of matches of data type Integer.
- 4) *Coach* is an entity type with a foreign key, Team ID, which is a primary key of entity type, Team. It has a primary key, Coach ID, of data type Serial. It also has another attribute of data type varchar, Name.
- 5) Captain is an entity type with a primary key, Captain ID of data type Serial. It has two foreign keys, i) Player id from table Players

- and ii) Team ID from table Team. Number of years of captaincy and Number of wins are also attributes of this table of data type integer.
- 6) *Matches* is an entity type with a primary key, match ID, of varchar Serial. It has attributes like Team1 Name, Team2 Name, Stadium, Winner Team and Loser Team of data type varchar. Match date time is an attribute which uses the datatype Timestamp with timezone.

# **Question 1)**

#### Tables:

- Team
- GoalKeeper
- Referees
- Player
- Coach
- Captain
- Matches
- Plays
- Refereed\_By

#### Code to create tables:

```
Query Editor Query History

1 CREATE TABLE player(
2 player_id SERIAL PRIMARY KEY,
3 team_id VARCHAR(39) REFERENCES team(team_id),
4 no_of_worldcups INTEGER,
5 number_of_matches INTEGER,
6 avgrating REAL,
7 goal_cont INTEGER,
8 chances_per_ninety REAL,
9 blocks_per_ninety REAL,
10 interceptions_per_ninety REAL,
11 type_of_player VARCHAR(25)
12 );
13 CREATE TABLE coach(
14 coach_id SERIAL PRIMARY KEY,
15 team_id VARCHAR(39)
17 );
18 CREATE TABLE captain(
19 captain_id SERIAL PRIMARY KEY,
20 captain_ane VARCHAR(39),
21 team_id VARCHAR(39),
22 player_id VARCHAR(39),
23 year_of_captaincy INTEGER,
```

```
CREATE TABLE matches(

match_id SERIAL PRIMARY KEY,

match_date_time TIMESTAMPTZ,

team1 VARCHAR(30),

team2 VARCHAR(30),

loser VARCHAR(30),

stadium VARCHAR(30),

ref_id INTEGER REFERENCES referees(ref_id)

ref_id INTEGER REFERENCES team(team_id),

match_id INTEGER REFERENCES matches(match_id)

cref_id INTEGER REFERENCES matches(match_id),

cref_id INTEGER REFERENCES matches(match_id),

cref_id INTEGER REFERENCES matches(match_id),

cref_id INTEGER REFERENCES matches(match_id),

ref_id INTEGER REFERENCES matches(match_id),

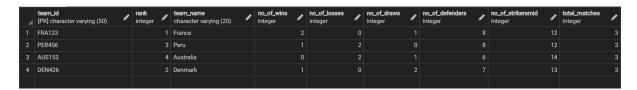
ref_id INTEGER REFERENCES referees(ref_id)

is pref_id INTEGER REFERENCES matches(match_id),

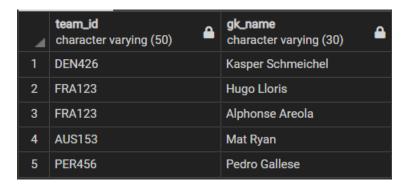
ref_id INTEGER REFERENCES referees(ref_id)

is pref_id INTEGER REFERENCES referees(ref_id)
```

#### Table Team:



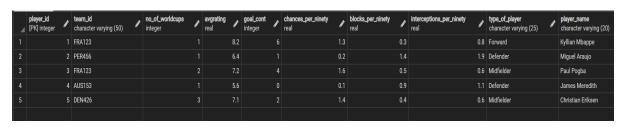
### Table goalkeeper:



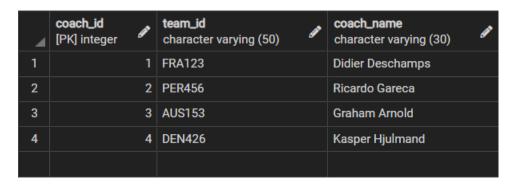
#### Table referees:



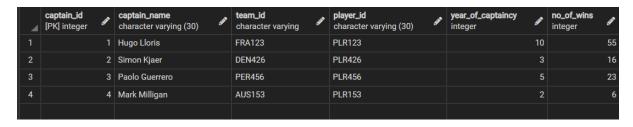
### Table player:



#### Table coach:



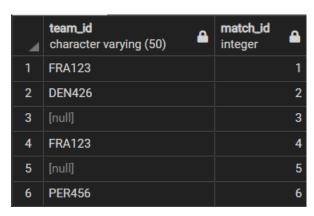
### Table captain:



#### Table matches:



## Table plays:



# Table refereed\_by:

<b>4</b>	match_id integer	<u> </u>	ref_id integer	<u>•</u>
1		1		1
2		2		2
3		3		3
4		4		4
5		5		2
6		6		3

# **Question 2)**

Write down the necessary SQL statements for implementation of functional requirements through SQL queries, DELETE and UPDATE statements.

## **UPDATE:**

1.Add column total matches in the table team. Update rows Using total matches=no.of wins+no.of draws+no.of losses.

#### Code:

```
1 ALTER TABLE team ADD total_matches INTEGER;
2 UPDATE team SET total_matches=no_of_wins+no_of_losses+no_of_draws;
```

2. Add column named 'PLAYER\_NAME' in table PLAYER.

### Code:

```
ALTER TABLE player ADD player_name VARCHAR(20);

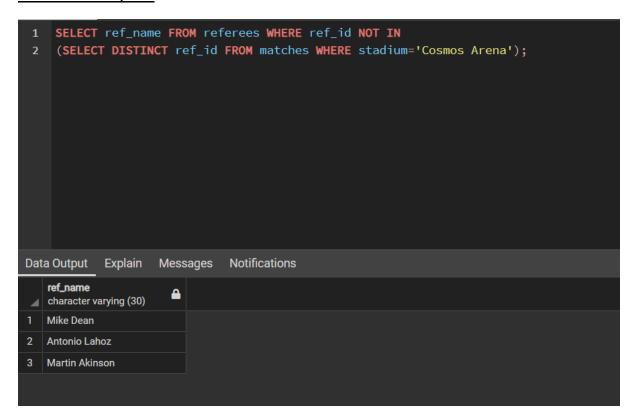
UPDATE player
SET player_name =
(CASE player_id
    WHEN 1 THEN 'Kyllian Mbappe'
    WHEN 2 THEN 'Miguel Araujo'
    WHEN 3 THEN 'Paul Pogba'
    WHEN 4 THEN 'James Meredith'
    WHEN 5 THEN 'Christian Eriksen'

END
);
```

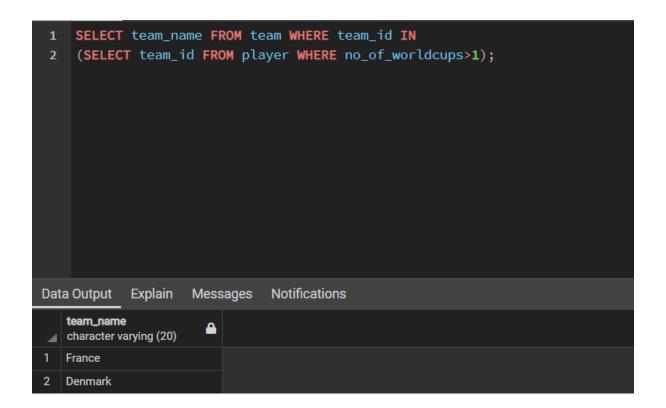
# **SQL** queries using JOIN/NESTING operations:

1.Display the name of the umpires who have not umpired matches in Cosmos Arena

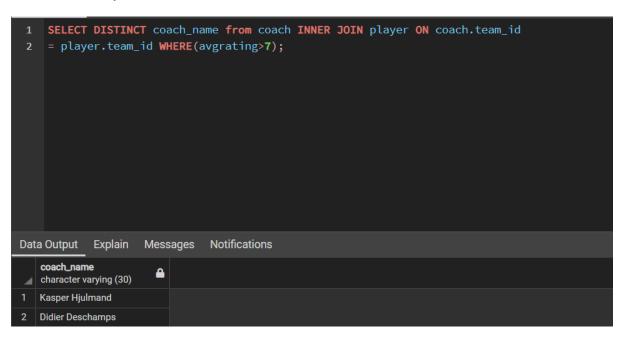
#### Code & Output:



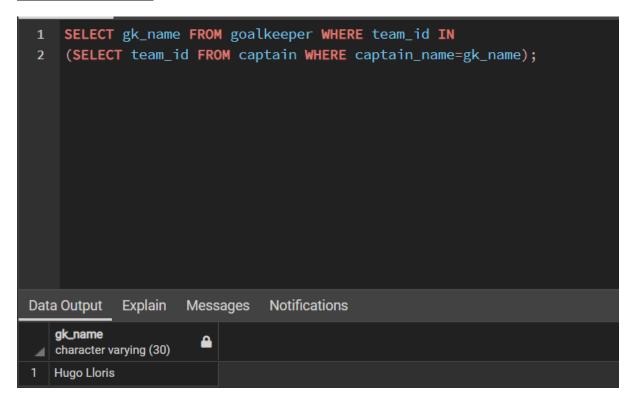
2.Display names of teams which have experienced players.



3. Display name of coach who has coached a player with average rating greater than 7.0 .

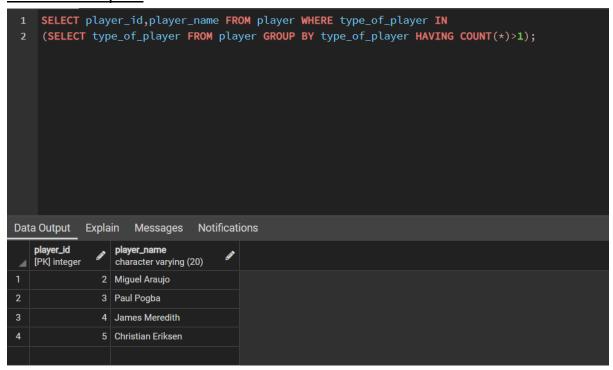


4. Display name of goalkeeper who is also the captain of his team.



# **GROUP BY HAVING CLAUSE QUERY:**

Display the name of players who have same type of playing position.



# **Future Scope:**

- SQL is a massive technology.
- The future is not just limited to Computer Science.
- It revolves around retailing, sales etc.
- All organisations need to store data and manipulate data.
- FIFA18WorldCup allows for easy analysis of statistics which pundits can use to justify an argument that they state on their channels.