

IPL Team Statistics Management System

CSE2004 Database Management Systems

Project Report

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Table of Contents

| | Page Number |
|--|-------------|
| Project Details | - 3 - 5 |
| E-R Diagram | - 6 |
| ER to relation | - 7 - 13 |
| Normalization | - 14 - 16 |
| SQL queries | - 43 - 47 |
| Relational algebra for the SQL | - 48 - 49 |
| Optimized relational algebra for the SQL | - 50 - 57 |
| Implementation using front end | - 58-60 |

IPL Team Statistics Management System

Introduction

Our DBMS project is based on the team statistics management in 13th season of Indian Premier League. It provides detailed information about the various teams participating in the IPL, in which all the major teams from different states participate. It also provides us with information about the various players participating in the tournament. It is a user friendly website where the user can easily retrieve any data from the database that is related to any player or team that has performed in the playoffs of the IPL. All the useful information about the entire tournament can be found here.

Project Details

Entities: Team, Captain, Owner, Sponsor, Match, Players, Coach, Umpire, Venue, Individual stats

- **Team** is a strong entity in which every team has been given a **Team_ID** which is the primary key with the data type varchar. **Team_ID** being a primary key cannot have a null value. **Home_Venue** is not considered as a primary key because in 2020 many teams have shared the same home ground. It also contains different attributes like, **No_of_batsmen**, **No_of_bowlers**, **No_of_allrounders**, **No_of_wins** with the data type int.
- **Player** is a strong entity in which each player is given a **Player_ID** which is the primary key with the data type varchar. **Player_Id** being a primary key cannot have a null value. It also has other attributes like **Player_Name**, **Role**, **Age**, **Country**.
- Performance of each player is stored in a separate entity called **Individual_stats** in which **Match_ID** is a foreign key taken from the table Match. It includes attributes like **Runs**, **Strike_rate**, **Boundaries**, **Sixes**, **Wickets**, **Catches**, **Runouts**.
- Details of each match played in the tournament is recorded under an entity called **Match**. The attribute **Match_ID** is a primary key as each match will have a unique Id and it cannot be NULL. It also contains the attributes like **Team_1_Name**, **Team_2_Name**, **Winner**, **Loser**, **Match_date**, **Match_time** and **Man_of_the_match**. Here the name of the team that loses (Loser) will be a derived attribute because there are only two teams competing and if we know the winner then loser is automatically obtained.

- Coaching staff details are stored under the entity **Coach** in which **Coach_Id** is a primary key and cannot have a null value. The attribute **Team_id** is a foreign key so that we can identify the team he coaches. It also includes the **Coach_name**.
- Each team is led by a captain whose details are stored under an entity named **Captain** and each captain is given a unique **Captain_Id**. **Captain_name** and **Role** in the team are also stored.
- Each team is owned by a particular **Owner**. Owner is given a unique **Owner_Id** and **Owner_name** is also stored.
- There are several sponsoring companies who **Sponsor** a team therefore the sponsor details are stored under an entity called **Sponsor**. **Company_Id** is a primary key and also includes the **Company name**.
- Every match is umpired by an **Umpire** and the details of the umpires are stored under the entity **Umpires** and a separate Id is given to each umpire. The **umpire_name**, **country** and **no_of matches** are recorded.
- The **Venue** for each match is stored under the entity **Venue**. Each venue has a unique **Venue_Id**. **Venue_Name** and Seating **Capacity** are stored. In 2020 due to the pandemic unfortunately spectators were not allowed into the venue.

Relations:

- Cricket player plays for team (N-1):
A cricket player can play in only one team but a team can have many players in it but a team must have players in it. So, the relationship becomes (N-1).
- Player has different Stats for different matches(1-N):
Since one player plays many matches in the tournament, he will have different stats for every match.
- Team plays match(M-N):
Team can play many matches and a match can be played by two teams. So, the relationship is M-N.
- Coach manages team(N-1):

Coach can manage a single team, but each team can have many coaches (like batting coach, fielding coach, bowling coach). But it is compulsory for a team to have a coach. So, the relationship is 1-N.

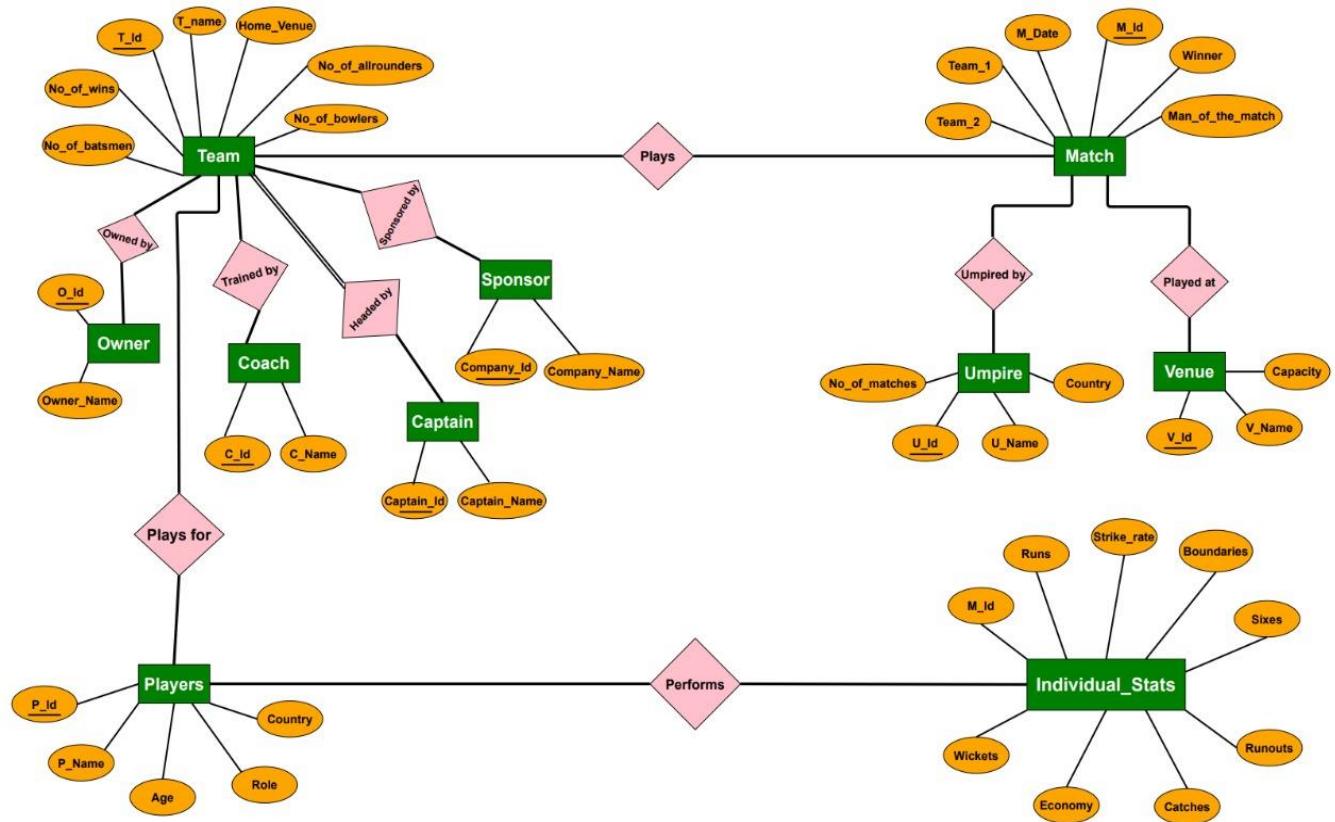
- Matches are umpired by Umpire(M-N):
An umpire can umpire in many matches and a match can have two or more umpires. So, the relationship is M-N.
- Team headed by a Captain (1-1):
A team has 1 captain and a captain is from a single team only. So the relationship is 1-1.
- Team owned by an owner (1-1):
An owner can own only one team. So the relationship is 1-1.

Functional Requirements:

System must allow users to login if they enter the correct login id and password. The users must be able to see the player details of each player in the database. Scores of each match must be visible. Match date and venue should be displayed on the login if the users seek for it. System should display the complete roster of a team including the captain and the players playing in the top 11 and the current rank of the team. The details of the coach must also be available to the users. Referees and their details are also important as the players and the viewers want to see the best referees managing their team's match. Each player's statistics should also be available like total runs, number of matches played etc. System should display data on each match which has been scored in the duration of the entire tournament. System should allow fixtures to be searched and the date should also be available.

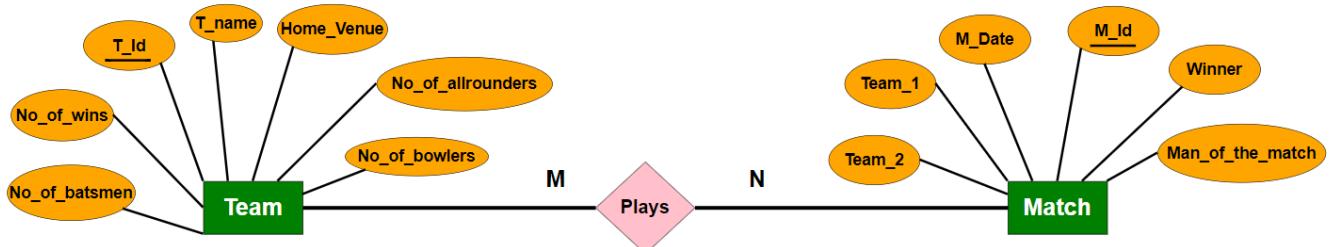
- View the website with a browser.
- Login to the website.
- View all teams.
- View all players of a team.
- View all match reports in a season.
- View statistics of a player.
- View Match details.

ER Diagram



ER to Relation

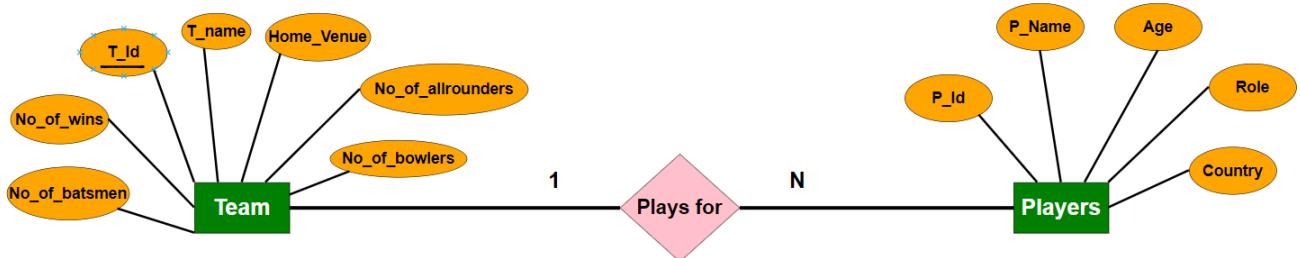
Relation 1:



Since the relation between Team and Match is M:N we will require three tables.

1. Team (T_Id, T_name, Home_Venue, No_of_batsmen, No_of_bowlers, No_of_allrounders, No_of_wins)
2. Match (M_Id, Team_1, Team_2, M_Date, Winner, Man_of_the_match)
3. Plays (T_Id, M_Id)

Relation 2:



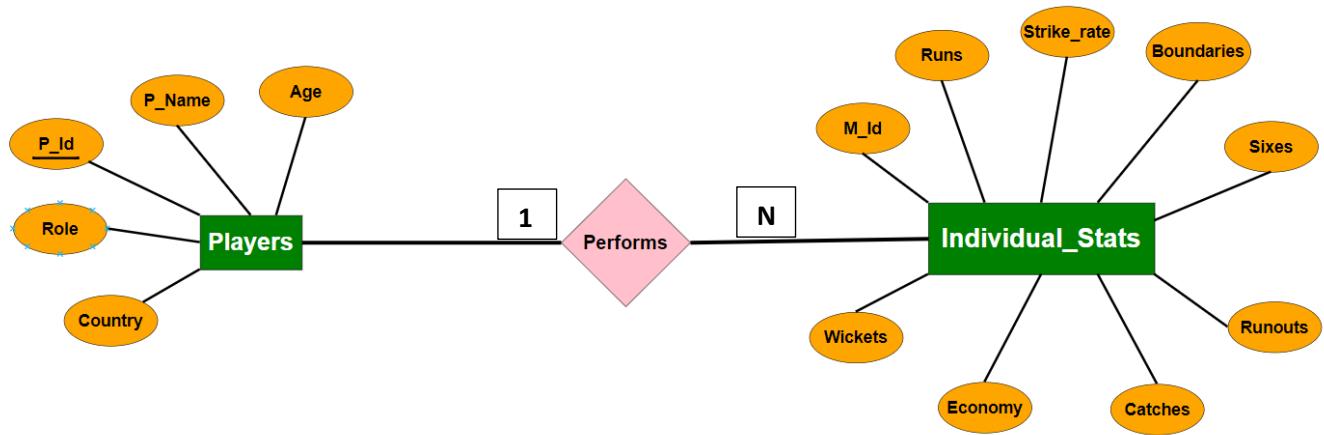
Since the relation between Team and Players is 1:N we will require two tables.

1. Team (T_Id, T_name, Home_Venue, No_of_batsmen, No_of_bowlers, No_of_allrounders, No_of_wins)
2. Players (P_Id, P_Name, Age, Role, Country, T_Id)

Since we already got table Team in Relation 1 there is no need to take again.

So the tables we got till now are Team, Match, Plays and Players.

Relation 3:



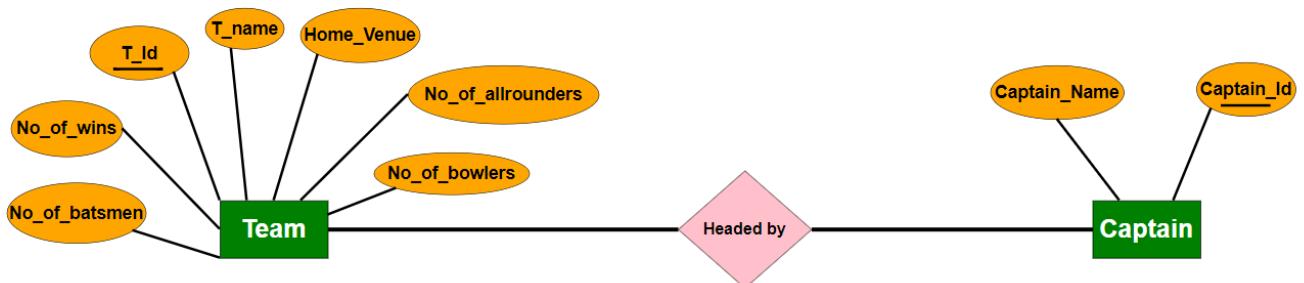
Since the relation between Players and Individual_Stats is 1:N we will require two tables.

1. Players (P_Id, P_Name, Age, Role, Country)
2. Individual_Stats (Match_Id, Runs, Strike_rate, Boundaries, Sixes, Wickets, Catches, Runouts, Economy, P_Id)

Since we already got table Players in Relation 2 there is no need to take again.

So the tables we got till now are Team, Match, Plays, Players and Individual_Stats.

Relation 4:



Since the relation between Team and Captain is 1:1 we will require two tables.

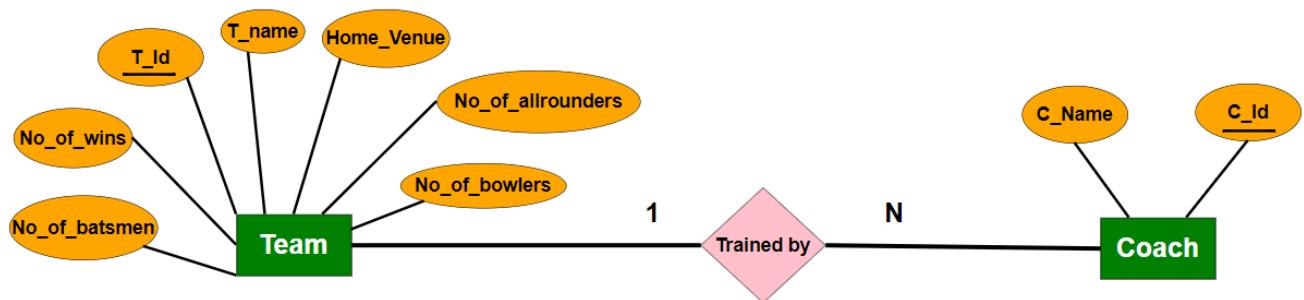
1. Team (T_Id, T_name, Home_Venue, No_of_batsmen, No_of_bowlers, No_of_allrounders, No_of_wins)

2. Captain (Captain_Id, Captain_Name, T_Id)

Since we already got table Team earlier there is no need to consider again.

So the tables we got till now are Team, Match, Plays, Players, Individual_Stats and Captain.

Relation 5:



Since the relation between Team and Coach is 1:N we will require two tables.

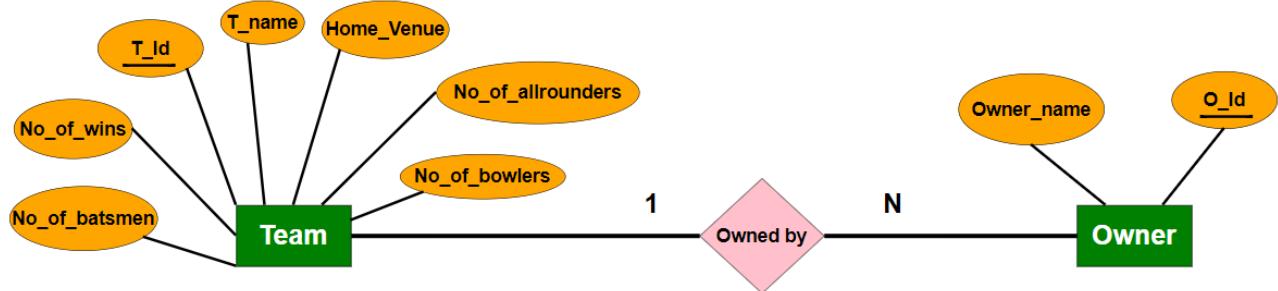
1. Team (T_Id, T_name, Home_Venue, No_of_batsmen, No_of_bowlers, No_of_allrounders, No_of_wins)

2. Coach (C_Id, C_Name, C_Role, T_Id)

Since we already got table Team earlier there is no need to consider again.

So the tables we got till now are Team, Match, Plays, Players, Individual_Stats, Captain and Coach.

Relation 6:



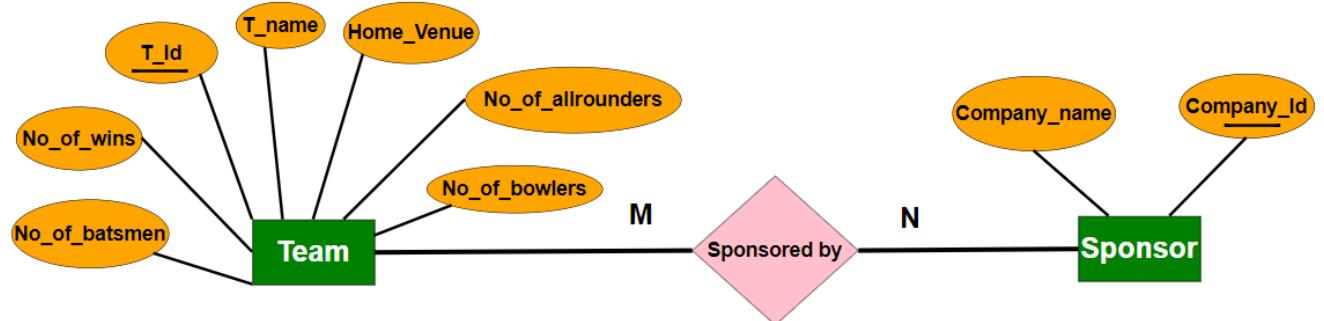
Since the relation between Team and Owner is 1:N we will require two tables.

1. Team (T_Id, T_name, Home_Venue, No_of_batsmen, No_of_bowlers, No_of_allrounders, No_of_wins)
2. Owner (O_Id, O_Name, T_Id)

Since we already got table Team earlier there is no need to consider again.

So the tables we got till now are Team, Match, Plays, Players, Individual_Stats, Captain, Coach and Owner.

Relation 7:



Since the relation between Team and Sponsor is M:N we will require three tables.

1. Team (T_Id, T_name, Home_Venue, No_of_batsmen, No_of_bowlers, No_of_allrounders, No_of_wins)

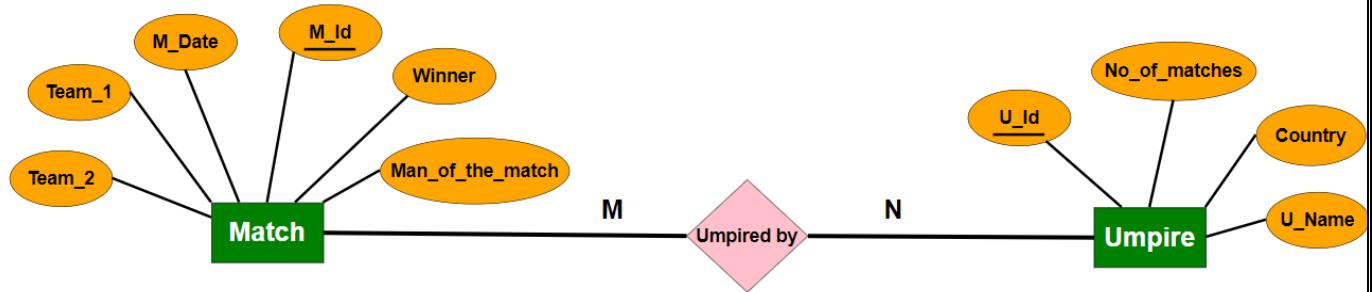
2. Sponsor (Company_Id, Company_Name)

3. Sponsor_by (Company_Id, T_Id)

Since we already got table Team earlier there is no need to consider again.

So the tables we got till now are Team, Match, Plays, Players, Individual_Stats, Captain, Coach, Owner, Sponsor and Sponsor_by.

Relation 8:



Since the relation between Match and Umpire is M:N we will require three tables.

1. Match (M_Id, Team_1, Team_2, M_Date, Winner, Man_of_the_match)

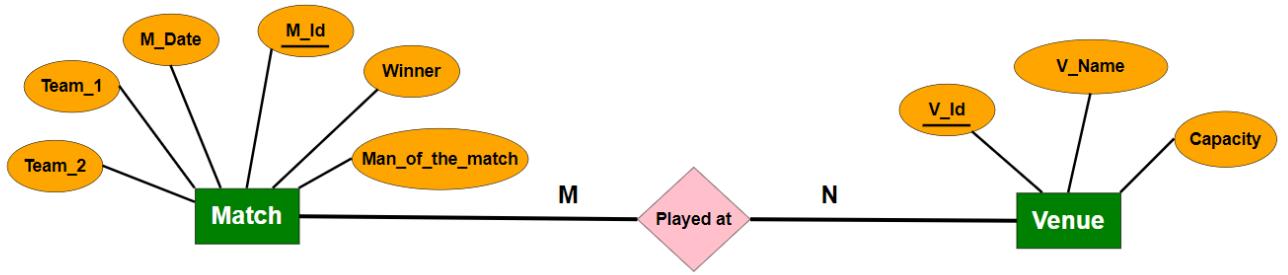
2. Umpire (U_Id, U_Name, No_of_matches, Country)

3. Umpired_by (M_Id, U_Id)

Since we already got table Match earlier there is no need to consider again.

So the tables we got till now are Team, Match, Plays, Players, Individual_Stats, Captain, Coach, Owner, Sponsor, Sponsor_by, Umpire and Umpired_by.

Relation 9:



Since the relation between Match and Venue is M:N we will require three tables.

1. Match (M_Id, Team_1, Team_2, M_Date, Winner, Man_of_the_match)
2. Venue (V_Id, V_Name, Capacity)
3. Played_at (V_Id, M_Id)

Since we already got table Match earlier there is no need to consider again.

So the tables we got till now are Team, Match, Plays, Players, Individual_Stats, Captain, Coach, Owner, Sponsor, Sponsor_by, Umpire, Umpired_by, Venue and Played_at.

Therefore the relations obtained till now are:

1. Team (T_Id, T_name, Home_Venue, No_of_batsmen, No_of_bowlers, No_of_allrounders, No_of_wins)
2. Match (M_Id, Team_1, Team_2, M_Date, Winner, Man_of_the_match)
3. Players (P_Id, P_Name, Age, Role, Country, T_Id)
4. Individual_Stats (Match_Id, Runs, Strike_rate, Boundaries, Sixes, Wickets, Catches, Runouts, Economy, P_Id)
5. Captain (Captain_Id, Captain_Name, T_Id)
6. Coach (C_Id, C_Name, C_Role, T_Id)
7. Owner (O_Id, O_Name, T_Id)
8. Plays (T_Id, M_Id)
9. Sponsor (Company_Id, Company_Name)
10. Sponsor_by (Company_Id, T_Id)
11. Umpire (U_Id, U_Name, No_of_matches, Country)
12. Umpired_by (M_Id, U_Id)
13. Venue (V_Id, V_Name, Capacity)
14. Played_at (V_Id, M_Id)

Normalization

1. Team (T_Id, T_name, Home_Venue, No_of_batsmen, No_of_bowlers, No_of_allrounders, No_of_wins)

In this table T_Id is the primary key and all the other attributes are fully dependent on the primary key alone. So there is no partial dependency nor transitive dependency. Therefore the table is in 3NF. There is only functional dependency in this i.e

$$T_Id \rightarrow \{T_name, \text{Home_Venue}, \text{No_of_batsmen}, \text{No_of_bowlers}, \text{No_of_allrounders}, \text{No_of_wins}\}$$

Since the LHS of the Functional dependency is a Superkey, the table is also in BCNF.

2. Match (M_Id, Team_1, Team_2, M_Date, Winner, Man_of_the_match)

In this table M_Id is the primary key and all the other attributes are fully dependent on the primary key alone. So there is no partial dependency nor transitive dependency. Therefore the table is in 3NF. There is only functional dependency in this i.e

$$M_Id \rightarrow \{ \text{Team_1}, \text{Team_2}, \text{M_Date}, \text{Winner}, \text{Man_of_the_match} \}$$

Since the LHS of the Functional dependency is a Superkey, the table is also in BCNF.

3. Players (P_Id, P_Name, Age, Role, Country, T_Id)

In this table (P_Id, T_Id) together is the composite key and all the other attributes are fully dependent on these two keys. So there is no partial dependency nor transitive dependency. Therefore the table is in 3NF. There is only functional dependency in this i.e

$$P_Id, T_Id \rightarrow \{ P_Name, \text{Age}, \text{Role}, \text{Country} \}$$

Since the LHS of the Functional dependency is a Superkey, the table is also in BCNF.

4. Individual_Stats (Match_Id, Runs, Strike_rate, Boundaries, Sixes, Wickets, Catches, Runouts, Economy, P_Id)

In this table (Match_Id,P_Id) together is the composite key and all the other attributes are fully dependent on these two keys. So there is no partial dependency nor transitive dependency. Therefore the table is in 3NF. There is only functional dependency in this i.e

$\text{Match_Id}, \text{P_Id} \rightarrow \{\text{Runs, Strike_rate, Boundaries, Sixes, Wickets, Catches, Runouts, Economy}\}$

Since the LHS of the Functional dependency is a Superkey, the table is also in BCNF.

5. Captain (Captain_Id, Captain_Name, T_Id)

In this table (Captain_Id,T_Id) together is the composite key and Captain_Name only depends on these two keys. So there is no partial dependency nor transitive dependency. Therefore the table is in 3NF. There is only functional dependency in this i.e

$\text{Captain_Id}, \text{T_Id} \rightarrow \{\text{Captain_Name}\}$

Since the LHS of the Functional dependency is a Superkey, the table is also in BCNF.

6. Coach (C_Id, C_Name, C_Role, T_Id)

In this table (C_Id,T_Id) together is the composite key and all the other attributes are fully dependent on these two keys. So there is no partial dependency nor transitive dependency. Therefore the table is in 3NF. There is only functional dependency in this i.e

$\text{C_Id}, \text{T_Id} \rightarrow \{\text{C_Name, C_Role}\}$

Since the LHS of the Functional dependency is a Superkey, the table is also in BCNF.

7. Owner (O_Id, O_Name, T_Id)

In this table (O_Id,T_Id) together is the composite key and O_Name can be obtained from these two keys. So there is no partial dependency nor transitive dependency. Therefore the table is in 3NF. There is only functional dependency in this i.e

$\text{O_Id}, \text{T_Id} \rightarrow \{\text{O_Name}\}$

Since the LHS of the Functional dependency is a Superkey, the table is also in BCNF.

8. Sponsor (Company_Id, Company_Name)

In this table Company_Id is the primary key and Company_Name can be obtained from the primary key alone. So there is no partial dependency nor transitive dependency. Therefore the table is in 3NF. There is only functional dependency in this i.e

$\text{Company_Id} \rightarrow \{\text{Company_name}\}$

Since the LHS of the Functional dependency is a Superkey, the table is also in BCNF.

9. Umpire (U_Id, U_Name, No_of_matches, Country)

In this table U_Id is the primary key and all the other attributes are fully dependent on the primary key alone. So there is no partial dependency nor transitive dependency. Therefore the table is in 3NF. There is only functional dependency in this i.e

$\text{U_Id} \rightarrow \{\text{U_Name, No_of_matches, Country}\}$

Since the LHS of the Functional dependency is a Superkey, the table is also in BCNF.

10. Venue (V_Id, V_Name, Capacity)

In this table V_Id is the primary key and all the other attributes are fully dependent on the primary key alone. So there is no partial dependency nor transitive dependency. Therefore the table is in 3NF. There is only functional dependency in this i.e

$\text{V_Id} \rightarrow \{\text{V_Name, Capacity}\}$

Since the LHS of the Functional dependency is a Superkey, the table is also in BCNF.

11. Plays (T_Id, M_Id)

Sponsor_by (Company_Id, T_Id)

Umpired_by (M_Id, U_Id)

Played_at (V_Id, M_Id)

All these tables have composite keys and there are no other attributes. So, all these tables are directly in BCNF.

Creating Tables

```
Create table Team(Team_Id int PRIMARY KEY,  
Team_Name varchar(30) not null,  
Home_venue varchar(20),  
No_of_batsmen int ,  
No_of_bowlers int,  
No_of_allrounders int);  
  
desc Team;
```

| Field | Type | Null | Key | Default | Extra |
|-------------------|-------------|------|-----|---------|-------|
| Team_Id | int(11) | NO | PRI | NULL | |
| Team_Name | varchar(30) | NO | | NULL | |
| Home_venue | varchar(20) | YES | | NULL | |
| No_of_batsmen | int(11) | YES | | NULL | |
| No_of_bowlers | int(11) | YES | | NULL | |
| No_of_allrounders | int(11) | YES | | NULL | |

```
Create table Match_ (M_Id varchar(10) PRIMARY KEY,  
M_date Date NOT NULL,  
Team_1 varchar(30),  
Team_2 varchar(30),  
Winner varchar(30),  
Man_of_match varchar(20));
```

```
desc Match_;
```

| Field | Type | Null | Key | Default | Extra |
|--------------|-------------|------|-----|---------|-------|
| M_Id | varchar(10) | NO | PRI | NULL | |
| M_date | date | NO | | NULL | |
| Team_1 | varchar(30) | YES | | NULL | |
| Team_2 | varchar(30) | YES | | NULL | |
| Winner | varchar(30) | YES | | NULL | |
| Man_of_match | varchar(20) | YES | | NULL | |

```
Create table Players(P_Id int PRIMARY KEY,
P_name varchar(20) NOT NULL,
P_Role varchar(20),
Age int,
Country varchar(20),
Team_Id int);

desc Players;
```

| Field | Type | Null | Key | Default | Extra |
|---------|-------------|------|-----|---------|-------|
| P_Id | int(11) | NO | PRI | NULL | |
| P_name | varchar(20) | NO | | NULL | |
| P_Role | varchar(20) | YES | | NULL | |
| Age | int(11) | YES | | NULL | |
| Country | varchar(20) | YES | | NULL | |
| Team_Id | int(11) | YES | | NULL | |

```

create table Individual_stats(M_Id varchar(10),
P_Id int,
Runs int,
Strike_rate float,
Boundaries int,
Sixes int,
Wickets int,
Catches int,
Runouts int,
Economy float);

desc Individual_stats;

```

| Field | Type | Null | Key | Default | Extra |
|-------------|-------------|------|-----|---------|-------|
| M_Id | varchar(10) | YES | | NULL | |
| P_Id | int(11) | YES | | NULL | |
| Runs | int(11) | YES | | NULL | |
| Strike_rate | float | YES | | NULL | |
| Boundaries | int(11) | YES | | NULL | |
| Sixes | int(11) | YES | | NULL | |
| Wickets | int(11) | YES | | NULL | |
| Catches | int(11) | YES | | NULL | |
| Runouts | int(11) | YES | | NULL | |
| Economy | float | YES | | NULL | |

```
Create table Captain(Cap_Id int PRIMARY KEY,  
Cap_name varchar(20) NOT NULL,  
Team_Id int);
```

```
desc Captain;
```

| Field | Type | Null | Key | Default | Extra |
|----------|-------------|------|-----|---------|-------|
| Cap_Id | int(11) | NO | PRI | NULL | |
| Cap_name | varchar(20) | NO | | NULL | |
| Team_Id | int(11) | YES | | NULL | |

```
Create table Coach(Coach_Id int PRIMARY KEY,  
Coach_name varchar(20) NOT NULL,  
Coach_Role varchar(20),  
Team_Id int);
```

```
desc Coach;
```

| Field | Type | Null | Key | Default | Extra |
|------------|-------------|------|-----|---------|-------|
| Coach_Id | int(11) | NO | PRI | NULL | |
| Coach_name | varchar(20) | NO | | NULL | |
| Coach_Role | varchar(20) | YES | | NULL | |
| Team_Id | int(11) | YES | | NULL | |

```

Create table Umpire(U_Id int PRIMARY KEY,
U_Name varchar(20) NOT NULL,
No_of_matches int,
U_country varchar(20));

desc Umpire;

```

| Field | Type | Null | Key | Default | Extra |
|---------------|-------------|------|-----|---------|-------|
| U_Id | int(11) | NO | PRI | NULL | |
| U_Name | varchar(20) | NO | | NULL | |
| No_of_matches | int(11) | YES | | NULL | |
| U_country | varchar(20) | YES | | NULL | |

```

Create table Venue(V_Id int PRIMARY KEY,
V_name varchar(20),
Capacity int);

desc Venue;

```

| Field | Type | Null | Key | Default | Extra |
|----------|-------------|------|-----|---------|-------|
| V_Id | int(11) | NO | PRI | NULL | |
| V_name | varchar(20) | YES | | NULL | |
| Capacity | int(11) | YES | | NULL | |

```
Create table Owner(O_Id int PRIMARY KEY,  
O_name varchar(20),  
Team_Id int);
```

```
desc Owner;
```

| Field | Type | Null | Key | Default | Extra |
|---------|-------------|------|-----|---------|-------|
| O_Id | int(11) | NO | PRI | NULL | |
| O_name | varchar(20) | YES | | NULL | |
| Team_Id | int(11) | YES | | NULL | |

```
Create table Sponsor(Company_Id int PRIMARY KEY,  
Company_name varchar(20));
```

```
desc Sponsor;
```

| Field | Type | Null | Key | Default | Extra |
|--------------|-------------|------|-----|---------|-------|
| Company_Id | int(11) | NO | PRI | NULL | |
| Company_name | varchar(20) | YES | | NULL | |

```
Create table Plays(Team_Id int,  
M_Id varchar(10));
```

```
desc Plays;
```

| Field | Type | Null | Key | Default | Extra |
|---------|-------------|------|-----|---------|-------|
| Team_Id | int(11) | YES | | NULL | |
| M_Id | varchar(10) | YES | | NULL | |

```
Create table Umpired_By(M_Id varchar(10),  
U_Id int);
```

```
desc Umpired_By;
```

| Field | Type | Null | Key | Default | Extra |
|-------|-------------|------|-----|---------|-------|
| M_Id | varchar(10) | YES | | NULL | |
| U_Id | int(11) | YES | | NULL | |

```
Create table Played_at(V_Id int,  
M_Id varchar(10));
```

```
desc Played_at;
```

| Field | Type | Null | Key | Default | Extra |
|-------|-------------|------|-----|---------|-------|
| V_Id | int(11) | YES | | NULL | |
| M_Id | varchar(10) | YES | | NULL | |

```
Create table Sponsored_By(Company_Id int,  
Team_Id int);
```

```
desc Sponsored_By;
```

| Field | Type | Null | Key | Default | Extra |
|------------|---------|------|-----|---------|-------|
| Company_Id | int(11) | YES | | NULL | |
| Team_Id | int(11) | YES | | NULL | |

Inserting Values:

```
insert into Team values(1,'Mumbai Indians','Dubai Stadium',4,3,4);
insert into Team values(2,'Delhi Capitals','Sharjah Stadium',5,3,3);
insert into Team values(3,'Sunrisers Hyderabad','Dubai Stadium',4,3,4);
insert into Team values(4,'Royal Challengers Bangalore','Zayed Stadium',4,4,3);

select * from Team;
```

| Team_Id | Team_Name | Home_venue | No_of_batsmen | No_of_bowlers | No_of_allrounders |
|---------|-----------------------------|-----------------|---------------|---------------|-------------------|
| 1 | Mumbai Indians | Dubai Stadium | 4 | 3 | 4 |
| 2 | Delhi Capitals | Sharjah Stadium | 5 | 3 | 3 |
| 3 | Sunrisers Hyderabad | Dubai Stadium | 4 | 3 | 4 |
| 4 | Royal Challengers Bangalore | Zayed Stadium | 4 | 4 | 3 |

```
insert into Match_ values('Qualifier1','2020-11-05',
'Mumbai Indians','Delhi Capitals','Mumbai Indians','Jasprit Bumrah');
insert into Match_ values('Eliminator','2020-11-06',
'Sunrisers Hyderabad','Royal Challengers Bangalore','Sunrisers Hyderabad','Kane Williamson');
insert into Match_ values('Qualifier2','2020-11-08',
'Delhi Capitals','Sunrisers Hyderabad','Delhi Capitals','Marcus Stoinis');
insert into Match_ values('Final','2020-11-10',
'Mumbai Indians','Delhi Capitals','Mumbai Indians','Trent Boult');

select * from Match_;
```

| M_Id | M_date | Team_1 | Team_2 | Winner | Man_of_match |
|------------|------------|---------------------|-----------------------------|---------------------|-----------------|
| Eliminator | 2020-11-06 | Sunrisers Hyderabad | Royal Challengers Bangalore | Sunrisers Hyderabad | Kane Williamson |
| Final | 2020-11-10 | Mumbai Indians | Delhi Capitals | Mumbai Indians | Trent Boult |
| Qualifier1 | 2020-11-05 | Mumbai Indians | Delhi Capitals | Mumbai Indians | Jasprit Bumrah |
| Qualifier2 | 2020-11-08 | Delhi Capitals | Sunrisers Hyderabad | Delhi Capitals | Marcus Stoinis |

```

insert into Players values(145,'Rohit Sharma','Batsman',34,'India',1);
insert into Players values(113,'Quinton de Kock','Batsman',28,'South Africa',1);
insert into Players values(177,'Suryakumar Yadav','Batsman',30,'India',1);
insert into Players values(123,'Ishan Kishan','Batsman(WK)',22,'India',1);
insert into Players values(133,'Hardik Pandya','All Rounder',27,'India',1);
insert into Players values(155,'Kieron Pollard','All Rounder',33,'West Indies',1);
insert into Players values(136,'Krunal Pandya','All Rounder',30,'India',1);
insert into Players values(107,'Nathan Coulter-Nile','All Rounder',33,'Australia',1);
insert into Players values(118,'Trent Boult','Bowler',31,'New Zealand',1);
insert into Players values(101,'Rahul Chahar','Bowler',21,'India',1);
insert into Players values(193,'Jasprit Bumrah','Bowler',27,'India',1);
insert into Players values(119,'Jayant Yadav','Bowler',31,'India',1);

```

```
insert into Players values(2100,'Prithvi Shaw','Batsman',21,'India',2);
insert into Players values(242,'Shikhar Dhawan','Batsman',35,'India',2);
insert into Players values(203,'Ajinkya Rahane','Batsman',32,'India',2);
insert into Players values(241,'Shreyas Iyer','Batsman',26,'India',2);
insert into Players values(217,'Rishabh Pant','Batsman(WK)',23,'India',2);
insert into Players values(2189,'Shimron Hetmyer','Batsman',24,'West Indies',2);
insert into Players values(221,'Marcus Stoinis','All Rounder',31,'Australia',2);
insert into Players values(220,'Axar Patel','All Rounder',27,'India',2);
insert into Players values(223,'Ravichandran Ashwin','All Rounder',34,'India',2);
insert into Players values(260,'Daniel Sams','Bowler',23,'Australia',2);
insert into Players values(225,'Kagiso Rabada','Bowler',25,'South Africa',2);
insert into Players values(202,'Anrich Nortje','Bowler',27,'South Africa',2);

insert into Players values(331,'David Warner','Batsman',33,'Australia',3);
insert into Players values(336,'Shreevats Goswami','Batsman(WK)',31,'India',3);
insert into Players values(321,'Manish Pandey','Batsman',31,'India',3);
insert into Players values(322,'Kane Williamson','Batsman',33,'New Zealand',3);
insert into Players values(311,'Priyam Garg','All Rounder',19,'India',3);
insert into Players values(301,'Abdul Samad','All Rounder',18,'India',3);
insert into Players values(398,'Jason Holder','All Rounder',28,'West Indies',3)
insert into Players values(319,'Rashid Khan','ALL Rounder',21,'Afghanistan',3);
insert into Players values(308,'Shabaz Nadeem','Bowler',31,'India',3);
insert into Players values(366,'Sandeep Sharma','Bowler',27,'India',3);
insert into Players values(344,'Natarajan','Bowler',29,'India',3);
```

```
insert into Players values(437,'Devdutt Padikkal','Batsman',20,'India',4);
insert into Players values(442,'Aaron Finch','Batsman',34,'Australia',4);
insert into Players values(418,'Virat Kohli','Batsman',32,'India',4);
insert into Players values(417,'AB de Villiers','Batsman(WK)',37,'South Africa',4);
insert into Players values(406,'Shivam Dube','All Rounder',27,'India',4);
insert into Players values(481,'Moeen Ali','All Rounder',33,'England',4);
insert into Players values(405,'Washington Sundar','All Rounder',21,'India',4);
insert into Players values(496,'Navdeep Saini','Bowler',27,'India',4);
insert into Players values(473,'Mohammed Siraj','Bowler',27,'India',4);
insert into Players values(436,'Adam Zampa','Bowler',29,'Australia',4);
insert into Players values(403,'Yuzvendra Chahal','Bowler',30,'India',4);
```

```
select * from Players;
```

| P_Id | P_name | P_Role | Age | Country | Team_Id |
|------|---------------------|-------------|-----|--------------|---------|
| 101 | Rahul Chahar | Bowler | 21 | India | 1 |
| 107 | Nathan Coulter-Nile | All Rounder | 33 | Australia | 1 |
| 113 | Quinton de Kock | Batsman | 28 | South Africa | 1 |
| 118 | Trent Boult | Bowler | 31 | New Zealand | 1 |
| 119 | Jayant Yadav | Bowler | 31 | India | 1 |
| 123 | Ishan Kishan | Batsman(WK) | 22 | India | 1 |
| 133 | Hardik Pandya | All Rounder | 27 | India | 1 |
| 136 | Krunal Pandya | All Rounder | 30 | India | 1 |
| 145 | Rohit Sharma | Batsman | 34 | India | 1 |
| 155 | Kieron Pollard | All Rounder | 33 | West Indies | 1 |
| 177 | Suryakumar Yadav | Batsman | 30 | India | 1 |
| 193 | Jasprit Bumrah | Bowler | 27 | India | 1 |
| 202 | Anrich Nortje | Bowler | 27 | South Africa | 2 |
| 203 | Ajinkya Rahane | Batsman | 32 | India | 2 |
| 217 | Rishabh Pant | Batsman(WK) | 23 | India | 2 |
| 220 | Axar Patel | All Rounder | 27 | India | 2 |
| 221 | Marcus Stoinis | All Rounder | 31 | Australia | 2 |
| 223 | Ravichandran Ashwin | All Rounder | 34 | India | 2 |
| 225 | Kagiso Rabada | Bowler | 25 | South Africa | 2 |
| 241 | Shreyas Iyer | Batsman | 26 | India | 2 |
| 242 | Shikhar Dhawan | Batsman | 35 | India | 2 |
| 260 | Daniel Sams | Bowler | 23 | Australia | 2 |
| 301 | Abdul Samad | All Rounder | 18 | India | 3 |
| 308 | Shabaz Nadeem | Bowler | 31 | India | 3 |
| 311 | Priyam Garg | All Rounder | 19 | India | 3 |
| 319 | Rashid Khan | ALL Rounder | 21 | Afghanistan | 3 |
| 321 | Manish Pandey | Batsman | 31 | India | 3 |
| 322 | Kane Williamson | Batsman | 33 | New Zealand | 3 |
| 331 | David Warner | Batsman | 33 | Australia | 3 |
| 336 | Shreevats Goswami | Batsman(WK) | 31 | India | 3 |
| 344 | Natarajan | Bowler | 29 | India | 3 |
| 366 | Sandeep Sharma | Bowler | 27 | India | 3 |
| 398 | Jason Holder | All Rounder | 28 | West Indies | 3 |
| 403 | Yuzvendra Chahal | Bowler | 30 | India | 4 |
| 405 | Washington Sundar | All Rounder | 21 | India | 4 |
| 406 | Shivam Dube | All Rounder | 27 | India | 4 |
| 417 | AB de Villiers | Batsman(WK) | 37 | South Africa | 4 |
| 418 | Virat Kohli | Batsman | 32 | India | 4 |
| 436 | Adam Zampa | Bowler | 29 | Australia | 4 |
| 437 | Devdutt Padikkal | Batsman | 20 | India | 4 |
| 442 | Aaron Finch | Batsman | 34 | Australia | 4 |
| 473 | Mohammed Siraj | Bowler | 27 | India | 4 |
| 481 | Moeen Ali | All Rounder | 33 | England | 4 |
| 496 | Navdeep Saini | Bowler | 27 | India | 4 |
| 2100 | Prithvi Shaw | Batsman | 21 | India | 2 |
| 2189 | Shimron Hetmyer | Batsman | 24 | West Indies | 2 |

```
insert into Individual_stats values('Qualifier1',145,0,0.00,0,0,0,1,0,null);
insert into Individual_stats values('Qualifier1',113,40,160.00,5,1,0,2,0,null);
insert into Individual_stats values('Qualifier1',177,51,134.21,6,2,0,1,0,null);
insert into Individual_stats values('Qualifier1',123,55,183.33,4,3,0,0,0,null);
insert into Individual_stats values('Qualifier1',133,37,264.29,0,5,0,0,0,null);
insert into Individual_stats values('Qualifier1',155,0,0.00,0,0,1,0,0,9.00);
insert into Individual_stats values('Qualifier1',136,13,130.00,0,1,1,0,0,5.50);
insert into Individual_stats values('Qualifier1',107,0,null,0,0,0,0,0,6.75);
insert into Individual_stats values('Qualifier1',118,0,null,0,0,2,0,0,4.50);
insert into Individual_stats values('Qualifier1',101,0,null,0,0,0,1,0,17.50);
insert into Individual_stats values('Qualifier1',193,0,null,0,0,4,0,0,3.50);
insert into Individual_stats values('Qualifier1',2100,0,0.00,0,0,0,0,0,null);
insert into Individual_stats values('Qualifier1',242,0,0.00,0,0,0,1,0,null);
insert into Individual_stats values('Qualifier1',203,0,0.00,0,0,0,0,0,null);
insert into Individual_stats values('Qualifier1',241,12,150.00,3,0,0,0,0,null);
insert into Individual_stats values('Qualifier1',217,3,33.33,0,0,0,0,0,null);
insert into Individual_stats values('Qualifier1',221,65,141.30,6,3,1,0,0,5.00);
insert into Individual_stats values('Qualifier1',220,42,127.27,2,3,0,0,0,9.00);
insert into Individual_stats values('Qualifier1',223,0,null,0,0,3,0,0,7.25);
insert into Individual_stats values('Qualifier1',260,0,0.00,0,0,0,2,0,11.00);
insert into Individual_stats values('Qualifier1',225,15,100.00,2,0,0,1,0,10.50);
insert into Individual_stats values('Qualifier1',202,0,null,0,0,1,0,0,12.50);
```

```
insert into Individual_stats values('Eliminator',331,17,100.00,3,0,0,1,0,null);
insert into Individual_stats values('Eliminator',336,0,0.00,0,0,0,1,0,null);
insert into Individual_stats values('Eliminator',321,24,114.29,3,1,0,0,0,null);
insert into Individual_stats values('Eliminator',322,50,113.64,2,2,0,0,0,null);
insert into Individual_stats values('Eliminator',311,7,50.00,0,0,0,1,0,null);
insert into Individual_stats values('Eliminator',398,24,120.00,3,0,3,0,0,6.25);
insert into Individual_stats values('Eliminator',301,0,null,0,0,0,2,0,null);
insert into Individual_stats values('Eliminator',319,0,null,0,0,0,0,1,5.50);
insert into Individual_stats values('Eliminator',308,0,null,0,0,1,0,0,7.50);
insert into Individual_stats values('Eliminator',366,0,null,0,0,0,0,0,5.25);
insert into Individual_stats values('Eliminator',344,0,null,0,0,2,0,0,8.25);
insert into Individual_stats values('Eliminator',437,1,16.67,0,0,0,0,0,null);
insert into Individual_stats values('Eliminator',442,32,106.67,3,1,0,0,0,null);
insert into Individual_stats values('Eliminator',418,6,85.71,0,0,0,0,0,null);
insert into Individual_stats values('Eliminator',417,56,130.23,5,0,0,3,0,null);
insert into Individual_stats values('Eliminator',406,8,61.54,0,0,0,0,0,7.00);
insert into Individual_stats values('Eliminator',481,0,0.00,0,0,0,0,0,4.00);
insert into Individual_stats values('Eliminator',405,5,83.33,0,0,0,0,0,10.50);
insert into Individual_stats values('Eliminator',496,9,112.50,1,0,0,0,0,8.45);
insert into Individual_stats values('Eliminator',473,10,142.86,1,0,2,0,0,7.00);
insert into Individual_stats values('Eliminator',436,0,null,0,0,1,1,0,3.00);
insert into Individual_stats values('Eliminator',403,0,null,0,0,1,0,0,6.00);
```

```
insert into Individual_stats values('Qualifier2',311,17,141.67,0,2,0,0,0,null);
insert into Individual_stats values('Qualifier2',331,2,66.67,0,0,0,0,0,null);
insert into Individual_stats values('Qualifier2',321,21,150.00,3,0,0,1,0,null);
insert into Individual_stats values('Qualifier2',322,67,148.89,5,4,0,0,0,null);
insert into Individual_stats values('Qualifier2',398,11,73.33,1,0,1,0,0,12.50);
insert into Individual_stats values('Qualifier2',301,33,206.25,2,2,0,0,0,null);
insert into Individual_stats values('Qualifier2',319,11,157.14,1,1,1,0,0,6.50);
insert into Individual_stats values('Qualifier2',336,0,0.00,0,0,0,0,0,null);
insert into Individual_stats values('Qualifier2',308,2,66.67,0,0,0,0,0,12.00);
insert into Individual_stats values('Qualifier2',366,2,50.00,0,0,1,0,0,7.50);
insert into Individual_stats values('Qualifier2',344,0,null,0,0,0,0,0,8.00);
insert into Individual_stats values('Qualifier2',221,38,140.74,5,1,3,1,0,8.67);
insert into Individual_stats values('Qualifier2',242,78,156.00,6,2,0,0,0,null);
insert into Individual_stats values('Qualifier2',241,21,105.00,1,0,0,0,0,null);
insert into Individual_stats values('Qualifier2',2189,42,190.91,4,1,0,0,0,null);
insert into Individual_stats values('Qualifier2',217,2,66.67,0,0,0,0,0,null);
insert into Individual_stats values('Qualifier2',203,0,null,0,0,0,0,0,null);
insert into Individual_stats values('Qualifier2',220,0,null,0,0,1,1,0,8.25);
insert into Individual_stats values('Qualifier2',223,0,null,0,0,0,0,0,11.00);
insert into Individual_stats values('Qualifier2',225,0,null,0,0,4,1,0,7.25);
insert into Individual_stats values('Qualifier2',202,0,null,0,0,0,1,0,9.00);
insert into Individual_stats values('Qualifier2',246,0,null,0,0,0,0,0,7.00);
```

```
insert into Individual_stats values('Final',145,68,133.33,5,4,0,0,0,null);
insert into Individual_stats values('Final',113,20,166.67,3,1,0,2,0,null);
insert into Individual_stats values('Final',177,19,95.00,1,1,0,0,1,null);
insert into Individual_stats values('Final',123,33,173.68,3,1,0,0,0,null);
insert into Individual_stats values('Final',133,3,60.00,0,0,0,1,0,null);
insert into Individual_stats values('Final',155,9,225.00,2,0,0,0,0,13.00);
insert into Individual_stats values('Final',136,1,100.00,0,0,0,0,0,10.00);
insert into Individual_stats values('Final',107,0,null,0,0,2,1,0,7.25);
insert into Individual_stats values('Final',118,0,null,0,0,3,0,0,7.50);
insert into Individual_stats values('Final',119,0,null,0,0,1,0,0,6.25);
insert into Individual_stats values('Final',193,0,null,0,0,0,0,0,7.00);
insert into Individual_stats values('Final',221,0,0.00,0,0,1,0,0,11.50);
insert into Individual_stats values('Final',242,15,115.38,3,0,0,0,0,null);
insert into Individual_stats values('Final',203,2,50.00,0,0,0,1,0,null);
insert into Individual_stats values('Final',241,65,130.00,6,2,0,0,0,null);
insert into Individual_stats values('Final',217,56,147.37,4,2,0,1,0,null);
insert into Individual_stats values('Final',2189,5,100.00,1,0,0,0,0,null);
insert into Individual_stats values('Final',220,9,100.00,1,0,0,0,0,4.00);
insert into Individual_stats values('Final',225,0,null,0,0,0,0,0,10.67);
insert into Individual_stats values('Final',246,0,null,0,0,0,0,1,9.67);
insert into Individual_stats values('Final',223,0,null,0,0,0,0,0,7.00);
insert into Individual_stats values('Final',202,0,null,0,0,2,0,0,9.38);
```

```
select * from Individual_stats;
```

| M_Id | P_Id | Runs | Strike_rate | Boundaries | Sixes | Wickets | Catches | Runouts | Economy |
|------------|------|------|-------------|------------|-------|---------|---------|---------|---------|
| Qualifier1 | 145 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | NULL |
| Qualifier1 | 113 | 40 | 160 | 5 | 1 | 0 | 2 | 0 | NULL |
| Qualifier1 | 177 | 51 | 134.21 | 6 | 2 | 0 | 1 | 0 | NULL |
| Qualifier1 | 123 | 55 | 183.33 | 4 | 3 | 0 | 0 | 0 | NULL |
| Qualifier1 | 133 | 37 | 264.29 | 0 | 5 | 0 | 0 | 0 | NULL |
| Qualifier1 | 155 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 9 |
| Qualifier1 | 136 | 13 | 130 | 0 | 1 | 1 | 0 | 0 | 5.5 |
| Qualifier1 | 107 | 0 | NULL | 0 | 0 | 0 | 0 | 0 | 6.75 |
| Qualifier1 | 118 | 0 | NULL | 0 | 0 | 2 | 0 | 0 | 4.5 |
| Qualifier1 | 101 | 0 | NULL | 0 | 0 | 0 | 1 | 0 | 17.5 |
| Qualifier1 | 193 | 0 | NULL | 0 | 0 | 4 | 0 | 0 | 3.5 |
| Qualifier1 | 2100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | NULL |
| Qualifier1 | 242 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | NULL |
| Qualifier1 | 203 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | NULL |
| Qualifier1 | 241 | 12 | 150 | 3 | 0 | 0 | 0 | 0 | NULL |
| Qualifier1 | 217 | 3 | 33.33 | 0 | 0 | 0 | 0 | 0 | NULL |
| Qualifier1 | 221 | 65 | 141.3 | 6 | 3 | 1 | 0 | 0 | 5 |
| Qualifier1 | 220 | 42 | 127.27 | 2 | 3 | 0 | 0 | 0 | 9 |
| Qualifier1 | 223 | 0 | NULL | 0 | 0 | 3 | 0 | 0 | 7.25 |
| Qualifier1 | 260 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 11 |
| Qualifier1 | 225 | 15 | 100 | 2 | 0 | 0 | 1 | 0 | 10.5 |
| Qualifier1 | 202 | 0 | NULL | 0 | 0 | 1 | 0 | 0 | 12.5 |

| | | | | | | | | | |
|------------|-----|----|--------|---|---|---|---|---|------|
| Eliminator | 331 | 17 | 100 | 3 | 0 | 0 | 1 | 0 | NULL |
| Eliminator | 336 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | NULL |
| Eliminator | 321 | 24 | 114.29 | 3 | 1 | 0 | 0 | 0 | NULL |
| Eliminator | 322 | 50 | 113.64 | 2 | 2 | 0 | 0 | 0 | NULL |
| Eliminator | 311 | 7 | 50 | 0 | 0 | 0 | 1 | 0 | NULL |
| Eliminator | 398 | 24 | 120 | 3 | 0 | 3 | 0 | 0 | 6.25 |
| Eliminator | 301 | 0 | NULL | 0 | 0 | 0 | 2 | 0 | NULL |
| Eliminator | 319 | 0 | NULL | 0 | 0 | 0 | 0 | 1 | 5.5 |
| Eliminator | 308 | 0 | NULL | 0 | 0 | 1 | 0 | 0 | 7.5 |
| Eliminator | 366 | 0 | NULL | 0 | 0 | 0 | 0 | 0 | 5.25 |
| Eliminator | 344 | 0 | NULL | 0 | 0 | 2 | 0 | 0 | 8.25 |
| Eliminator | 437 | 1 | 16.67 | 0 | 0 | 0 | 0 | 0 | NULL |
| Eliminator | 442 | 32 | 106.67 | 3 | 1 | 0 | 0 | 0 | NULL |
| Eliminator | 418 | 6 | 85.71 | 0 | 0 | 0 | 0 | 0 | NULL |
| Eliminator | 417 | 56 | 130.23 | 5 | 0 | 0 | 3 | 0 | NULL |
| Eliminator | 406 | 8 | 61.54 | 0 | 0 | 0 | 0 | 0 | 7 |
| Eliminator | 481 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Eliminator | 405 | 5 | 83.33 | 0 | 0 | 0 | 0 | 0 | 10.5 |
| Eliminator | 496 | 9 | 112.5 | 1 | 0 | 0 | 0 | 0 | 8.45 |
| Eliminator | 473 | 10 | 142.86 | 1 | 0 | 2 | 0 | 0 | 7 |
| Eliminator | 436 | 0 | NULL | 0 | 0 | 1 | 1 | 0 | 3 |
| Eliminator | 403 | 0 | NULL | 0 | 0 | 1 | 0 | 0 | 6 |

| | | | | | | | | | |
|------------|------|----|--------|---|---|---|---|---|-------|
| Qualifier2 | 311 | 17 | 141.67 | 0 | 2 | 0 | 0 | 0 | NUL |
| Qualifier2 | 331 | 2 | 66.67 | 0 | 0 | 0 | 0 | 0 | NUL |
| Qualifier2 | 321 | 21 | 150 | 3 | 0 | 0 | 1 | 0 | NUL |
| Qualifier2 | 322 | 67 | 148.89 | 5 | 4 | 0 | 0 | 0 | NUL |
| Qualifier2 | 398 | 11 | 73.33 | 1 | 0 | 1 | 0 | 0 | 12.5 |
| Qualifier2 | 301 | 33 | 206.25 | 2 | 2 | 0 | 0 | 0 | NUL |
| Qualifier2 | 319 | 11 | 157.14 | 1 | 1 | 1 | 0 | 0 | 6.5 |
| Qualifier2 | 336 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | NUL |
| Qualifier2 | 308 | 2 | 66.67 | 0 | 0 | 0 | 0 | 0 | 12 |
| Qualifier2 | 366 | 2 | 50 | 0 | 0 | 1 | 0 | 0 | 7.5 |
| Qualifier2 | 344 | 0 | NUL | 0 | 0 | 0 | 0 | 0 | 8 |
| Qualifier2 | 221 | 38 | 140.74 | 5 | 1 | 3 | 1 | 0 | 8.67 |
| Qualifier2 | 242 | 78 | 156 | 6 | 2 | 0 | 0 | 0 | NUL |
| Qualifier2 | 241 | 21 | 105 | 1 | 0 | 0 | 0 | 0 | NUL |
| Qualifier2 | 2189 | 42 | 190.91 | 4 | 1 | 0 | 0 | 0 | NUL |
| Qualifier2 | 217 | 2 | 66.67 | 0 | 0 | 0 | 0 | 0 | NUL |
| Qualifier2 | 203 | 0 | NUL | 0 | 0 | 0 | 0 | 0 | NUL |
| Qualifier2 | 220 | 0 | NUL | 0 | 0 | 1 | 1 | 0 | 8.25 |
| Qualifier2 | 223 | 0 | NUL | 0 | 0 | 0 | 0 | 0 | 11 |
| Qualifier2 | 225 | 0 | NUL | 0 | 0 | 4 | 1 | 0 | 7.25 |
| Qualifier2 | 202 | 0 | NUL | 0 | 0 | 0 | 1 | 0 | 9 |
| Qualifier2 | 246 | 0 | NUL | 0 | 0 | 0 | 0 | 0 | 7 |
| Final | 145 | 68 | 133.33 | 5 | 4 | 0 | 0 | 0 | NUL |
| Final | 113 | 20 | 166.67 | 3 | 1 | 0 | 2 | 0 | NUL |
| Final | 177 | 19 | 95 | 1 | 1 | 0 | 0 | 1 | NUL |
| Final | 123 | 33 | 173.68 | 3 | 1 | 0 | 0 | 0 | NUL |
| Final | 133 | 3 | 60 | 0 | 0 | 0 | 1 | 0 | NUL |
| Final | 155 | 9 | 225 | 2 | 0 | 0 | 0 | 0 | 13 |
| Final | 136 | 1 | 100 | 0 | 0 | 0 | 0 | 0 | 10 |
| Final | 107 | 0 | NUL | 0 | 0 | 2 | 1 | 0 | 7.25 |
| Final | 118 | 0 | NUL | 0 | 0 | 3 | 0 | 0 | 7.5 |
| Final | 119 | 0 | NUL | 0 | 0 | 1 | 0 | 0 | 6.25 |
| Final | 193 | 0 | NUL | 0 | 0 | 0 | 0 | 0 | 7 |
| Final | 221 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 11.5 |
| Final | 242 | 15 | 115.38 | 3 | 0 | 0 | 0 | 0 | NUL |
| Final | 203 | 2 | 50 | 0 | 0 | 0 | 1 | 0 | NUL |
| Final | 241 | 65 | 130 | 6 | 2 | 0 | 0 | 0 | NUL |
| Final | 217 | 56 | 147.37 | 4 | 2 | 0 | 1 | 0 | NUL |
| Final | 2189 | 5 | 100 | 1 | 0 | 0 | 0 | 0 | NUL |
| Final | 220 | 9 | 100 | 1 | 0 | 0 | 0 | 0 | 4 |
| Final | 225 | 0 | NUL | 0 | 0 | 0 | 0 | 0 | 10.67 |
| Final | 246 | 0 | NUL | 0 | 0 | 0 | 0 | 1 | 9.67 |
| Final | 223 | 0 | NUL | 0 | 0 | 0 | 0 | 0 | 7 |
| Final | 202 | 0 | NUL | 0 | 0 | 2 | 0 | 0 | 9.38 |

```
insert into Captain values(145,'Rohith Sharma',1);
insert into Captain values(241,'Shreyas Iyer',2);
insert into Captain values(331,'David Warner',3);
insert into Captain values(418,'Virat Kohli',4);

select * from Captain;
```

| Cap_Id | Cap_name | Team_Id |
|--------|---------------|---------|
| 145 | Rohith Sharma | 1 |
| 241 | Shreyas Iyer | 2 |
| 331 | David Warner | 3 |
| 418 | Virat Kohli | 4 |

```
insert into Coach values(1101,'Mahela Jayawardene','Head Coach',1);
insert into Coach values(1102,'Robin Singh','Batting Coach',1);
insert into Coach values(1103,'Shane Bond','Bowling Coach',1);
insert into Coach values(1104,'James Pamment','Fielding Coach',1);
insert into Coach values(2201,'Ricky Ponting','Head Coach',2);
insert into Coach values(2203,'Ryan Harris','Bowling Coach',2);
insert into Coach values(2204,'Mohammad Kaif','Fielding Coach',2);
insert into Coach values(3301,'Trevor Bayliss','Head Coach',3);
insert into Coach values(3302,'V.V.S Laxman','Batting Coach',3);
insert into Coach values(3303,'Muttiah Muralitharan','Bowling Coach',3);
insert into Coach values(3304,'Biju George','Fielding Coach',3);
insert into Coach values(4401,'Simon Katich','Head Coach',4);
insert into Coach values(4402,'Sridharan Sriram','Batting Coach',4);
insert into Coach values(4403,'Adam Griffith','Bowling Coach',4);
insert into Coach values(4404,'Malolan Rangarajan','Fielding Coach',4);
```

```
select * from Coach;
```

| Coach_Id | Coach_name | Coach_Role | Team_Id |
|----------|----------------------|----------------|---------|
| 1101 | Mahela Jayawardene | Head Coach | 1 |
| 1102 | Robin Singh | Batting Coach | 1 |
| 1103 | Shane Bond | Bowling Coach | 1 |
| 1104 | James Pamment | Fielding Coach | 1 |
| 2201 | Ricky Ponting | Head Coach | 2 |
| 2203 | Ryan Harris | Bowling Coach | 2 |
| 2204 | Mohammad Kaif | Fielding Coach | 2 |
| 3301 | Trevor Bayliss | Head Coach | 3 |
| 3302 | V.V.S Laxman | Batting Coach | 3 |
| 3303 | Muttaih Muralitharan | Bowling Coach | 3 |
| 3304 | Biju George | Fielding Coach | 3 |
| 4401 | Simon Katich | Head Coach | 4 |
| 4402 | Sridharan Sriram | Batting Coach | 4 |
| 4403 | Adam Griffith | Bowling Coach | 4 |
| 4404 | Malolan Rangarajan | Fielding Coach | 4 |

```

insert into Umpire values(501,'Chris Gaffaney',136,'New Zealand');
insert into Umpire values(502,'Anil Chaudhary',53,'India');
insert into Umpire values(503,'S Ravi',107,'India');
insert into Umpire values(504,'Paul Reiffel',138,'Australia');

select * from Umpire;

```

| U_Id | U_Name | No_of_matches | U_country |
|------|----------------|---------------|-------------|
| 501 | Chris Gaffaney | 136 | New Zealand |
| 502 | Anil Chaudhary | 53 | India |
| 503 | S Ravi | 107 | India |
| 504 | Paul Reiffel | 138 | Australia |

```
insert into Venue values(601,'Dubai Stadium',25000);
insert into Venue values(602,'Sharjah Stadium',27000);
insert into Venue values(603,'Zayed Stadium',20000);
```

```
select * from Venue;
```

| V_Id | V_name | Capacity |
|------|-----------------|----------|
| 601 | Dubai Stadium | 25000 |
| 602 | Sharjah Stadium | 27000 |
| 603 | Zayed Stadium | 20000 |

```
insert into Owner values(701,'Nita Ambani',1);
insert into Owner values(702,'Parth Jindal',2);
insert into Owner values(703,'Kalanithi Maran',3);
insert into Owner values(704,'Amrit Thomas',4);
```

```
select * from Owner;
```

| O_Id | O_name | Team_Id |
|------|-----------------|---------|
| 701 | Nita Ambani | 1 |
| 702 | Parth Jindal | 2 |
| 703 | Kalanithi Maran | 3 |
| 704 | Amrit Thomas | 4 |

```
insert into Sponsor values(801,'Samsung');
insert into Sponsor values(802,'Colors');
insert into Sponsor values(803,'Jio');
insert into Sponsor values(804,'JSW Group');
insert into Sponsor values(805,'EBIX Cash');
insert into Sponsor values(806,'UltraTech Cement');
insert into Sponsor values(807,'Valvoline');
insert into Sponsor values(808,'Mutooth Fincorp');
insert into Sponsor values(809,'Myntra');
insert into Sponsor values(810,'Kingfisher');

select * from Sponsor;
```

| Company_Id | Company_name |
|------------|------------------|
| 801 | Samsung |
| 802 | Colors |
| 803 | Jio |
| 804 | JSW Group |
| 805 | EBIX Cash |
| 806 | UltraTech Cement |
| 807 | Valvoline |
| 808 | Mutooth Fincorp |
| 809 | Myntra |
| 810 | Kingfisher |

```
insert into Plays values(1,'Qualifier1');
insert into Plays values(2,'Qualifier1');
insert into Plays values(3,'Eliminator');
insert into Plays values(4,'Eliminator');
insert into Plays values(2,'Qualifier2');
insert into Plays values(3,'Qualifier2');
insert into Plays values(1,'Final');
insert into Plays values(2,'Final');
```

```
select * from Plays;
```

| Team_Id | M_Id |
|---------|------------|
| 1 | Qualifier1 |
| 2 | Qualifier1 |
| 3 | Eliminator |
| 4 | Eliminator |
| 2 | Qualifier2 |
| 3 | Qualifier2 |
| 1 | Final |
| 2 | Final |

```
insert into Umpired_By values('Qualifier1','501');
insert into Umpired_By values('Qualifier1','502');
insert into Umpired_By values('Eliminator','503');
insert into Umpired_By values('Eliminator','504');
insert into Umpired_By values('Qualifier2','503');
insert into Umpired_By values('Qualifier2','504');
insert into Umpired_By values('Final','501');
insert into Umpired_By values('Final','502');
```

```
select * from Umpired_By;
```

| M_Id | U_Id |
|------------|------|
| Qualifier1 | 501 |
| Qualifier1 | 502 |
| Eliminator | 503 |
| Eliminator | 504 |
| Qualifier2 | 503 |
| Qualifier2 | 504 |
| Final | 501 |
| Final | 502 |

```
insert into Played_at values(601,'Qualifier1');
insert into Played_at values(603,'Eliminator');
insert into Played_at values(603,'Qualifier2');
insert into Played_at values(601,'Final');
```

```
select * from Played_at;
```

| V_Id | M_Id |
|------|------------|
| 601 | Qualifier1 |
| 603 | Eliminator |
| 603 | Qualifier2 |
| 601 | Final |

```
insert into Sponsored_By values(801,1);
insert into Sponsored_By values(802,1);
insert into Sponsored_By values(803,1);
insert into Sponsored_By values(804,2);
insert into Sponsored_By values(805,2);
insert into Sponsored_By values(806,3);
insert into Sponsored_By values(807,3);
insert into Sponsored_By values(810,3);
insert into Sponsored_By values(803,3);
insert into Sponsored_By values(808,4);
insert into Sponsored_By values(809,4);
insert into Sponsored_By values(810,4);
insert into Sponsored_By values(803,4);

select * from Sponsored_By;
```

| Company_Id | Team_Id |
|------------|---------|
| 801 | 1 |
| 802 | 1 |
| 803 | 1 |
| 804 | 2 |
| 805 | 2 |
| 806 | 3 |
| 807 | 3 |
| 810 | 3 |
| 803 | 3 |
| 808 | 4 |
| 809 | 4 |
| 810 | 4 |
| 803 | 4 |

SQL Queries:

Q1. Find the details of the players who belong to India and play for Mumbai Indians and them in the descending order of their age.

SQL Query:

```
SELECT P.P_Name, P.Age, P.P_Role  
FROM Players P, Team T  
WHERE P.Team_Id=T.Team_Id AND T.Team_Name="Mumbai Indians" AND P.Country="India" ORDER BY P.Age DESC;
```

Output:

| P_Name | Age | P_Role |
|------------------|-----|-------------|
| Rohit Sharma | 34 | Batsman |
| Jayant Yadav | 31 | Bowler |
| Krunal Pandya | 30 | All Rounder |
| Suryakumar Yadav | 30 | Batsman |
| Jasprit Bumrah | 27 | Bowler |
| Hardik Pandya | 27 | All Rounder |
| Ishan Kishan | 22 | Batsman(WK) |
| Rahul Chahar | 21 | Bowler |

Q2. Display the player ids and names who scored more than 50 runs with strike rate above 120 in qualifier 2.

SQL Query:

```
SELECT P.P_Id, P.P_Name  
FROM Players P, Individual_stats I  
WHERE P.P_id=I.P_Id AND I.M_Id = "Qualifier2" AND I.Runs >= 50 AND I.Strike_rate > 120;
```

Output:

| P_Id | P_Name |
|------|-----------------|
| 322 | Kane Williamson |
| 242 | Shikhar Dhawan |

Q3. Display the date and venue of Qualifier 2.

SQL Query:

```
SELECT M.M_Id, M.M_date, V.V_Name  
FROM Match_ M, Venue V, Played_at PA  
WHERE PA.M_Id=M.M_Id AND PA.V_Id=V.V_Id AND M.M_Id="Qualifier2";
```

Output:

| M_Id | M_date | V_Name |
|------------|------------|---------------|
| Qualifier2 | 2020-11-08 | Zaved Stadium |

Q4. Display the Coach name and their respective roles for team 3.

SQL Query:

```
SELECT C.Coach_Id, C.Coach_name, C.Coach_Role  
FROM Coach C  
WHERE C.Team_Id=3;
```

Output:

| Coach_Id | Coach_name | Coach_Role |
|----------|----------------------|----------------|
| 3301 | Trevor Bayliss | Head Coach |
| 3302 | V.V.S Laxman | Batting Coach |
| 3303 | Muttiah Muralitharan | Bowling Coach |
| 3304 | Biju George | Fielding Coach |

Q5. Display the name of Umpire who is not From India and umpired more than 60 matches in his career.

SQL Query:

```
SELECT U.U_Id, U.U_Name, U.No_of_matches  
FROM Umpire U  
WHERE U.U_country <> "India" AND U.No_of_matches >= 60;
```

Output:

| U_Id | U_Name | No_of_matches |
|------|----------------|---------------|
| 501 | Chris Gaffaney | 136 |
| 504 | Paul Reiffel | 138 |

Q6. Display the runs scored by each player of the winning team in the match held on 8th november.

SQL Query:

```
SELECT P.P_Name, I.Runs  
FROM Match_M,Players P, Individual_stats I, Team T  
WHERE P.P_Id = I.P_Id AND M.M_Id=I.M_Id AND T.Team_Name=M.Winner AND T.Team_Id=P.Team_Id AND M.M_Date="2020-11-08";
```

Output:

| P_Name | Runs |
|---------------------|------|
| Marcus Stoinis | 38 |
| Shikhar Dhawan | 78 |
| Shreyas Iyer | 21 |
| Shimron Hetmyer | 42 |
| Rishabh Pant | 2 |
| Ajinkya Rahane | 0 |
| Axar Patel | 0 |
| Ravichandran Ashwin | 0 |
| Kagiso Rabada | 0 |
| Anrich Nortje | 0 |
| Praveen Dubey | 0 |

Q7. Display the details of foreign players who play for Sunrisers Hyderabad and are less than 30 years old.

SQL Query:

```
SELECT P.P_Name, P.Age, P.Country  
FROM Players P, Team T  
WHERE T.Team_Id=P.Team_Id AND T.Team_Name = "Sunrisers Hyderabad" AND P.Age<30 AND P.Country<>"India";
```

Output:

| P_Name | Age | Country |
|--------------|-----|-------------|
| Rashid Khan | 21 | Afghanistan |
| Jason Holder | 28 | West Indies |

Q8. Names of the players who took more than 1 wicket in the form of catch or runout or wickets and scored at least 1 boundary in eliminator.

SQL Query:

```
SELECT P.P_Name  
FROM Players P, Individual_stats I  
WHERE P.P_Id = I.P_Id AND I.M_Id = "Eliminator" AND (I.Wickets > 1 OR I.Catches > 1 OR I.Runouts > 1) AND (I.Boundaries >= 1 OR I.Sixes > 1);
```

Output:

| P_Name |
|----------------|
| Jason Holder |
| AB de Villiers |
| Mohammed Siraj |

Q9. Names of the all rounders who are from India and whose strike rate is more than 100 and economy less than 9 in Finals.

SQL Query:

```
SELECT P.P_Name  
FROM Players P, Individual_stats I  
WHERE P.P_Id = I.P_Id AND I.M_Id = "Final" AND P.Country = "India" AND P.P_Role = "All Rounder" AND I.Strike_rate >= 100 AND I.Economy < 8;
```

Output:

| P_Name |
|------------|
| Axar Patel |

Q10. Calculate the number of wickets taken by each Sunrisers Hyderabad bowler in the IPL 2020 playoffs.

SQL Query:

```
SELECT P.P_Name, SUM(I.Wickets)
FROM Players P, Individual_stats I, Team T
WHERE P.P_Id = I.P_Id AND P.Team_Id = T.Team_Id AND T.Team_Name="Sunrisers Hyderabad" AND (P.P_Role="All Rounder" OR P.P_Role="Bowler")
GROUP BY P.P_Name;
```

Output:

| P_Name | SUM(I.Wickets) |
|----------------|----------------|
| Abdul Samad | 0 |
| Jason Holder | 4 |
| Natarajan | 2 |
| Priyam Garg | 0 |
| Rashid Khan | 1 |
| Sandeep Sharma | 1 |
| Shabaz Nadeem | 1 |

Q11. Count the average runs scored by each batsmen and all rounder in all the matches they have batted from the team that has won the IPL 2020

SQL Query:

```
SELECT P.P_Name, P.Age, AVG(I.Runs)
FROM Players P, Individual_stats I, Team T, Match_M
WHERE P.P_Id=I.P_Id
AND P.Team_Id=(SELECT T.Team_Id FROM Team T, Match_M WHERE M.M_Id="Final" AND T.Team_Name=M.Winner)
AND (P.P_Role="Batsman" OR P.P_Role="All Rounder" OR P.P_Role="Batsman(WK)")
GROUP BY I.P_Id;
```

Output:

| P_Name | Age | AVG(I.Runs) |
|---------------------|-----|-------------|
| Nathan Coulter-Nile | 33 | 0.0000 |
| Quinton de Kock | 28 | 30.0000 |
| Ishan Kishan | 22 | 44.0000 |
| Hardik Pandya | 27 | 20.0000 |
| Krunal Pandya | 30 | 7.0000 |
| Rohit Sharma | 34 | 34.0000 |
| Kieron Pollard | 33 | 4.5000 |
| Suryakumar Yadav | 30 | 35.0000 |

Relational Algebra

Q1. Find the details of the players who belong to India and play for Mumbai Indians and them in the descending order of their age.

$$\tau_{P.Age \text{ Desc}}[\Pi_{P.P_Name, P.Age, P.P_Role}[\sigma_{P.Country="India"}(\rho_P(Players)) \bowtie_{P.Team_Id=T.Team_Id} \sigma_{T.Team_Name="Mumbai Indians"}(\rho_T(Team))]]$$

Q2. Display the player ids and names who scored more than 50 runs with strike rate above 120 in qualifier.

$$\Pi_{P.P_Id, P.P_Name}[(\rho_P(Players)) \bowtie_{P.P_Id=I.P_Id} [\sigma_{M.Id="Qualifier2"} \wedge Runs >= 50 \wedge Strike_rate > 120](\rho_I(Individual_stats))]$$

Q3. Display the date and venue of Qualifier 2.

$$\Pi_{M.M_Id, M.M_date, V.V_name}[\sigma_{M.M_Id="Qualifier2"}(\rho_M(Match)) \bowtie_{PA.M_Id=M.M_Id} (\rho_PA(Played_at)) \bowtie_{PA.V_Id = V.V_Id} (\rho_V(Venue))]$$

Q4. Display the Coach name and their respective roles for team 3.

$$\Pi_{C.Coach_Id, C.Coach_Name, C.Coach_role}[\sigma_{C.Team_Id=3}(\rho_C(Coach))]$$

Q5. Display the name of Umpire who is not From India and umpired more than 60 matches in his career.

$$\begin{aligned} & \Pi_{U.U_Id, U.U_Name, U.No_of_matches}[\sigma_{U.No_of_matches >= 60}(\rho_U(Umpire))] - \\ & \Pi_{U.U_Id, U.U_Name, U.No_of_matches}[\sigma_{U.U_Country="India"} \wedge U.No_of_matches \\ & >= 60](\rho_U(Umpire)) \end{aligned}$$

Q6. Display the details of foreign Players who play for Sunrisers Hyderabad and are less than 30 years old.

$$\prod_{P.P_Name, P.Age, P.Country} [\sigma_{P.Age < 30} (\rho_P(Players)) \bowtie_{P.Team_Id = T.Tema_Id} \sigma_{T.Team_Name = "Sunrisers Hyderabad"} (\rho_T(Team))] - \prod_{P.P_Name, P.Age, P.Country} [\sigma_{P.Age < 30 \wedge P.Country = "India"} (\rho_P(Players)) \bowtie_{P.Team_Id = T.Tema_Id} \sigma_{T.Team_Name = "Sunrisers Hyderabad"} (\rho_T(Team))]$$

Q7. Names of the players who took more than 1 wicket in the form of catch or runout or wickets and scored at least 1 boundary in eliminator.

$$\prod_{P.P_Name} [(\rho_P(Players)) \bowtie_{P.P_Id = I.P_Id} \sigma_{I.M_Id = "Eliminator"} \quad (I.Wickets > 1 \vee I.Catches > 1 \vee I.Runouts > 1) (\rho_I(Individual_stats))] \cap \prod_{P.P_Name} [(\rho_P(Players)) \bowtie_{P.P_Id = I.P_Id} \sigma_{I.M_Id = "Eliminator"} \quad (I.Boundaries >= 1 \vee I.Sixes >= 1) (\rho_I(Individual_stats))]$$

Q8. Names of the all rounders who are from India and whose strike rate is more than 100 and economy less than 9 in Finals.

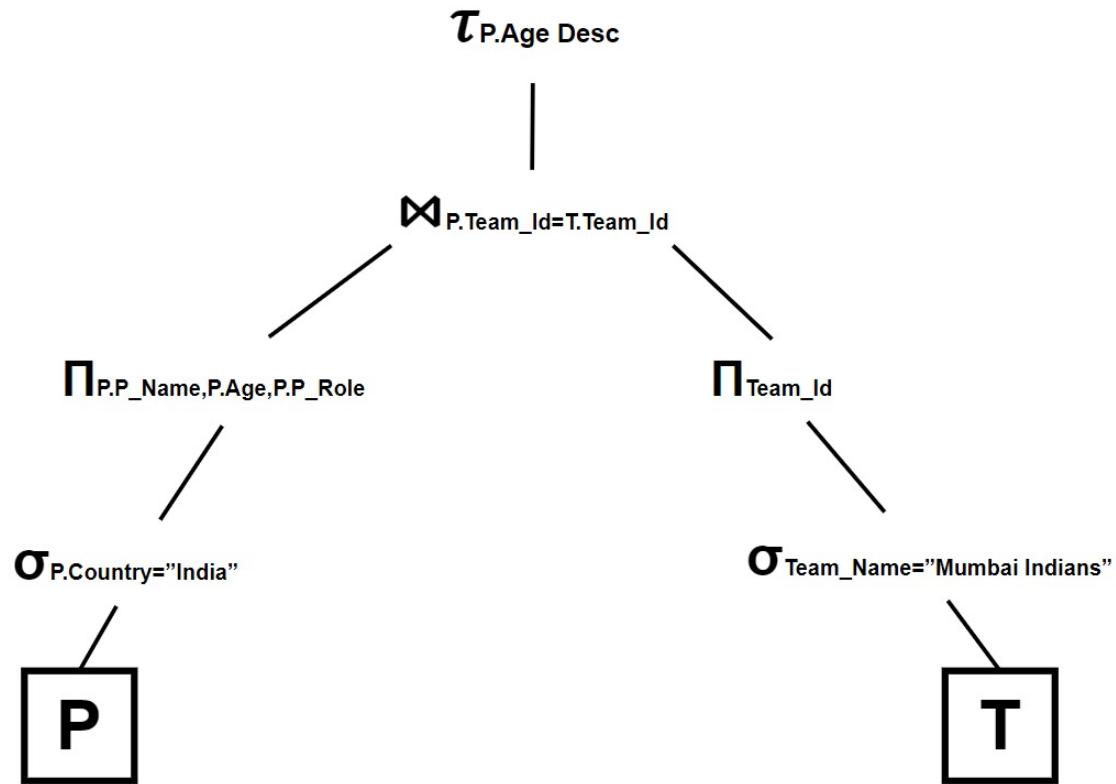
$$\prod_{P.P_Name} [\sigma_{P.Country = "India"} \wedge P.P_Role = "AllRounder" (\rho_P(Players)) \bowtie_{P.P_Id = I.P_Id} \sigma_{I.Strike_rate >= 100 \wedge I.Economy < 9 \wedge I.M_Id = "Final"} (\rho_I(Individual_stats))]$$

Q9. Calculate the number of wickets taken by each Sunrisers Hyderabad bowler in the IPL 2020 playoffs.

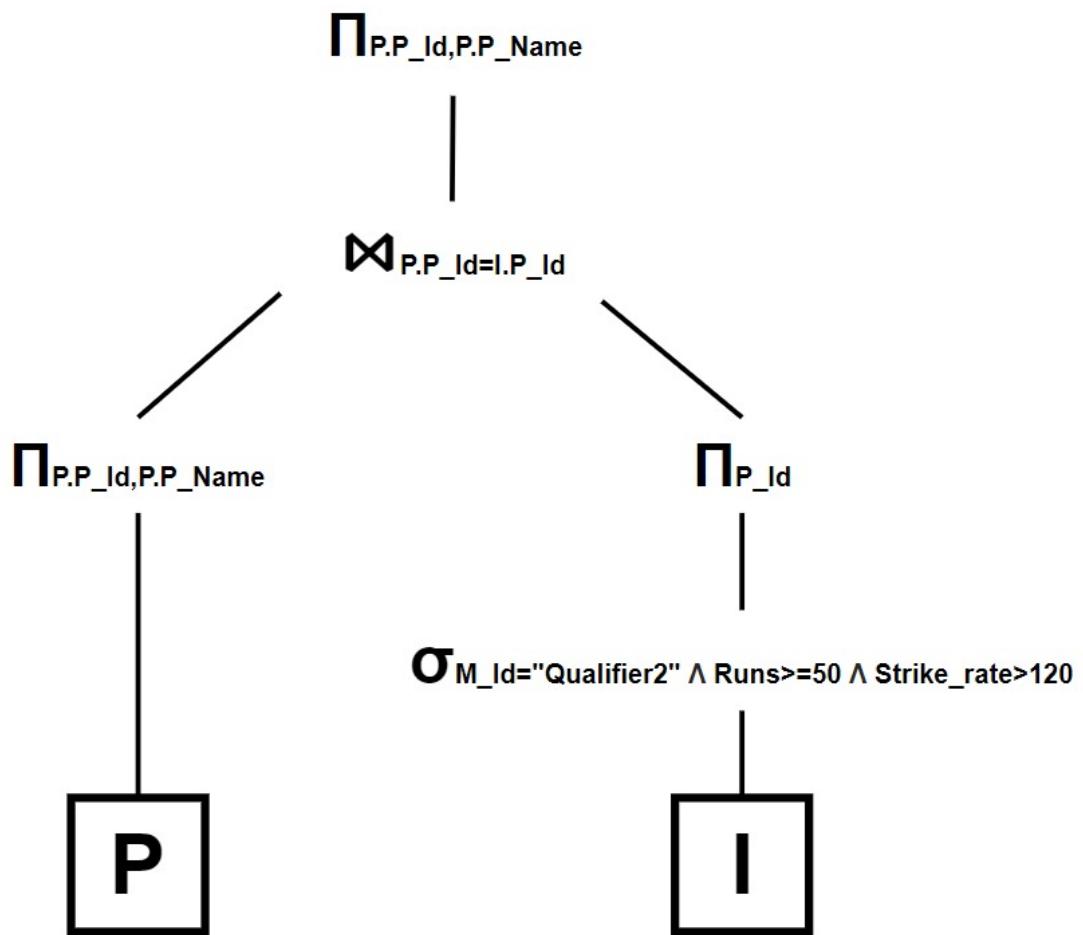
$$P.P_Name \sum_{P.P_Name, SUM(I.Wickets)} [\sigma_{P.P_Role = "AllRounder"} (\rho_P(Players)) \bowtie_{P.Team_Id = T.Tema_Id} \sigma_{T.Team_Name = "Sunrisers Hyderabad"} (\rho_T(Team)) \bowtie_{P.P_Id = I.P_Id} (\rho_I(Individual_stats))] \cup P.P_Name \sum_{P.P_Name, SUM(I.Wickets)} [\sigma_{P.P_Role = "Bowler"} (\rho_P(Players)) \bowtie_{P.Team_Id = T.Tema_Id} \sigma_{T.Team_Name = "Sunrisers Hyderabad"} (\rho_T(Team)) \bowtie_{P.P_Id = I.P_Id} (\rho_I(Individual_stats))]$$

Query Optimization

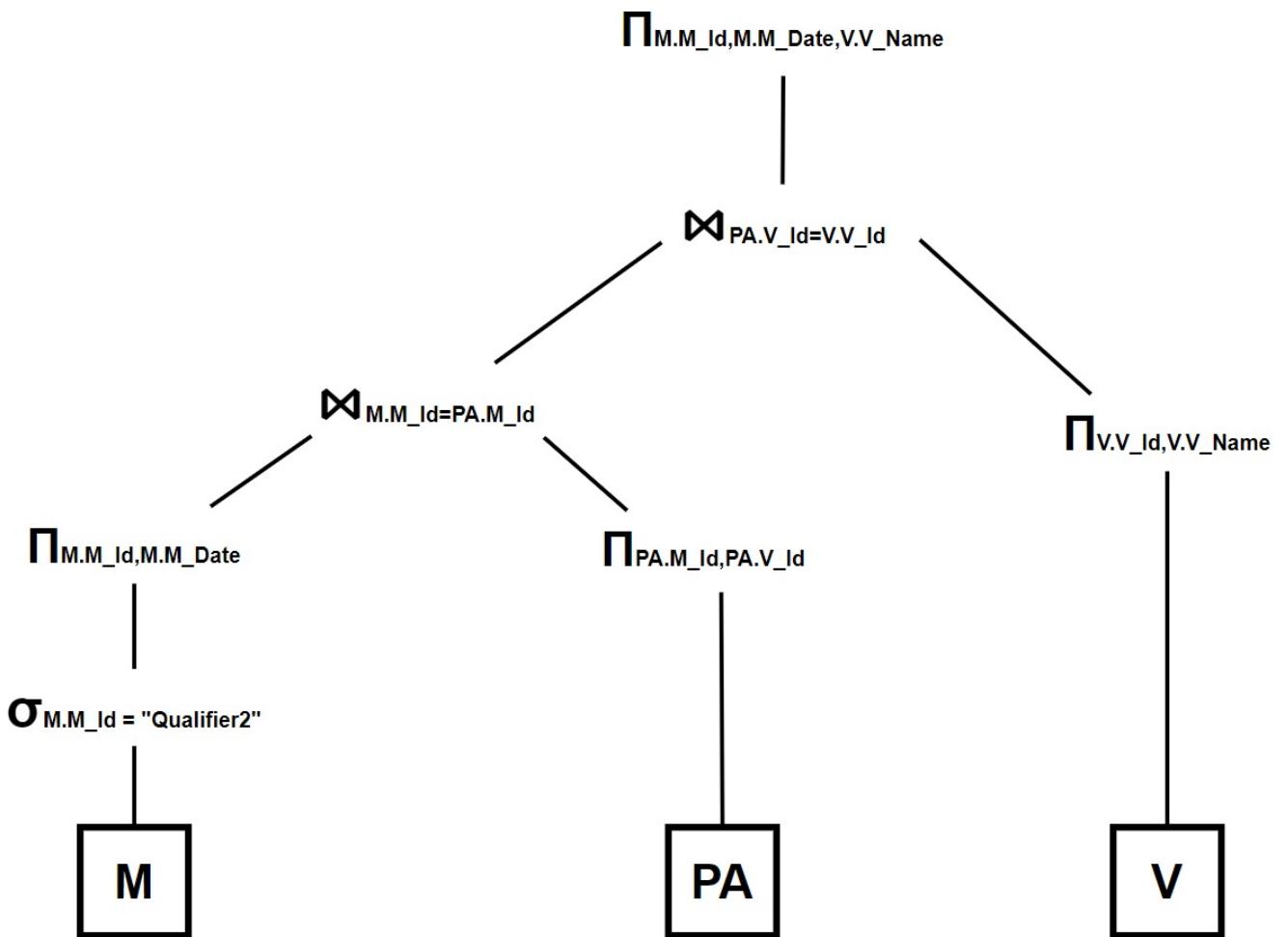
Q1. Find the details of the players who belong to India and play for Mumbai Indians and them in the descending order of their age.



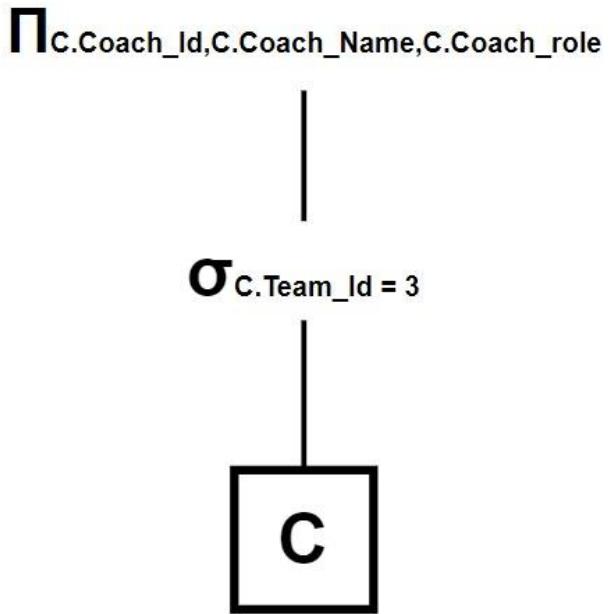
Q2. Display the player ids and names who scored more than 50 runs with strike rate above 120 in qualifier



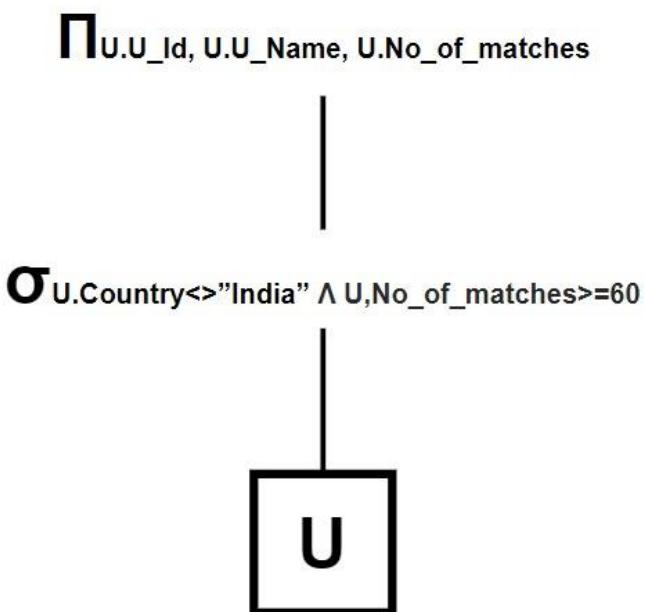
Q3. Display the date and venue of Qualifier 2.



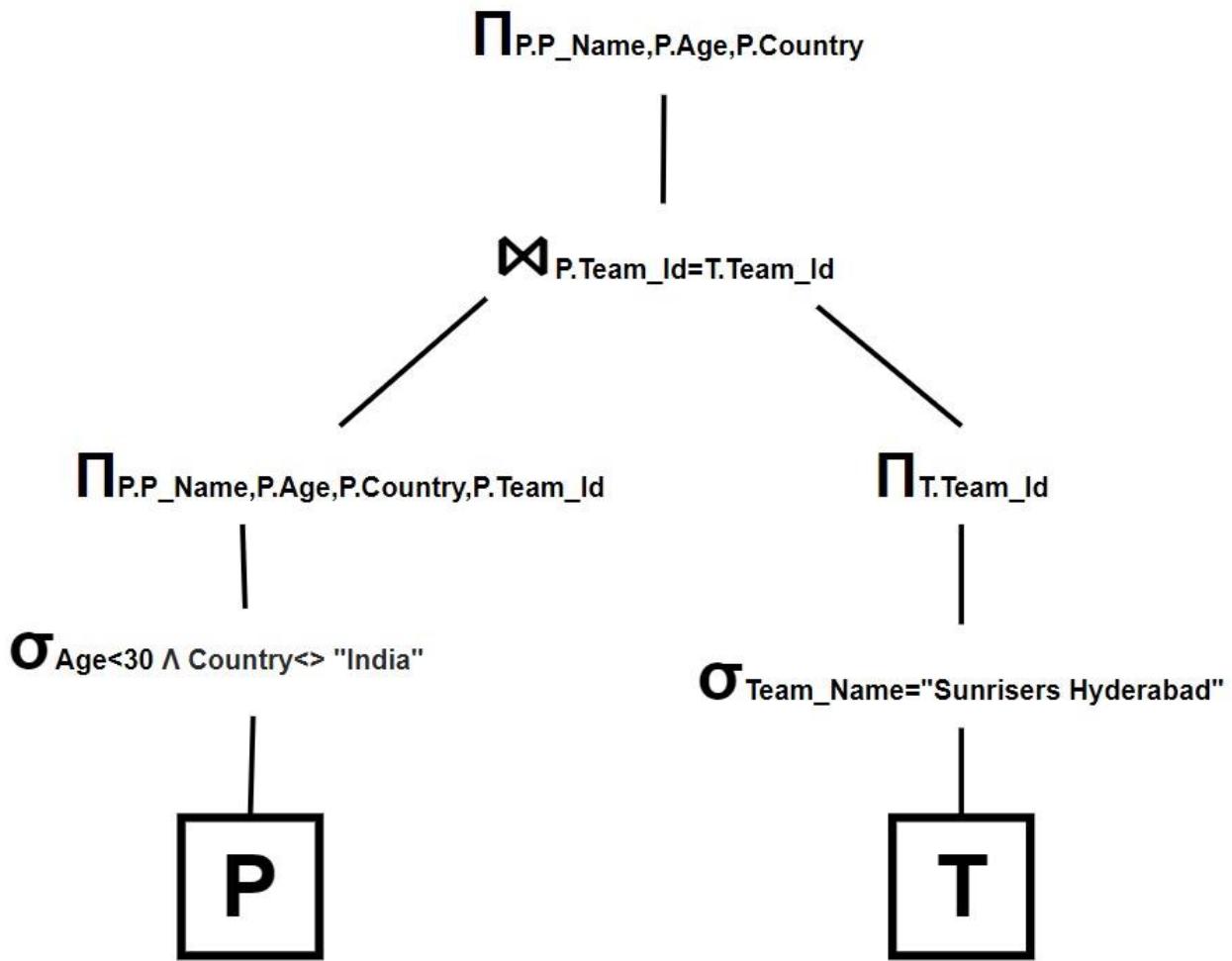
Q4. Display the Coach name and their respective roles for team 3.



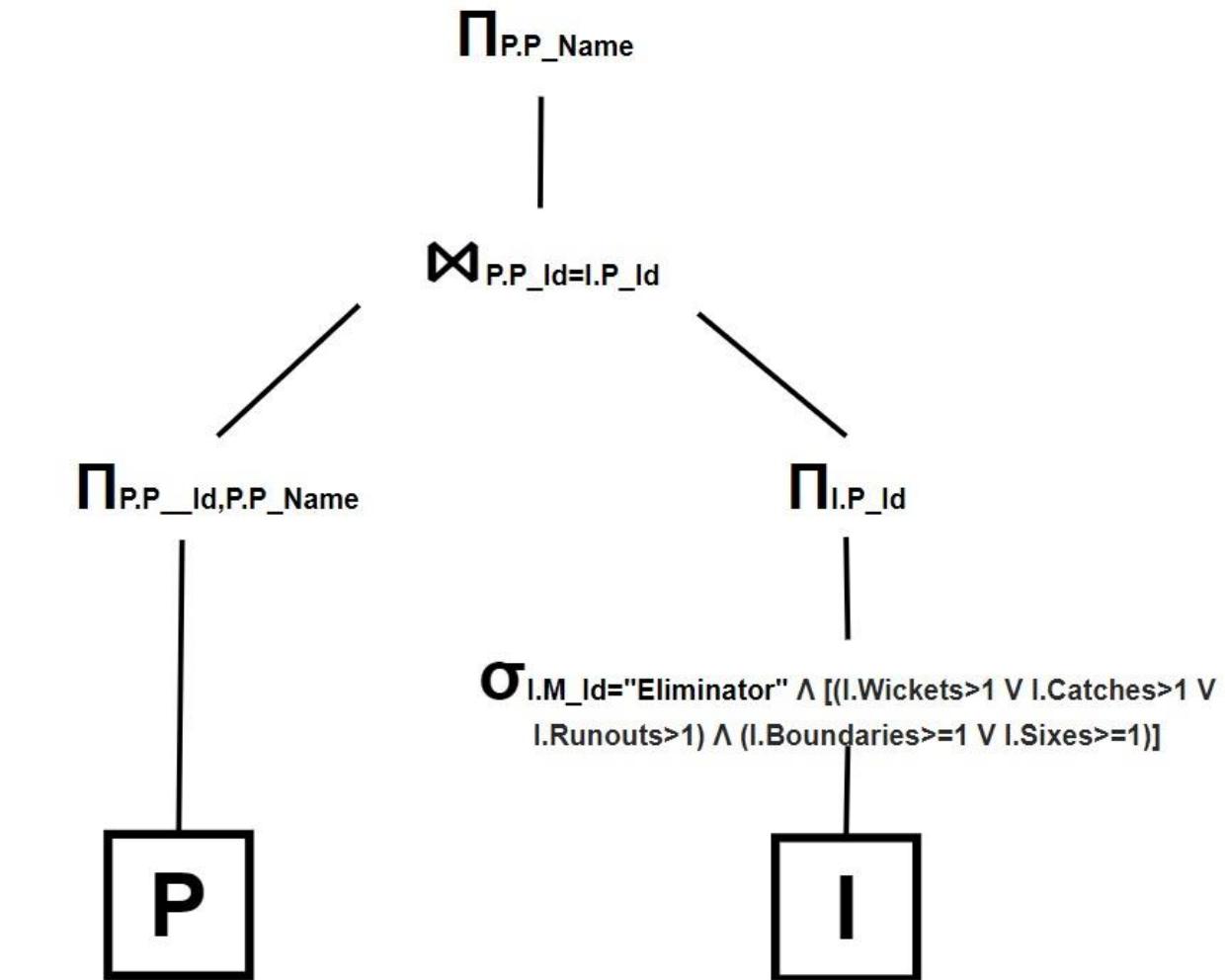
Q5. Display the name of Umpire who is not From India and umpired more than 60 matches in his career.



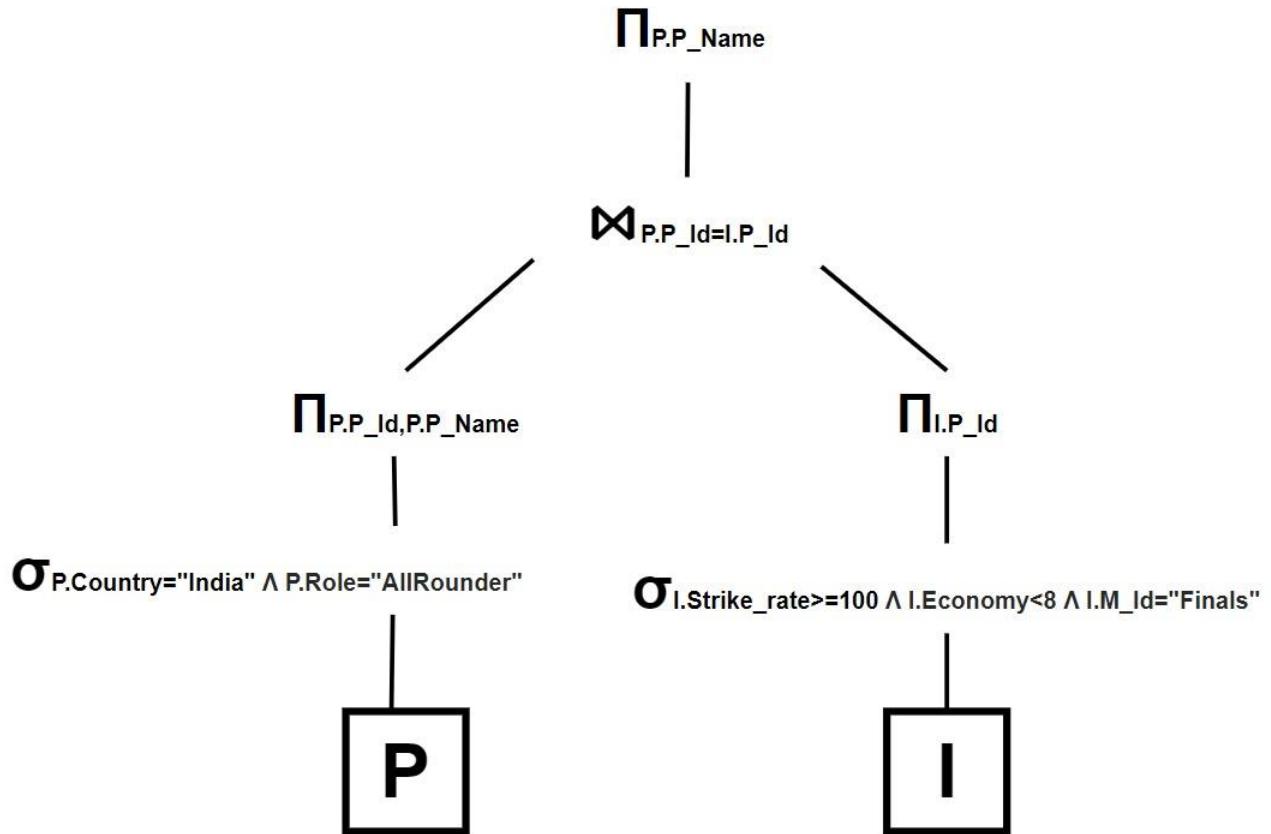
Q6. Display the details of foreign Players who play for Sunrisers Hyderabad and are less than 30 years old.



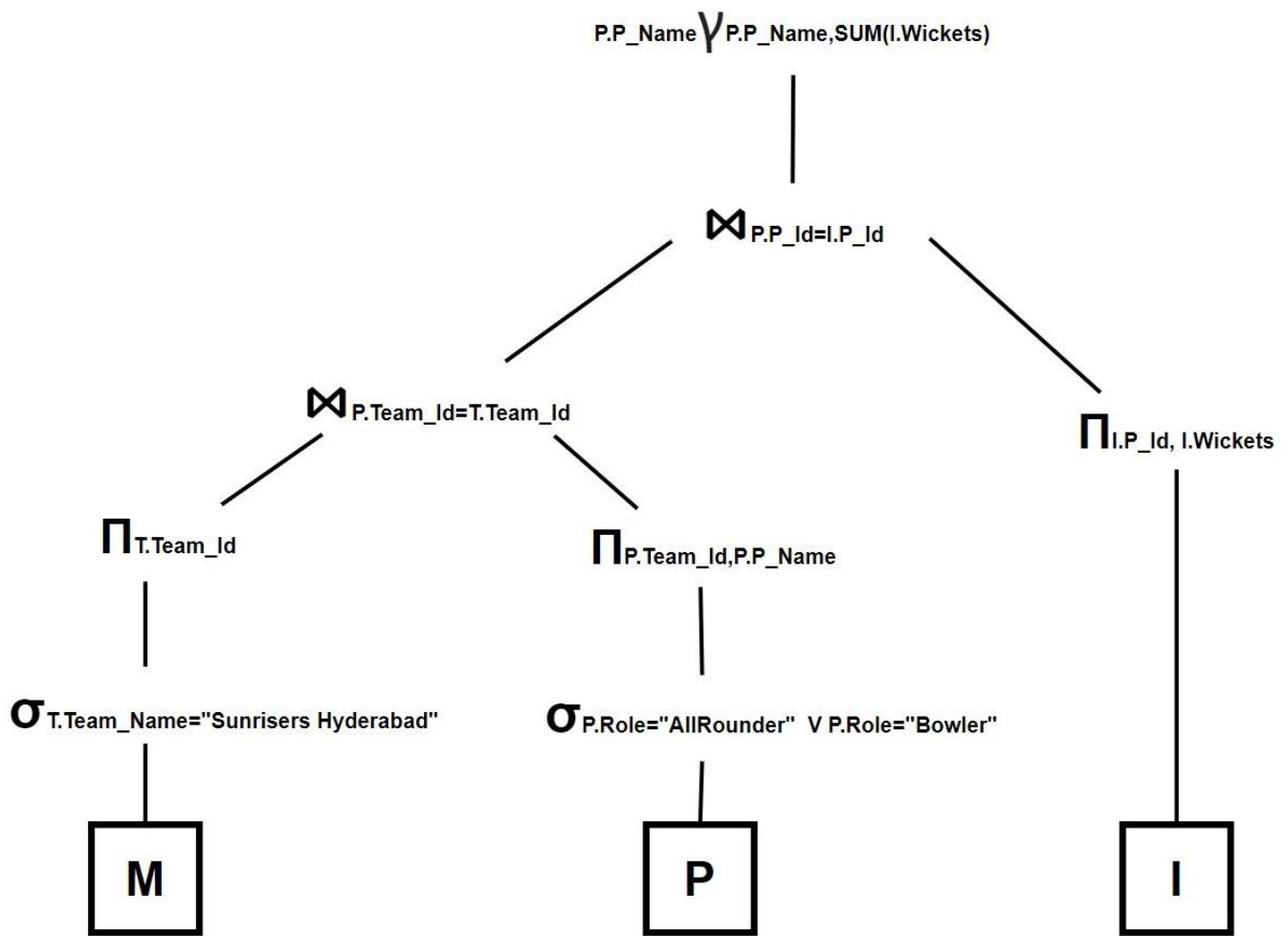
Q7. Names of the players who took more than 1 wicket in the form of catch or runout or wickets and scored at least 1 boundary in eliminator.



Q8. Names of the all rounders who are from India and whose strike rate is more than 100 and economy less than 9 in Finals.

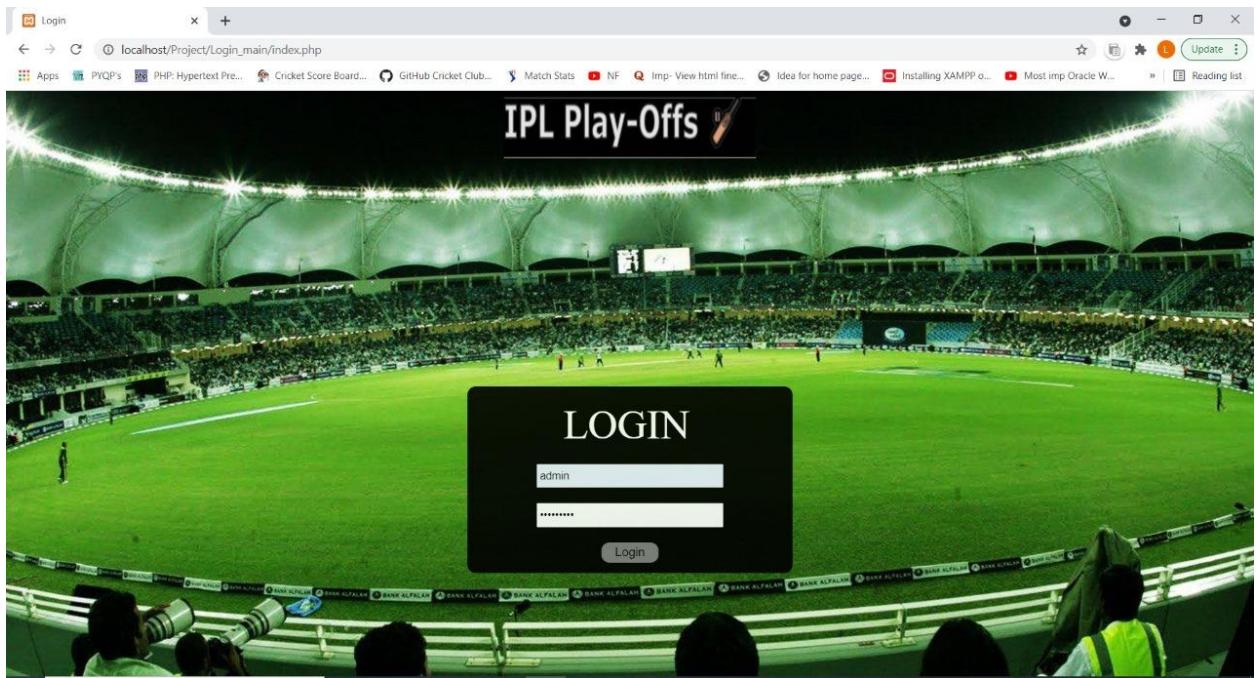


Q9. Calculate the number of wickets taken by each Sunrisers Hyderabad bowler in the IPL 2020 playoffs.

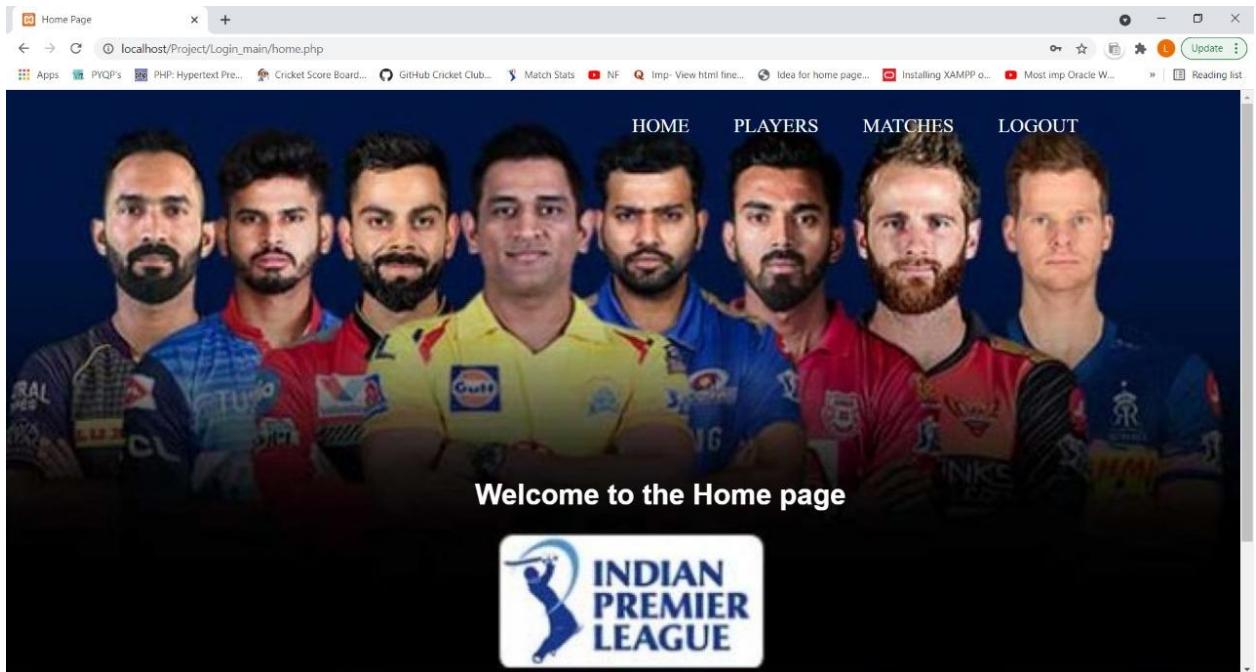


Implementation using Front end

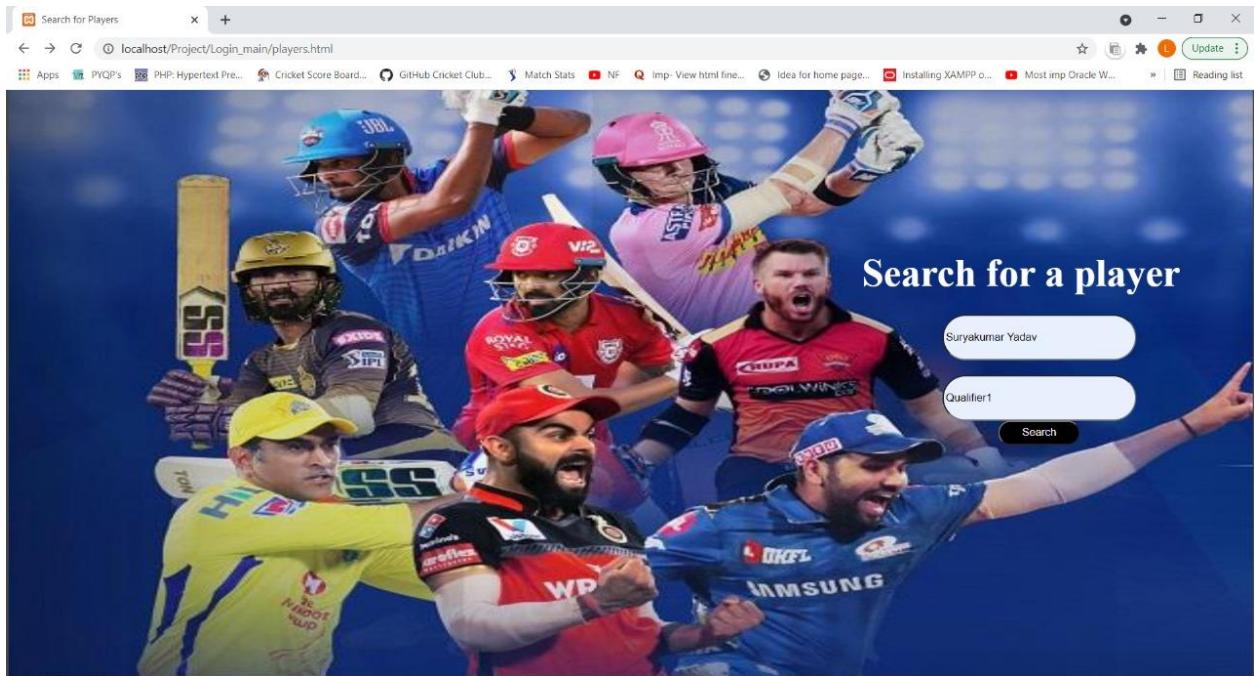
1. Login Page:



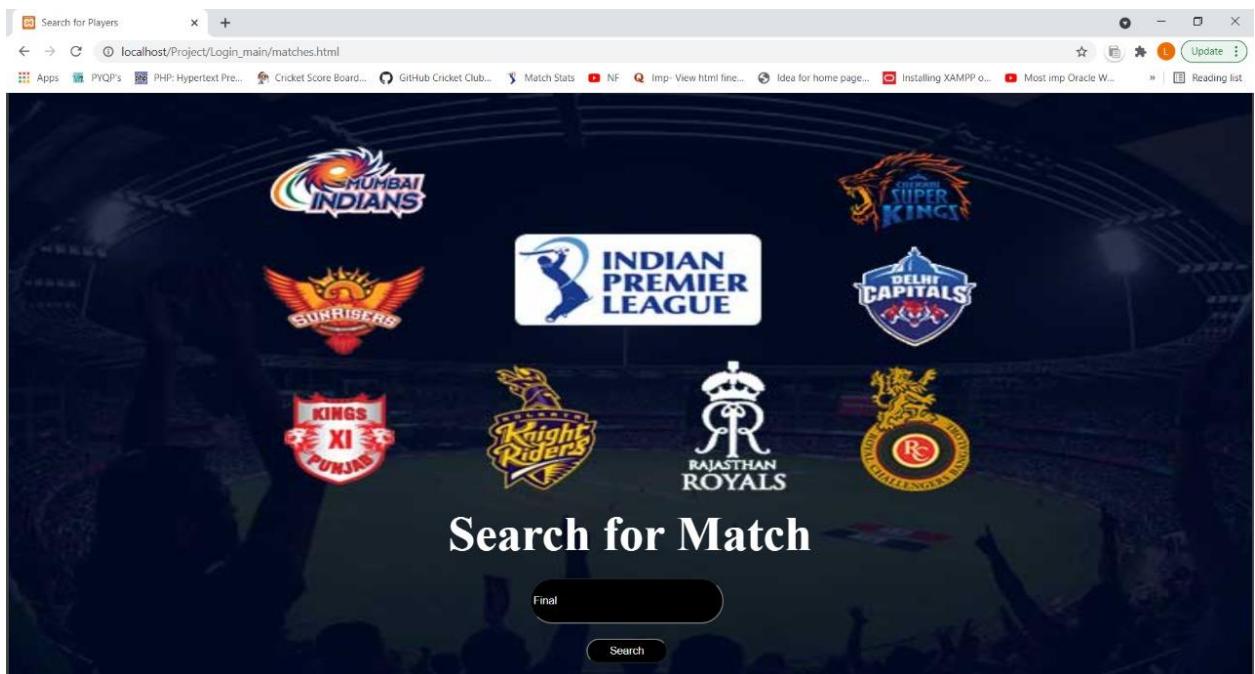
2. Home Page:



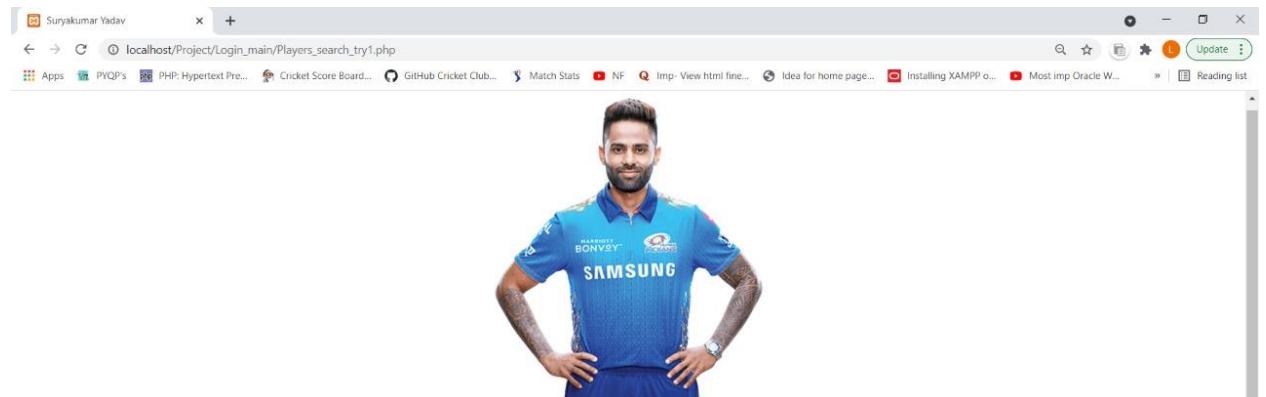
3. Player Search:



4. Match Search:



5. Player Result:



Suryakumar Yadav

. Details

| | |
|-----------|------------------|
| Player ID | 177 |
| Name | Suryakumar Yadav |
| Team | Mumbai Indians |
| Age | 30 |
| Role | Batsman |
| Country | India |

. Performance 🏏 🏏

| | Qualifier1 |
|------------|------------|
| Runs | 51 |
| S/R | 134.21 |
| Boundaries | 6 |
| Sixes | 2 |
| Wickets | 0 |
| Catches | 1 |
| Runouts | 0 |
| Economy | |