

NATIONAL INSTITUTE OF TECHNOLOGY
WARANGAL

(DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING)



**DATABASE MANAGEMENT SYSTEM
PROJECT
ON
IPL MANAGEMENT SYSTEM**

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PROBLEM STATEMENT

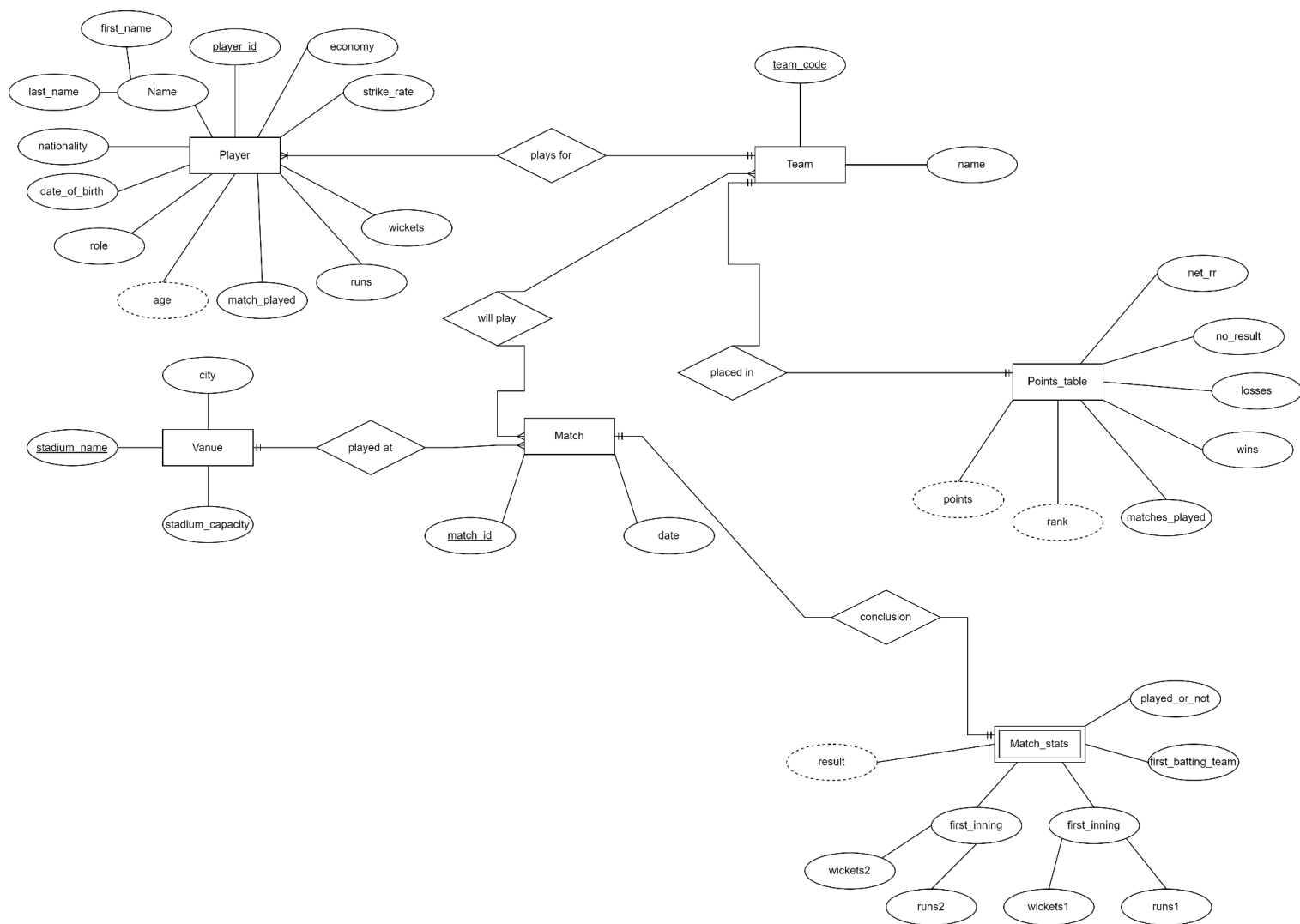
The database design of Indian Premier League(IPL)

- **In this project we have designed a database for Indian Premier League(IPL) which helps the system to manage the information on matches, players, stats etc.**
- **This will be managed by the BCCI. All the approvals and the activities are being headed by the chairman of the BCCI.**
- **This will help them to maintain each player's records, information about the tournament, stats of each and every match which is very well required for the smooth conduction of the tournaments.**
- **The database also contains the stats of each and every player as well as every team's stats by which we can keep track of their records, match information and point table can be distributed accordingly, which must be done by a good database.**
- **The database rather working on each player works for the each match also so that we can keep track of each match stats and can improve the ranking of each IPL team by it. It gives us the facility to manage tournaments and awards accordingly.**

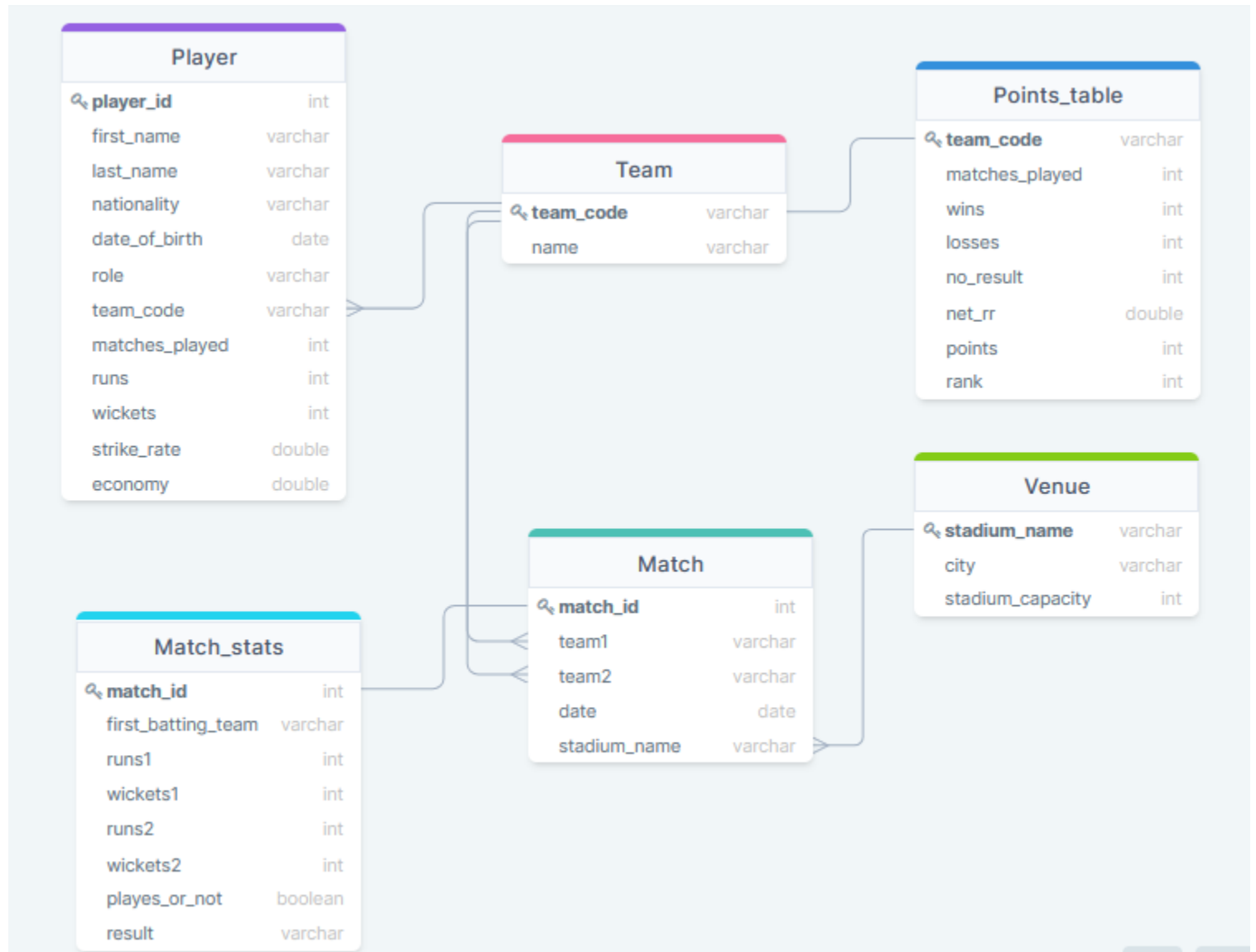
ASSUMPTIONS

- **A team can have multiple number of players but a player can play for only one team. Hence, there exists 1:M relationship between the entities.**
- **A team can play multiple number of matches and a match has multiple (i.e 2) number of teams. Hence, there exists M:N relationship between the entities.**
- **A match will be played at one venue and a venue can have many number of matches. Hence, there exists M:1 relationship between the entities.**
- **There exists 1:1 relationship between team entity and points table entity. Also, there is 1:1 relationship between match and match stats.**
- **In the entity set Points table, rank and points are derived attributes as points can be derived from wins and no result and rank is derived points and NRR.**
- **In the weak entity set Match stats, result is derived from played or not, runs of team 1 and runs of team 2.**
- **Here, we did not make a separate table for ‘will play’ relationship entity set because we already added foreign keys in Match entity set referring to Team code in Team entity set.**

ER DIAGRAM



RELATIONAL SCHEMA



NORMALIZATION

Functional dependencies

1) Team table

Team_code -> Name

Since Team_code is super key in the above relation, therefore it is already in BCNF.

2) Points table

Team_code -> Matches_played, wins, losses, no_result, net_rr, points, rank

Wins, losses, no_result -> points

Points, net_rr -> rank

Since we do not have super key in all the dependencies, therefore the above relation is not in BCNF. There is clear cut case of transitive dependency as Team_code -> wins, losses, no_result and wins, losses, no_result -> points.

Therefore, the above relation is not in 3NF as well.

There is no partial dependency in the above relation. Therefore, it is in 2NF.

3) Player table

Player_id -> first_name, last_name, nationality, date_of_birth, role, age, team_code, matches_played, runs, wickets, strike_rate, economy

Since Player_id is super key in the above relation, therefore it is already in BCNF.

4) Match table

Match_id -> team1, team2, date, stadium_name

Since Match_id is super key in the above relation, therefore it is already in BCNF.

5) Match_stats table

Match_id -> first_batting_team, runs1, wickets1, runs2, wickets2, played_or_not, result

Played_or_not, Runs1, runs2 -> result

Since we do not have super key in all the dependencies, therefore the above relation is not in BCNF. There is clear cut case of transitive dependency since Match_id -> Played_or_not, runs1, runs2 and played_or_not , runs1, runs2 -> result. There is no partial dependency in the above relation. Therefore, it is in 2NF.

6) Venue table

Stadium_name -> City, Stadium_city

Since Stadium_name is super key in the above relation, therefore it is already in BCNF.

TABLE CREATION

Creation of the database:

```
1 • CREATE DATABASE IPL;
2 • USE IPL;
```

Creation of tables:

Team table

```
4 • CREATE TABLE Team(
5     team_code VARCHAR(255) NOT NULL PRIMARY KEY,
6     name VARCHAR(255) NOT NULL
7 );
```

Player table

```
9 • CREATE TABLE Player(
10     player_id INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
11     first_name VARCHAR(255) NOT NULL,
12     last_name VARCHAR(255) NOT NULL,
13     nationality VARCHAR(255) NOT NULL,
14     date_of_birth DATE NOT NULL,
15     role VARCHAR(255) NOT NULL,
16     team_code VARCHAR(255) NOT NULL,
17     matches_played INT NOT NULL,
18     runs INT NOT NULL,
19     wickets INT NOT NULL,
20     strike_rate DOUBLE NOT NULL,
21     economy DOUBLE NOT NULL
22 );
```

Points table

```
24 • ○ CREATE TABLE Points_table(  
25     team_code VARCHAR(255) NOT NULL PRIMARY KEY,  
26     matches_played INT NOT NULL,  
27     wins INT NOT NULL,  
28     losses INT NOT NULL,  
29     no_result INT NOT NULL,  
30     net_rr DOUBLE NOT NULL,  
31     points INT NOT NULL,  
32     rank_ INT NOT NULL  
33 );
```

Match table

```
34 • ○ CREATE TABLE Match_(  
35     match_id INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,  
36     team1 VARCHAR(255) NOT NULL,  
37     team2 VARCHAR(255) NOT NULL,  
38     date DATE NOT NULL,  
39     stadium_name VARCHAR(255) NOT NULL  
40 );
```

Match stats table

```
41 • ○ CREATE TABLE Match_stats(  
42     match_id INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,  
43     first_batting_team VARCHAR(255) NOT NULL,  
44     runs1 INT NOT NULL,  
45     wickets1 INT NOT NULL,  
46     runs2 INT NOT NULL,  
47     wickets2 INT NOT NULL,  
48     plays_or_not TINYINT(1) NOT NULL,  
49     result VARCHAR(255) NOT NULL  
50 );
```

Venue table

```
53 • ○ CREATE TABLE Venue(  
54     stadium_name VARCHAR(255) NOT NULL PRIMARY KEY,  
55     city VARCHAR(255) NOT NULL,  
56     stadium_capacity INT NOT NULL  
57 );
```

Adding foreign key constraints on all the tables

```
59 • ALTER TABLE
60 Player ADD CONSTRAINT player_team_code_foreign
61 FOREIGN KEY(team_code) REFERENCES Team(team_code);
62
63 • ALTER TABLE
64 Match_ ADD CONSTRAINT match_team1_foreign
65 FOREIGN KEY(team1) REFERENCES Team(team_code);
66
67 • ALTER TABLE
68 Match_ ADD CONSTRAINT match_team2_foreign
69 FOREIGN KEY(team2) REFERENCES Team(team_code);
70
71 • ALTER TABLE
72 Points_table ADD CONSTRAINT points_table_team_code_foreign
73 FOREIGN KEY(team_code) REFERENCES Team(team_code);
74
75 • ALTER TABLE
76 Match_ ADD CONSTRAINT match_stadium_name_foreign
77 FOREIGN KEY(stadium_name) REFERENCES Venue(stadium_name);
78 --
79 • ALTER TABLE
80 Match_stats ADD CONSTRAINT match_stats_match_id_foreign
81 FOREIGN KEY(match_id) REFERENCES Match_(match_id);
82
```

Insertion

Insertion into Team table

```
83 • INSERT INTO Team
84 VALUES ('CSK', 'Chennai Super Kings'),('MI', 'Mumbai Indians'), ('KKR', 'Kolkata Knight Riders'),
85 ('DC', 'Delhi Capitals'), ('RCB', 'Royal Challengers Bangalore'),('SRH', 'Sunrisers Hyderabad');
86
```

	team_code	name
►	CSK	Chennai Super Kings
	DC	Delhi Capitals
	KKR	Kolkata Knight Riders
	MI	Mumbai Indians
	RCB	Royal Challengers Bangalore
	SRH	Sunrisers Hyderabad

Insertion into Points table

```
89 • INSERT INTO Points_table
90 VALUES ('CSK',5,4,0,1,1.2,9,1),('MI',5,3,1,1,0.4,7,2),('KKR',5,3,2,0,0.1,6,3),
91 ('DC',5,2,3,0,-0.11,4,4),('RCB',5,1,4,0,-0.3,2,5),('SRH',5,0,5,0,-0.8,0,6);
92
```

	team_code	matches_played	wins	losses	no_result	net_rr	points	rank_
►	CSK	5	4	0	1	1.2	9	1
	DC	5	2	3	0	-0.11	4	4
	KKR	5	3	2	0	0.1	6	3
	MI	5	3	1	1	0.4	7	2
	RCB	5	1	4	0	-0.3	2	5
	SRH	5	0	5	0	-0.8	0	6

Insertion into Venue table

```
95 • INSERT INTO Venue
96 VALUES ('WANKHEDE STADIUM', 'MUMBAI', 90000), ('EDEN GARDEN STADIUM', 'KOLKATA', 70000),
97 ('M CHINNASWAMY STADIUM', 'BENGALURU', 40000);
98
```

	stadium_name	city	stadium_capacity
►	EDEN GARDEN STADIUM	KOLKATA	70000
	M CHINNASWAMY STADIUM	BENGALURU	40000
	WANKHEDE STADIUM	MUMBAI	90000

Insertion into Match table

```
101 • INSERT INTO Match_  
102 VALUES (1,'CSK','KKR','2021-04-03','WANKHEDE STADIUM'),  
103 (2,'KKR','DC','2021-04-04','EDEN GARDEN STADIUM'),(3,'RCB','SRH','2021-04-05','M CHINNASWAMY STADIUM'),  
104 (4,'CSK','MI','2021-04-06','WANKHEDE STADIUM'),(5,'KKR','RCB','2021-04-07','EDEN GARDEN STADIUM'),  
105 (6,'SRH','DC','2021-04-08','M CHINNASWAMY STADIUM'),(7,'CSK','DC','2021-04-09','WANKHEDE STADIUM'),  
106 (8,'MI','SRH','2021-04-10','EDEN GARDEN STADIUM'),(9,'DC','RCB','2021-04-11','M CHINNASWAMY STADIUM'),  
107 (10,'RCB','CSK','2021-04-12','WANKHEDE STADIUM'),(11,'KKR','MI','2021-04-13','EDEN GARDEN STADIUM'),  
108 (12,'MI','RCB','2021-04-14','M CHINNASWAMY STADIUM'),(13,'CSK','SRH','2021-04-15','WANKHEDE STADIUM'),  
109 (14,'DC','MI','2021-04-16','EDEN GARDEN STADIUM'),(15,'KKR','SRH','2021-04-17','M CHINNASWAMY STADIUM');  
110
```

	match_id	team1	team2	date	stadium_name
	3	RCB	SRH	2021-04-05	M CHINNASWAMY STADIUM
	4	CSK	MI	2021-04-06	WANKHEDE STADIUM
	5	KKR	RCB	2021-04-07	EDEN GARDEN STADIUM
	6	SRH	DC	2021-04-08	M CHINNASWAMY STADIUM
	7	CSK	DC	2021-04-09	WANKHEDE STADIUM
	8	MI	SRH	2021-04-10	EDEN GARDEN STADIUM
	9	DC	RCB	2021-04-11	M CHINNASWAMY STADIUM
	10	RCB	CSK	2021-04-12	WANKHEDE STADIUM
	11	KKR	MI	2021-04-13	EDEN GARDEN STADIUM
	12	MI	RCB	2021-04-14	M CHINNASWAMY STADIUM
	13	CSK	SRH	2021-04-15	WANKHEDE STADIUM
	14	DC	MI	2021-04-16	EDEN GARDEN STADIUM
	15	KKR	SRH	2021-04-17	M CHINNASWAMY STADIUM

Insertion into Match stats table

```
113 • INSERT INTO Match_stats VALUES(1,'KKR',190,8,192,3,TRUE,'CSK WON'),(2,'MI',203,0,190,3,TRUE,'KKR WON'),  
114 (3,'CSK',212,3,177,8,TRUE,'RCB WON'),(4,'CSK',NULL,NULL,NULL,NULL,FALSE,NULL),  
115 (5,'KKR',139,0,49,10,TRUE,'KKR WON'),(6,'SRH',160,4,99,10,TRUE,'DC WON'),  
116 (7,'CSK',187,2,166,3,TRUE,'CSK WON'),(8,'MI',203,3,177,8,TRUE,'MI WON'),  
117 (9,'DC',190,1,156,2,TRUE,'DC WON'),(10,'RCB',149,7,150,8,TRUE,'CSK WON'),  
118 (11,'KKR',133,4,99,10,TRUE,'KKR WON'),(12,'MI',203,0,190,3,TRUE,'MI WON'),  
119 (13,'CSK',212,3,177,8,TRUE,'CSK WON'),(14,'DC',155,1,156,2,TRUE,'MI WON'),  
120 (15,'KKR',149,7,113,8,TRUE,'KKR WON');
```

	match_id	first_batting_team	runs1	wickets1	runs2	wickets2	playes_or_not	result
▶	1	KKR	190	8	192	3	1	CSK WON
	2	MI	203	0	190	3	1	KKR WON
	3	CSK	212	3	177	8	1	RCB WON
	5	KKR	139	0	49	10	1	KKR WON
	6	SRH	160	4	99	10	1	DC WON
	7	CSK	187	2	166	3	1	CSK WON
	8	MI	203	3	177	8	1	MI WON
	9	DC	190	1	156	2	1	DC WON
	10	RCB	149	7	150	8	1	CSK WON
	11	KKR	133	4	99	10	1	KKR WON
	12	MI	203	0	190	3	1	MI WON
	13	CSK	212	3	177	8	1	CSK WON
	14	DC	155	1	156	2	1	MI WON
	15	KKR	149	7	113	8	1	KKR WON

Insertion into Player table

124 • INSERT INTO Player VALUES

```

125 (1,'Mahendra','Dhoni','Indian','1981-07-07','WicketKeeper','CSK',14,301,0,160,0),
126 (2,'Robin','Uthappa','Indian','1985-11-11','Batsman','CSK',14,144,0,150,0),
127 (3,'Shivam','Dubey','Indian','1993-06-26','Batsman','CSK',14,155,0,140,0),
128 (4,'Ruturaj','Gaikwad','Indian','1997-01-31','Batsman','CSK',14,542,0,130,0),
129 (5,'Ambati','Rayudu','Indian','1985-09-23','Batsman','CSK',14,341,0,120,0),
130 (6,'Ravindra','Jadeja','Indian','1988-12-06','All-Rounder','CSK',14,314,10,110,6.2),
131 (7,'Mukesh','Choudhary','Indian','1996-07-06','Bowler','CSK',14,213,20,100,6.5),
132 (8,'Dwayne','Pretorius','Foreign','1989-03-29','Bowler','CSK',14,300,15,90,6.8),
133 (9,'Chris','Jordan','Foreign','1988-10-04','All-Rounder','CSK',14,0,15,0,7.1),
134 (10,'Devon','Conway','Foreign','1991-07-08','Bowler','CSK',14,0,16,0,7.4),
135 (11,'Dwayne','Bravo','Foreign','1983-10-07','Bowler','CSK',14,0,17,0,7.7),
136 (12,'Ishan','Kishan','Indian','1998-07-18','WicketKeeper','MI',14,321,0,190,0),
137 (13,'Rohit','Sharma','Indian','1987-04-30','Batsman','MI',14,431,0,179,0),
138 (14,'Surya','Yadav','Indian','1990-09-14','Batsman','MI',14,650,0,134,0),
139 (15,'Tilak','Verma','Indian','2002-11-8','Batsman','MI',14,123,0,128,0),
140 (16,'Sachin','Tendulkar','Indian','1973-04-24','Batsman','MI',14,234,0,190,0),
141 (17,'Rahul','Sharma','Indian','1991-08-31','All-Rounder','MI',14,345,0,200,0),
142 (18,'Arjun','Tendulkar','Indian','1999-09-24','Bowler','MI',14,432,0,201,6.1),
143 (19,'Keiron','Pollard','Foreign','1987-05-12','Bowler','MI',14,342,0,90,6.4),
144 (20,'Lasith','Malinga','Foreign','1983-08-28','All-Rounder','MI',14,121,4,100,6.7),
145 (21,'Daniel','Sams','Foreign','1992-10-27','Bowler','MI',14,0,3,190,7),
146 (22,'Tim','David','Foreign','1996-03-16','Bowler','MI',14,0,2,239,7.3),

```

147 (23, 'Sheldon', 'Jackson', 'Indian', '1986-09-27', 'WicketKeeper', 'KKR', 14, 123, 0, 239, 0),
 148 (24, 'Shreyas', 'Iyer', 'Indian', '1994-12-06', 'Batsman', 'KKR', 14, 231, 0, 239, 0),
 149 (25, 'Ajinkya', 'Rahane', 'Indian', '1988-06-06', 'Batsman', 'KKR', 14, 423, 0, 239, 0),
 150 (26, 'Shubman', 'Gill', 'Indian', '1999-09-08', 'Batsman', 'KKR', 14, 345, 0, 239, 0),
 151 (27, 'Rinku', 'Singh', 'Indian', '1997-10-12', 'Batsman', 'KKR', 14, 643, 0, 239, 0),
 152 (28, 'Venkatesh', 'Iyer', 'Indian', '1994-12-25', 'All-Rounder', 'KKR', 14, 1, 0, 100, 5.9),
 153 (29, 'Prasidh', 'Krishna', 'Indian', '1996-02-19', 'Bowler', 'KKR', 14, 2, 11, 200, 6.1),
 154 (30, 'Tim', 'Southee', 'Foreign', '1988-12-11', 'Bowler', 'KKR', 14, 423, 12, 121, 6.3),
 155 (31, 'Andre', 'Russel', 'Foreign', '1988-04-29', 'All-Rounder', 'KKR', 14, 435, 13, 180, 6.5),
 156 (32, 'Pat', 'Cummins', 'Foreign', '1987-07-11', 'Bowler', 'KKR', 14, 0, 14, 0, 6.7),
 157 (33, 'Mitch', 'Starc', 'Foreign', '1989-09-15', 'Bowler', 'KKR', 14, 9, 15, 167, 0),
 158 (34, 'Rishab', 'Pant', 'Indian', '1992-02-16', 'WicketKeeper', 'DC', 14, 190, 0, 119, 0),
 159 (35, 'Prithvi', 'Shaw', 'Indian', '1993-11-11', 'Batsman', 'DC', 14, 176, 0, 120, 0),
 160 (36, 'Mandeep', 'Singh', 'Indian', '1986-09-09', 'Batsman', 'DC', 14, 173, 0, 115, 0),
 161 (37, 'Sarfaraz', 'Ahmed', 'Indian', '1981-12-12', 'Batsman', 'DC', 14, 156, 0, 117, 0),
 162 (38, 'KS', 'Bharat', 'Indian', '1993-08-04', 'Batsman', 'DC', 14, 200, 0, 141, 9.2),
 163 (39, 'Axar', 'Patel', 'Indian', '1993-08-04', 'AllRounder', 'DC', 14, 153, 0, 130, 8.8),
 164 (40, 'Kamlesh', 'Nagarkoti', 'Indian', '1994-09-01', 'Bowler', 'DC', 14, 0, 10, 0, 8.4),
 165 (41, 'Anrich', 'Nortje', 'Foreign', '1990-06-05', 'Bowler', 'DC', 14, 9, 0, 8, 8),
 166 (42, 'Rowman', 'Powell', 'Foreign', '1989-09-12', 'AllRounder', 'DC', 14, 109, 8, 160, 7.6),
 167 (43, 'Mitch', 'Marsh', 'Foreign', '1996-03-08', 'Bowler', 'DC', 14, 110, 7, 121, 7.2),
 168 (44, 'Mustafiz', 'Rehman', 'Foreign', '1996-11-08', 'Bowler', 'DC', 14, 118, 6, 132, 6.8),
 169 (45, 'Dinesh', 'Kartik', 'Indian', '1996-03-28', 'WicketKeeper', 'RCB', 14, 229, 0, 133, 0),
 170 (46, 'Virat', 'Kohli', 'Indian', '1996-03-09', 'Batsman', 'RCB', 14, 445, 0, 143, 0),
 171 (47, 'Anuj', 'Rawat', 'Indian', '1995-10-13', 'Batsman', 'RCB', 14, 332, 0, 136, 0),
 172 (48, 'Mahipal', 'Lomror', 'Indian', '1998-11-19', 'Batsman', 'RCB', 14, 365, 0, 189, 0),
 173 (49, 'Shahbaz', 'Ahmed', 'Indian', '1995-11-23', 'Batsman', 'RCB', 14, 343, 0, 190, 0),
 174 (50, 'Harshal', 'Patel', 'Indian', '1995-10-16', 'AllRounder', 'RCB', 14, 252, 0, 178, 5.5),
 175 (51, 'Akash', 'Deep', 'Indian', '1995-10-17', 'Bowler', 'RCB', 14, 151, 11, 153, 6),
 176 (52, 'Josh', 'Hazelwood', 'Foreign', '1995-10-18', 'Bowler', 'RCB', 14, 0, 13, 0, 6.5),
 177 (53, 'Sherfane', 'Rutherford', 'Foreign', '1990-11-23', 'Allrounder', 'RCB', 14, 2, 1, 20, 7),
 178 (54, 'Glenn', 'Maxwell', 'Foreign', '1987-12-23', 'Bowler', 'RCB', 14, 363, 23, 100, 7.5),
 179 (55, 'Faf', 'duplessis', 'Foreign', '1988-10-21', 'Bowler', 'RCB', 14, 535, 19, 200, 8),
 180 (56, 'Naman', 'ojha', 'Indian', '1990-09-23', 'WicketKeeper', 'SRH', 14, 131, 0, 200, 0),
 181 (57, 'Priyam', 'Garg', 'Indian', '1990-02-01', 'Batsman', 'SRH', 14, 232, 0, 132, 0),
 182 (58, 'Rahul', 'Tripathi', 'Indian', '1988-11-30', 'Batsman', 'SRH', 14, 432, 0, 133, 0),
 183 (59, 'Abhishek', 'Sharma', 'Indian', '1995-11-29', 'Batsman', 'SRH', 14, 540, 0, 139, 0),
 184 (60, 'Vishnu', 'Vinod', 'Indian', '1990-12-23', 'Batsman', 'SRH', 14, 323, 0, 149, 0),
 185 (61, 'Shashank', 'Singh', 'Indian', '1997-02-23', 'AllRounder', 'SRH', 14, 212, 0, 169, 6.6),
 186 (62, 'Washington', 'Sunder', 'Indian', '1983-11-02', 'Bowler', 'SRH', 14, 160, 9, 134, 6.9),
 187 (63, 'Kane', 'Williamson', 'Foreign', '1992-04-11', 'Bowler', 'SRH', 14, 170, 10, 200, 7.2),
 188 (64, 'Umran', 'Malik', 'Foreign', '1992-05-27', 'Allrounder', 'SRH', 14, 180, 17, 129, 7.5),
 189 (65, 'Sean', 'Abbott', 'Foreign', '1999-09-09', 'Bowler', 'SRH', 14, 9, 2, 90, 7.8),
 190 (66, 'Marco', 'Jansen', 'Foreign', '1989-11-20', 'Bowler', 'SRH', 14, 0, 6, 0, 8.1);

	player_id	first_name	last_name	nationality	date_of_birth	role	team_code	matches_played	runs	wickets	strike_rate	economy
▶	1	Mahendra	Dhoni	Indian	1981-07-07	WicketKeeper	CSK	14	301	0	160	0
	2	Robin	Uthappa	Indian	1985-11-11	Batsman	CSK	14	144	0	150	0
	3	Shivam	Dubey	Indian	1993-06-26	Batsman	CSK	14	155	0	140	0
	4	Ruturaj	Gaikwad	Indian	1997-01-31	Batsman	CSK	14	542	0	130	0
	5	Ambati	Rayudu	Indian	1985-09-23	Batsman	CSK	14	341	0	120	0
	6	Ravindra	Jadeja	Indian	1988-12-06	All-Rounder	CSK	14	314	10	110	6.2
	7	Mukesh	Choudhary	Indian	1996-07-06	Bowler	CSK	14	213	20	100	6.5
	8	Dwayne	Pretorius	Foreign	1989-03-29	Bowler	CSK	14	300	15	90	6.8
	9	Chris	Jordan	Foreign	1988-10-04	All-Rounder	CSK	14	0	15	0	7.1
	10	Devon	Conway	Foreign	1991-07-08	Bowler	CSK	14	0	16	0	7.4
	11	Dwayne	Bravo	Foreign	1983-10-07	Bowler	CSK	14	0	17	0	7.7
	12	Ishan	Kishan	Indian	1998-07-18	WicketKeeper	MI	14	321	0	190	0
	13	Rohit	Sharma	Indian	1987-04-30	Batsman	MI	14	431	0	179	0
	14	Surya	Yadav	Indian	1990-09-14	Batsman	MI	14	650	0	134	0
	15	Tilak	Verma	Indian	2002-11-08	Batsman	MI	14	123	0	128	0
	16	Sachin	Tendulkar	Indian	1973-04-24	Batsman	MI	14	234	0	190	0

	player_id	first_name	last_name	nationality	date_of_birth	role	team_code	matches_played	runs	wickets	strike_rate	economy
	17	Rahul	Sharma	Indian	1991-08-31	All-Rounder	MI	14	345	0	200	0
	18	Arjun	Tendulkar	Indian	1999-09-24	Bowler	MI	14	432	0	201	6.1
	19	Keiron	Pollard	Foreign	1987-05-12	Bowler	MI	14	342	0	90	6.4
	20	Lasith	Malinga	Foreign	1983-08-28	All-Rounder	MI	14	121	4	100	6.7
	21	Daniel	Sams	Foreign	1992-10-27	Bowler	MI	14	0	3	190	7
	22	Tim	David	Foreign	1996-03-16	Bowler	MI	14	0	2	239	7.3
	23	Sheldon	Jackson	Indian	1986-09-27	WicketKeeper	KKR	14	123	0	239	0
	24	Shreyas	Iyer	Indian	1994-12-06	Batsman	KKR	14	231	0	239	0
	25	Ajinkya	Rahane	Indian	1988-06-06	Batsman	KKR	14	423	0	239	0
	26	Shubman	Gill	Indian	1999-09-08	Batsman	KKR	14	345	0	239	0
	27	Rinku	Singh	Indian	1997-10-12	Batsman	KKR	14	643	0	239	0
	28	Venkatesh	Iyer	Indian	1994-12-25	All-Rounder	KKR	14	1	0	100	5.9
	29	Prasidh	Krishna	Indian	1996-02-19	Bowler	KKR	14	2	11	200	6.1
	30	Tim	Southee	Foreign	1988-12-11	Bowler	KKR	14	423	12	121	6.3
	31	Andre	Russel	Foreign	1988-04-29	All-Rounder	KKR	14	435	13	180	6.5
	32	Pat	Cummins	Foreign	1987-07-11	Bowler	KKR	14	0	14	0	6.7

	player_id	first_name	last_name	nationality	date_of_birth	role	team_code	matches_played	runs	wickets	strike_rate	economy
	33	Mitch	Starc	Foreign	1989-09-15	Bowler	KKR	14	9	15	167	0
	34	Rishab	Pant	Indian	1992-02-16	WicketKepeer	DC	14	190	0	119	0
	35	Prithvi	Shaw	Indian	1993-11-11	Batsman	DC	14	176	0	120	0
	36	Mandeep	Singh	Indian	1986-09-09	Batsman	DC	14	173	0	115	0
	37	Sarfaraz	Ahmed	Indian	1981-12-12	Batsman	DC	14	156	0	117	0
	38	KS	Bharat	Indian	1993-08-04	Batsman	DC	14	200	0	141	9.2
	39	Axar	Patel	Indian	1993-08-04	AllRounder	DC	14	153	0	130	8.8
	40	Kamlesh	Nagarkoti	Indian	1994-09-01	Bowler	DC	14	0	10	0	8.4
	41	Anrich	Nortje	Foreign	1990-06-05	Bowler	DC	14	9	0	8	8
	42	Rowman	Powell	Foreign	1989-09-12	AllRounder	DC	14	109	8	160	7.6
	43	Mitch	Marsh	Foreign	1996-03-08	Bowler	DC	14	110	7	121	7.2
	44	Mustafiz	Rehman	Foreign	1996-11-08	Bowler	DC	14	118	6	132	6.8
	45	Dinesh	Kartik	Indian	1996-03-28	WicketKeeper	RCB	14	229	0	133	0
	46	Virat	Kohli	Indian	1996-03-09	Batsman	RCB	14	445	0	143	0
	47	Anuj	Rawat	Indian	1995-10-13	Batsman	RCB	14	332	0	136	0
	48	Mahipal	Lomror	Indian	1998-11-19	Batsman	RCB	14	365	0	189	0

player_id	first_name	last_name	nationality	date_of_birth	role	team_code	matches_played	runs	wickets	strike_rate	economy
49	Shahbaz	Ahmed	Indian	1995-11-23	Batsman	RCB	14	343	0	190	0
50	Harshal	Patel	Indian	1995-10-16	AllRounder	RCB	14	252	0	178	5.5
51	Akash	Deep	Indian	1995-10-17	Bowler	RCB	14	151	11	153	6
52	Josh	Hazelwood	Foreign	1995-10-18	Bowler	RCB	14	0	13	0	6.5
53	Sherfane	Rutherford	Foreign	1990-11-23	Allrounder	RCB	14	2	1	20	7
54	Glenn	Maxwell	Foreign	1987-12-23	Bowler	RCB	14	363	23	100	7.5
55	Faf	duplessis	Foreign	1988-10-21	Bowler	RCB	14	535	19	200	8
56	Naman	ojha	Indian	1990-09-23	WicketKeeper	SRH	14	131	0	200	0
57	Priyam	Garg	Indian	1990-02-01	Batsman	SRH	14	232	0	132	0
58	Rahul	Tripathi	Indian	1988-11-30	Batsman	SRH	14	432	0	133	0
59	Abhishek	Sharma	Indian	1995-11-29	Batsman	SRH	14	540	0	139	0
60	Vishnu	Vinod	Indian	1990-12-23	Batsman	SRH	14	323	0	149	0
61	Shashank	Singh	Indian	1997-02-23	AllRounder	SRH	14	212	0	169	6.6
62	Washington	Sunder	Indian	1983-11-02	Bowler	SRH	14	160	9	134	6.9
63	Kane	Williamson	Foreign	1992-04-11	Bowler	SRH	14	170	10	200	7.2
64	Umran	Malik	Foreign	1992-05-27	Allrounder	SRH	14	180	17	129	7.5
65	Sean	Abbott	Foreign	1999-09-09	Bowler	SRH	14	9	2	90	7.8
66	Marco	Jansen	Foreign	1989-11-20	Bowler	SRH	14	0	6	0	8.1

General Queries:

1) Query to find CSK players whose nationality is Indian

```
196 • SELECT * FROM Player
197 WHERE Team_code='CSK'
198 AND nationality='Indian';
```

	player_id	first_name	last_name	nationality	date_of_birth	role	team_code	matches_played	runs	wickets	strike_rate	economy
▶	1	Mahendra	Dhoni	Indian	1981-07-07	WicketKeeper	CSK	14	301	0	160	0
	2	Robin	Uthappa	Indian	1985-11-11	Batsman	CSK	14	144	0	150	0
	3	Shivam	Dubey	Indian	1993-06-26	Batsman	CSK	14	155	0	140	0
	4	Ruturaj	Gaikwad	Indian	1997-01-31	Batsman	CSK	14	542	0	130	0
	5	Ambati	Rayudu	Indian	1985-09-23	Batsman	CSK	14	341	0	120	0
	6	Ravindra	Jadeja	Indian	1988-12-06	All-Rounder	CSK	14	314	10	110	6.2
	7	Mukesh	Choudhary	Indian	1996-07-06	Bowler	CSK	14	213	20	100	6.5

2) Query to find first 10 players with maximum runs

```
202 • SELECT first_name, last_name, team_code, runs
203 FROM Player
204 ORDER BY runs DESC LIMIT 10;
---
```

	first_name	last_name	team_code	runs
▶	Surya	Yadav	MI	650
	Rinku	Singh	KKR	643
	Ruturaj	Gaikwad	CSK	542
	Abhishek	Sharma	SRH	540
	Faf	duplessis	RCB	535
	Virat	Kohli	RCB	445
	Andre	Russel	KKR	435
	Rahul	Tripathi	SRH	432
	Arjun	Tendulkar	MI	432
	Rohit	Sharma	MI	431

3) Query to display the name and age of MI players in the increasing order of their age.

```
207 • SELECT first_name, last_name, TIMESTAMPDIFF(YEAR, date_of_birth, CURDATE()) AS age FROM player
208 WHERE team_code='MI'
209 ORDER BY age;
```

first_name	last_name	age
Tilak	Verma	19
Arjun	Tendulkar	22
Ishan	Kishan	23
Tim	David	26
Daniel	Sams	29
Rahul	Sharma	30
Surya	Yadav	31
Keiron	Pollard	34
Rohit	Sharma	35
Lasith	Malinga	38
Sachin	Tendulkar	49

4) Query to find the name of youngest and oldest players

```
211 • SELECT first_name, last_name, TIMESTAMPDIFF(YEAR, date_of_birth, CURDATE())
212 AS age FROM player WHERE date_of_birth = (SELECT min(date_of_birth) FROM player);
213
214 • SELECT first_name, last_name, TIMESTAMPDIFF(YEAR, date_of_birth, CURDATE()) AS
215 age FROM player WHERE date_of_birth = (SELECT max(date_of_birth) FROM player);
```

	first_name	last_name	age
►	Sachin	Tendulkar	49

	first_name	last_name	age
►	Tilak	Verma	19

5) Query to show total information of all matches

```
217 • SELECT * FROM match_ NATURAL JOIN match_stats;
```

match_id	team1	team2	date	stadium_name	first_batting_team	runs1	wickets1	runs2	wickets2	playes_or_not	result
1	CSK	KKR	2021-04-03	WANKHEDE STADIUM	KKR	190	8	192	3	1	CSK WON
2	KKR	DC	2021-04-04	EDEN GARDEN STADIUM	MI	203	0	190	3	1	KKR WON
3	RCB	SRH	2021-04-05	M CHINNASWAMY STADIUM	CSK	212	3	177	8	1	RCB WON
5	KKR	RCB	2021-04-07	EDEN GARDEN STADIUM	KKR	139	0	49	10	1	KKR WON
6	SRH	DC	2021-04-08	M CHINNASWAMY STADIUM	SRH	160	4	99	10	1	DC WON
7	CSK	DC	2021-04-09	WANKHEDE STADIUM	CSK	187	2	166	3	1	CSK WON
8	MI	SRH	2021-04-10	EDEN GARDEN STADIUM	MI	203	3	177	8	1	MI WON
9	DC	RCB	2021-04-11	M CHINNASWAMY STADIUM	DC	190	1	156	2	1	DC WON
10	RCB	CSK	2021-04-12	WANKHEDE STADIUM	RCB	149	7	150	8	1	CSK WON
11	KKR	MI	2021-04-13	EDEN GARDEN STADIUM	KKR	133	4	99	10	1	KKR WON
12	MI	RCB	2021-04-14	M CHINNASWAMY STADIUM	MI	203	0	190	3	1	MI WON
13	CSK	SRH	2021-04-15	WANKHEDE STADIUM	CSK	212	3	177	8	1	CSK WON
14	DC	MI	2021-04-16	EDEN GARDEN STADIUM	DC	155	1	156	2	1	MI WON
15	KKR	SRH	2021-04-17	M CHINNASWAMY STADIUM	KKR	149	7	113	8	1	KKR WON

Tools:

- MySQL
- MS Office Excel
- Notepad
- VS Code

References:

- IPL Website
- Gate Smashers (Youtube Channel)
- Stackoverflow.com
- GeeksforGeeks.com

