

CS-586 Introduction to Database Management Systems

Project – ER Diagram and Relational Schema

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Topic: - IPL Dataset

The given dataset can be broadly classified in the following tables: -

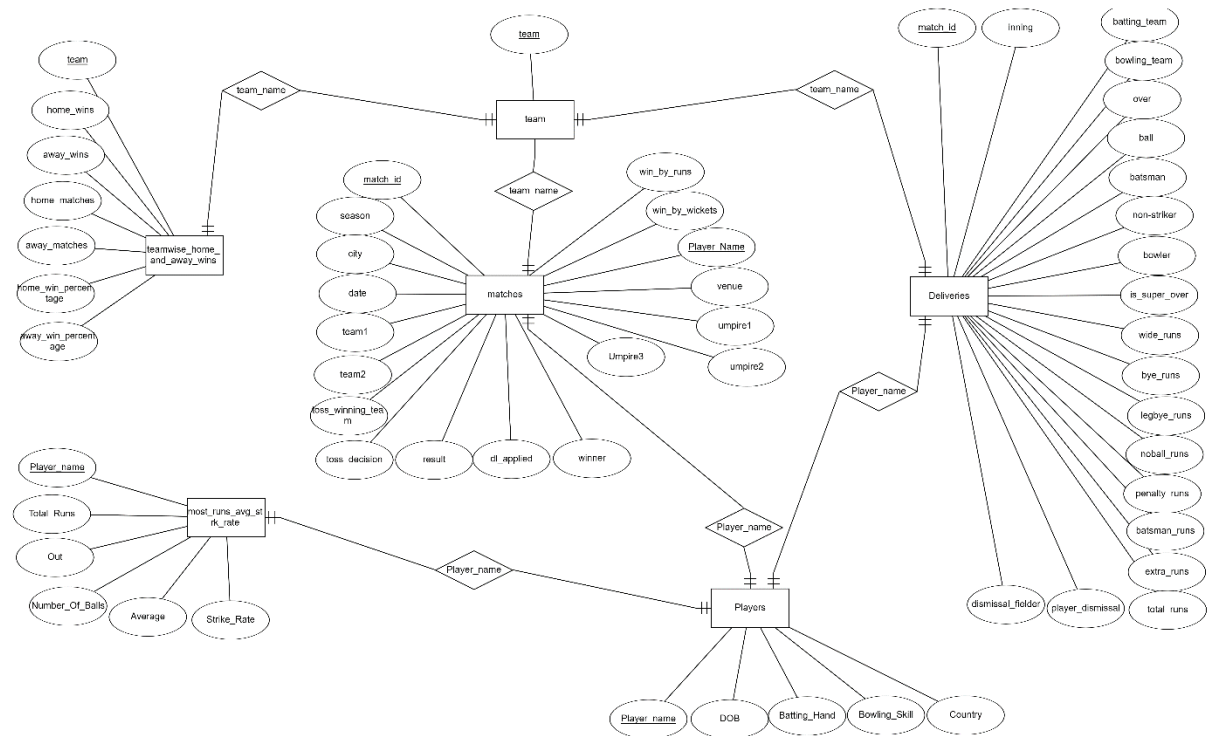
- 1) Deliveries
- 2) Matches
- 3) Most_runs_average_strikerate
- 4) Players
- 5) Teams
- 6) Teamwise_home_and_away_wins

These tables are majorly connected through these two attributes:-

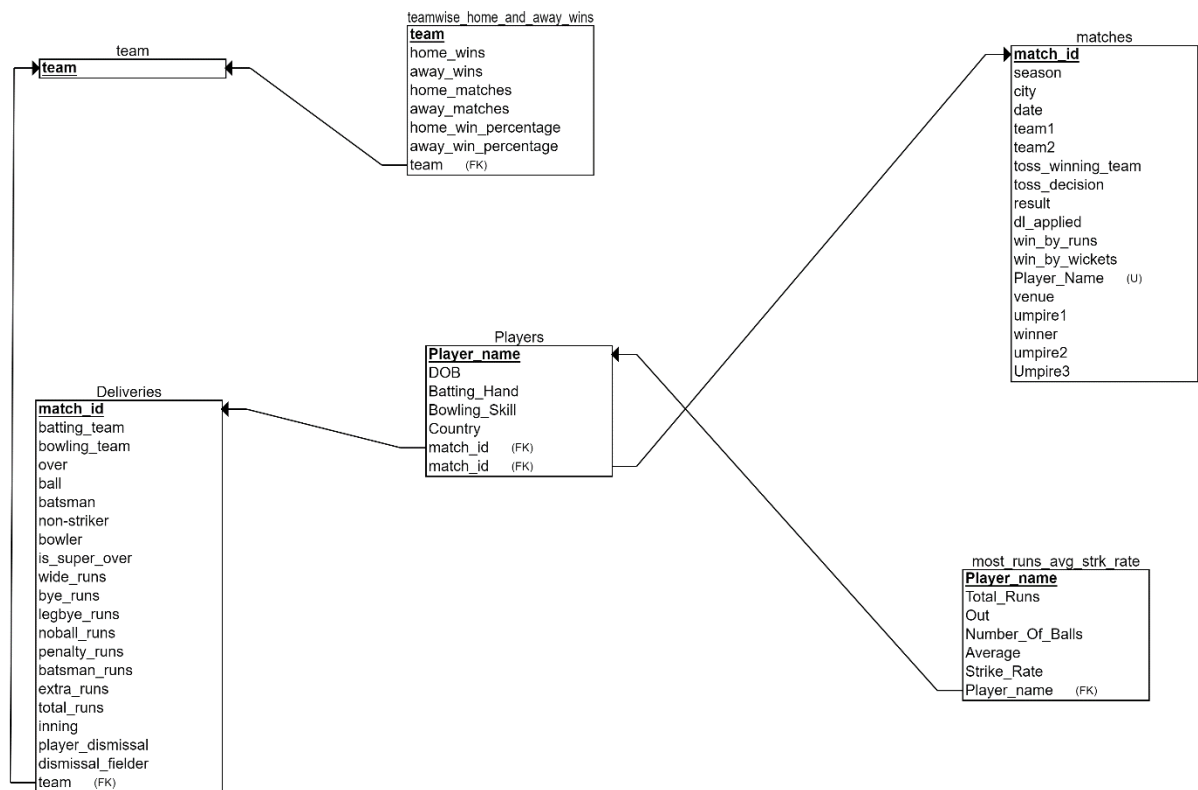
- 1) Team name
- 2) Player_name

These two attributes form unique combinations which can be used to access all the information in all the tables given above

This can be seen from the ER diagram given below: -



The relational schema for the tables is given below: -



In the relational schema, the primary keys are underlined and the Foreign keys are marked as (FK) in the tables.

The different relations can also be seen through the arrows directed from and to the connecting and connected tables.

Now, I have created all the required tables and have populated them with the requisite data.

This can be verified from the screenshots provided below: -

spr2022adb35=> \dt

List of relations			
Schema	Name	Type	Owner
sailors	boats	table	spr2022adb35
sailors	reserves	table	spr2022adb35
sailors	sailors	table	spr2022adb35
spr2022adb35	authors	table	spr2022adb35
spr2022adb35	books	table	spr2022adb35
spr2022adb35	calories	table	spr2022adb35
spr2022adb35	cities	table	spr2022adb35
spr2022adb35	city	table	spr2022adb35
spr2022adb35	country	table	spr2022adb35
spr2022adb35	deliveries	table	spr2022adb35
spr2022adb35	editions	table	spr2022adb35
spr2022adb35	genre	table	spr2022adb35
spr2022adb35	genrerel	table	spr2022adb35
spr2022adb35	matches	table	spr2022adb35
spr2022adb35	most_runs_average_strikerate	table	spr2022adb35
spr2022adb35	musicians	table	spr2022adb35
spr2022adb35	players	table	spr2022adb35
spr2022adb35	players_ip1	table	spr2022adb35
spr2022adb35	publishers	table	spr2022adb35
spr2022adb35	sports	table	spr2022adb35
spr2022adb35	teams	table	spr2022adb35
spr2022adb35	teamwise_home_and_away	table	spr2022adb35
spy	affiliation	table	spr2022adb35
spy	affiliationrel	table	spr2022adb35
spy	agent	table	spr2022adb35
spy	language	table	spr2022adb35
spy	languagerel	table	spr2022adb35
spy	mission	table	spr2022adb35
spy	securityclearance	table	spr2022adb35
spy	skill	table	spr2022adb35
spy	skillrel	table	spr2022adb35
spy	team	table	spr2022adb35
spy	teamrel	table	spr2022adb35
store	pricelist	table	spr2022adb35

(34 rows)

I have also loaded all the data into these tables which can be seen below: -

```
spr2022adb35=> select count(*) from matches;
count
-----
    756
(1 row)

spr2022adb35=> select count(*) from players_ip1;
count
-----
    566
(1 row)

spr2022adb35=> select count(*) from deliveries;
count
-----
 179078
(1 row)

spr2022adb35=> select count(*) from teams;
count
-----
     15
(1 row)
```

```
spr2022adb35=> select count(*) from teamwise_home_and_away;
count
-----
    14
(1 row)

spr2022adb35=> select count(*) from most_runs_average_strikerate;
count
-----
    516
(1 row)

spr2022adb35=>
```

Teams:-

```
spr2022adb35=> select * from teams;
team1
-----
Pune Warriors
Kolkata Knight Riders
Rajasthan Royals
Kochi Tuskers Kerala
Gujarat Lions
Chennai Super Kings
Rising Pune Supergiants
Delhi Daredevils
Deccan Chargers
Delhi Capitals
Mumbai Indians
Sunrisers Hyderabad
Rising Pune Supergiant
Royal Challengers Bangalore
Kings XI Punjab
(15 rows)
```

Matches:-

```
OpenSSH SSH client
id | season | city | date | win_by_runs | win_by_wickets | player_of_match | team1 | venue | team2 | toss_winner | umpire1 | umpire2 | umpire3 | toss_decision | result | dl_applied | winner
-----
1 | IPL-2017 | Hyderabad | 05-04-2017 | 35 | 0 | Yuvraj Singh | Sunrisers Hyderabad | Rajiv Gandhi International Stadium, Uppal | Royal Challengers Bangalore | field | AV Dandekar | NJ Llong | field | normal | 0 | Sunrisers Hyderabad
2 | IPL-2017 | Pune | 06-04-2017 | 0 | 7 | SPD Smith | Mumbai Indians | Rising Pune Supergiant | Rising Pune Supergiant | field | A Nand Kishore | S Ravi | field | normal | 0 | Rising Pune Supergia
3 | IPL-2017 | Rajkot | 07-04-2017 | 0 | 10 | CA Lynn | Gujarat Lions | Saurashtra Cricket Association Stadium | Kolkata Knight Riders | field | Nitin Menon | CK Nandan | field | normal | 0 | Kolkata Knight Rider
4 | IPL-2017 | Indore | 08-04-2017 | 0 | 6 | CJ Maxwell | Rising Pune Supergiant | Holkar Cricket Stadium | Kings XI Punjab | field | AK Chaudhary | C Shamshuddin | field | normal | 0 | Kings XI Punjab
5 | IPL-2017 | Bangalore | 08-04-2017 | 15 | 0 | KM Jadhav | Royal Challengers Bangalore | Delhi Daredevils | Royal Challengers Bangalore | bat | normal | 0 | Royal Challengers Ba
6 | IPL-2017 | Hyderabad | 09-04-2017 | 0 | 9 | Rashid Khan | Sunrisers Hyderabad | Sunrisers Hyderabad | field | A Deshmukh | NJ Llong | field | normal | 0 | Sunrisers Hyderabad
7 | IPL-2017 | Mumbai | 09-04-2017 | 0 | 4 | N Rana | Kolkata Knight Riders | Mumbai Indians | Mumbai Indians | field | Nitin Menon | CK Nandan | field | normal | 0 | Mumbai Indians
8 | IPL-2017 | Indore | 10-04-2017 | 0 | 8 | AR Patel | Royal Challengers Bangalore | Kings XI Punjab | Royal Challengers Bangalore | bat | normal | 0 | Kings XI Punjab
9 | IPL-2017 | Pune | 11-04-2017 | 97 | 0 | SV Samson | Delhi Daredevils | Holkar Cricket Stadium | Rising Pune Supergiant | field | AK Chaudhary | C Shamshuddin | field | normal | 0 | Delhi Daredevils
10 | IPL-2017 | Mumbai | 12-04-2017 | 0 | 4 | JJ Bumrah | Sunrisers Hyderabad | Mumbai Indians | Mumbai Indians | field | AV Dandekar | S Ravi | field | normal | 0 | Mumbai Indians
(10 rows)
```

Most_runs_average_strikerate: -

```
OpenSSH SSH client
spr2022adb35=> select * from most_runs_average_strikerate limit 10;
batsman | total_runs | out | numberofballs | average | strikerate
-----
V Kohli | 5426 | 152 | 4111 | 35.69736842105263 | 131.98735100948676
SK Raina | 5386 | 160 | 3916 | 33.6625 | 137.53830439223697
RG Sharma | 4902 | 161 | 3742 | 30.4472049689441 | 130.99946552645645
DA Warner | 4717 | 114 | 3292 | 41.37719298245614 | 143.28675577156744
S Dhawan | 4601 | 137 | 3665 | 33.583941605839414 | 125.53888130968622
CH Gayle | 4525 | 110 | 2972 | 41.13636363636363 | 152.2543741588156
MS Dhoni | 4450 | 118 | 3206 | 37.71186440677966 | 138.80224578914536
RV Uthappa | 4420 | 156 | 3381 | 28.333333333333332 | 130.73055309080155
AB de Villiers | 4414 | 104 | 2902 | 42.44230769230769 | 152.10199862164023
G Gambhir | 4219 | 134 | 3400 | 31.48507462686567 | 124.08823529411765
(10 rows)

spr2022adb35=>
```

teamwise_home_and_away: -

```
spr2022adb35=> select * from teamwise_home_and_away limit 10;
```

team	home_wins	away_wins	home_matches	away_matches	home_win_percentage	away_win_matches
Rising Pune Supergiant	5	5	8	8	62.5	62.5
Mumbai Indians	58	51	101	86	57.42574257425742	59.30232558139535
Chennai Super Kings	51	49	89	75	57.30337078651685	65.33333333333333
Delhi Capitals	3	7	6	10	50	70
Sunrisers Hyderabad	30	28	63	45	47.61904761904761	62.22222222222222
Rajasthan Royals	29	46	67	80	43.28358208955223	57.49999999999999
Deccan Chargers	18	11	43	32	41.86046511627907	34.375
Kings XI Punjab	38	44	91	85	41.75824175824176	51.76470588235295
Royal Challengers Bangalore	35	49	85	95	41.17647058823529	51.578947368421055
Kolkata Knight Riders	34	58	83	95	40.963855421686745	61.05263157894737

(10 rows)

```
spr2022adb35=>
```

Deliveries: -

```
OpenSSH SSH client
```

match_id	inning	batting_team	bowling_team	over	ball	batsman	non_striker	bowler	is_super_over	wide_runs	bye_runs	legbye_runs	noball_runs
ns	penalty_runs	batsman_runs	extra_runs	total_runs	player_dismissed	dismissal_kind	fielder						
0	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	1	DA Warner	S Dhawan	TS Mills	0	0	0	0
0	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	2	DA Warner	S Dhawan	TS Mills	0	0	0	0
0	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	3	DA Warner	S Dhawan	TS Mills	0	0	0	0
0	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	4	DA Warner	S Dhawan	TS Mills	0	0	0	0
0	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	5	DA Warner	S Dhawan	TS Mills	0	2	0	0
0	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	6	S Dhawan	DA Warner	TS Mills	0	0	0	0
0	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	7	S Dhawan	DA Warner	TS Mills	0	0	0	1
0	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	2	1	S Dhawan	DA Warner	A Choudhary	0	0	0	0
0	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	2	2	DA Warner	S Dhawan	A Choudhary	0	0	0	0
1	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	2	3	DA Warner	S Dhawan	A Choudhary	0	0	0	0

(10 rows)

Players: -

```
OpenSSH SSH client
```

```
spr2022adb35=> select * from players_ipl limit 10;
```

player_name	dob	batting_hand	bowling_skill	country
A Ashish Reddy	24-Feb-91	Right_Hand	Right-arm medium	India
A Chandila	05-Dec-83	Right_Hand	Right-arm offbreak	India
A Chopra	19-Sep-77	Right_Hand	Right-arm offbreak	India
A Choudhary		Right_hand	Left-arm fast-medium	
A Dananjaya		Right_Hand	Right-arm offbreak	
A Flintoff	06-Dec-77	Right_Hand	Right-arm fast-medium	England
A Hales		Right_hand		
A Joseph		Right_Hand	Right-arm fast	
A Kumble	17-Oct-70	Right_Hand	Legbreak googly	India
A Mishra	24-Nov-82	Right_Hand	Legbreak	India

(10 rows)