

# SQL PROJECT

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*IPL DATA ANALYSIS*

# PROJECT OVERVIEW

## Objective:

To analyze IPL data and derive meaningful insights.

Each database contains a specific table with detailed records of batting performance , bowling statistics , match outcomes , and player profiles .

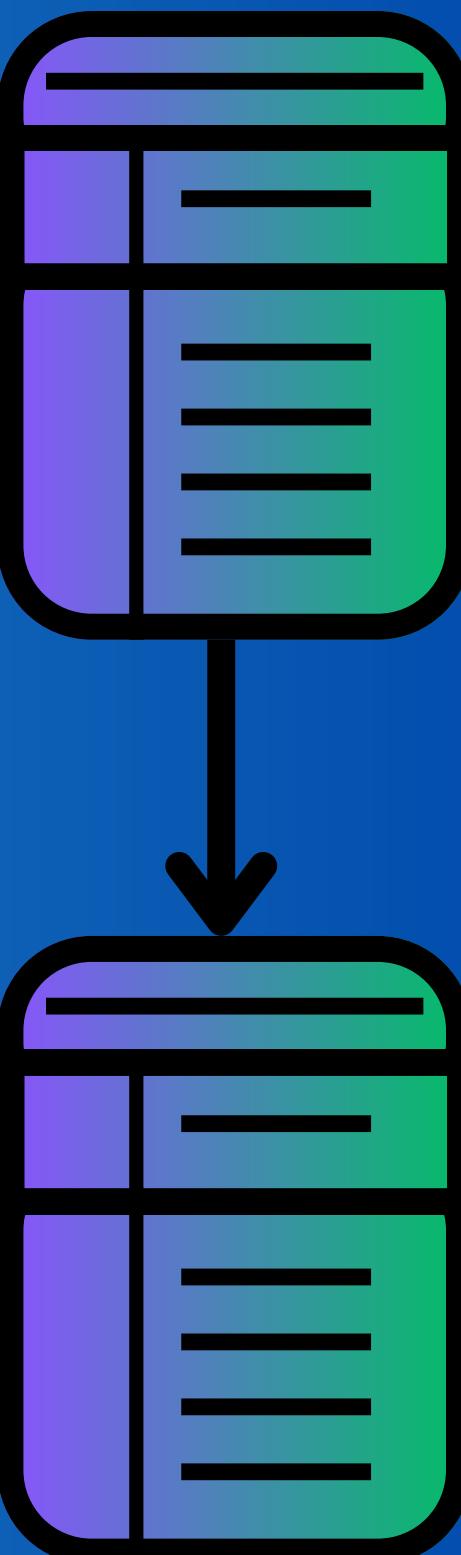
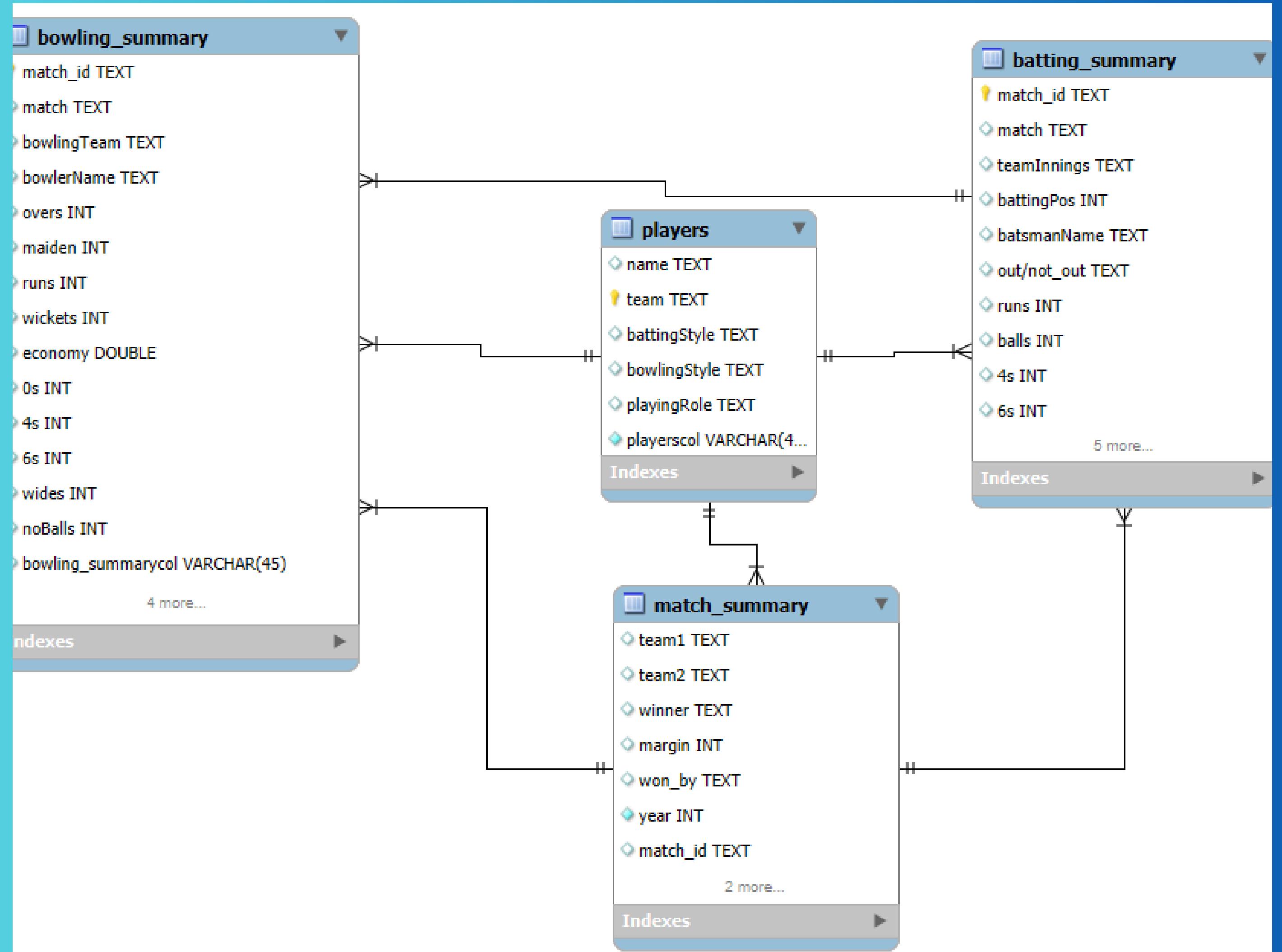


# **DATABASE STRUCTURE**

- **Batting Summary : Details of batsmen performances**
- **Bowling summary : Details of bowlers performances**
- **Match summary : Summary of matches including winners and margins**
- **Players : Information on players including their roles**



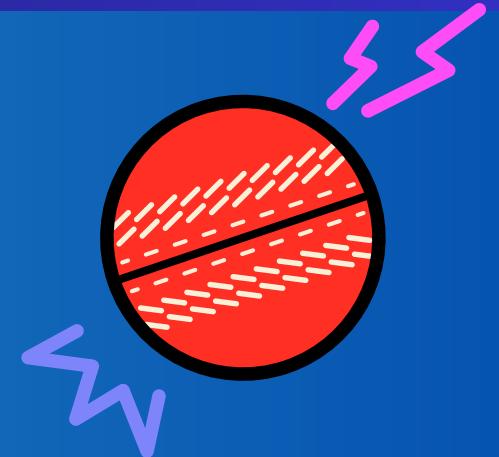
# ER DIAGRAM



# The List of Questions That Are Analyzed

## BASIC

1. List all unique players in the tournament?
2. List all teams that participated in the IPL?
3. Find the top 3 teams with the most match wins in the last three seasons?
4. Find the number of sixes hit by each batsman?
5. Find the top 5 bowlers with the most wickets?



## MODERATE

1. Retrieve the top 5 batsmen with the highest strike rates?
2. List all matches where the winner margin was more than 50 runs?
3. Find the top 3 players with the highest strike rate in each season?
4. Find the top 10 players who have both batting and bowling records in the dataset?
5. Find the number of matches each team has won?

## HARD

1. Player with Most Ducks (0 Runs) in the Last 3 Seasons?
2. Team with Highest Win Percentage?
3. Find the Player with the Highest Contribution in a Winning Cause?
4. Find the top 5 batsmen with the highest total runs across all matches?
5. Find the player with the highest strike rate who faced at least 50 balls?



# PROBLEM STATEMENT 1:

(1) List all unique players in the tournament?

**Input :**

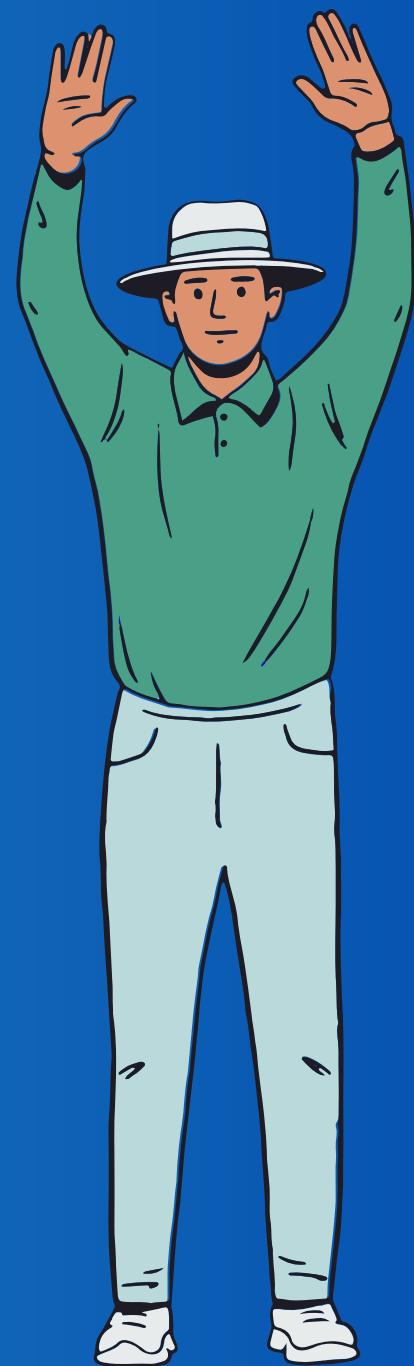
```
select distinct name from players.
```



**Output :**

	name
▶	RuturajGaikwad
	FafduPlessis
	RobinUthappa
	MoeenAli
	ShubmanGill
	VenkateshIyer
	NitishRana
	SunilNarine
	EoinMorgan
	DineshKarthik
	ShakibAlHasan
	RahulTripathi

LockieFerguson
ShivamMavi
VarunChakrav...
DeepakChahar
JoshHazlewood
ShardulThakur
DwayneBravo
RavindraJadeja
PrithviShaw
ShikharDhawan
MarcusStoinis
ShreyasIyer
RishabhPant



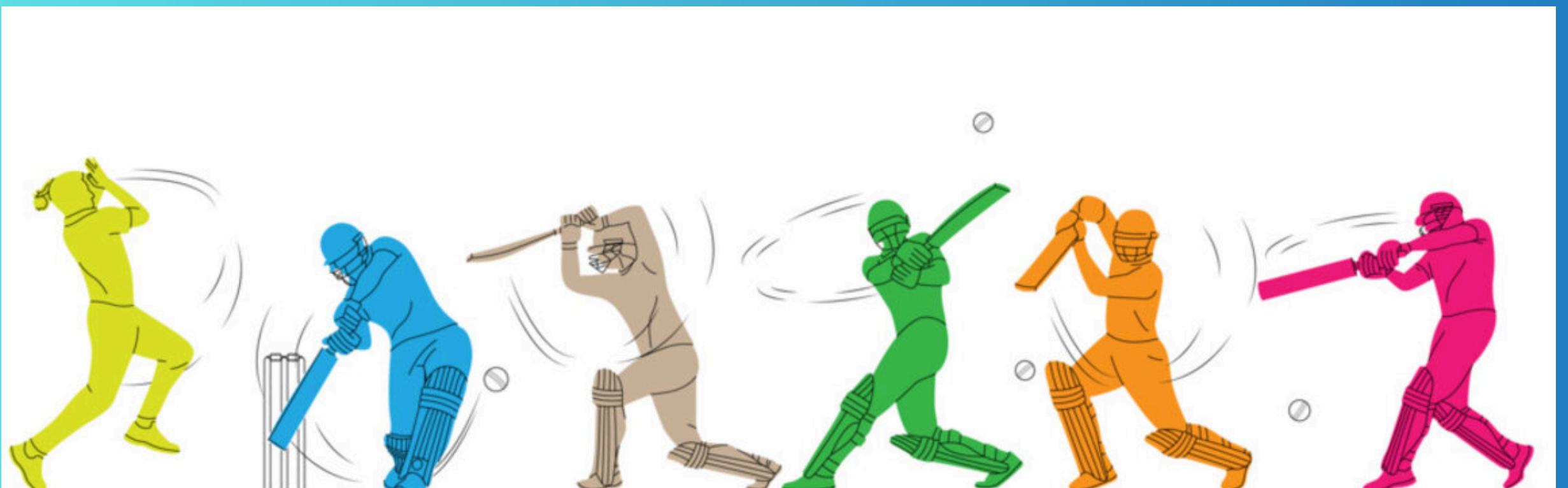
\*The remaining output is show in the given link attached in the post

# PROBLEM STATEMENT 2:

List all teams that participated in the IPL?

**Input :**

```
select distinct name from players;
```



**Output :**

team
CSK
KKR
DC
RCB
MI
SRH
RR
PK
GT
LSG



# PROBLEM STATEMENT 3 :

Find the top 3 teams with the most match wins in the last three seasons?

**Input :**

```
SELECT winner AS Team,COUNT(*) AS Matches_Won  
FROM match_summary GROUP BY winner  
ORDER BY Matches_Won DESC LIMIT 3;
```

**Output :**

	Team	Matches_Won
▶	CSK	25
	RCB	25
	GT	23



# PROBLEM STATEMENT 4 :

Find the number of sixes hit by each batsman?

Input :

```
select batsmanname , sum(6s) as sixes  
from batting_summary group by batsmanname;
```

Output :

	batsmanname	sixes
▶	RuturajGaikwad	67
	FafduPlessis	72
	RobinUthappa	19
	MoeenAli	36
	ShubmanGill	56
	VenkateshIyer	42
	NitishRana	59
	SunilNarine	12
	EoinMorgan	6
	DineshKarthik	34
	ShakibAlHasan	1
	RahulTripathi	41

LockieFerguson	1
ShivamMavi	2
PrithviShaw	28
ShikharDhawan	40
MarcusStoinis	41
ShreyasIyer	16
RishabhPant	25
ShimronHetmyer	56
AxarPatel	26
DevduttPadikkal	34
ViratKohli	33
SrikarBharat	8
GlennMaxwell	67



# PROBLEM STATEMENT 5:

Find the top 5 bowlers with the most wickets?

Input :

```
select bowlerName , sum(wickets)  
as total_wickets from bowling_summary  
group by bowlerName order by total_wickets  
desc limit 5;
```



Output :

bowlerName	total_wickets
MohammedShami	67
YuzvendraChahal	66
HarshalPatel	65
RashidKhan	62
AveshKhan	47



# PROBLEM STATEMENT 6

Retrieves the top 5 batsmen with the highest strike rates?

Input :

```
select batsmanname, avg(SR) as avg_strike_rate  
from batting_summary group by batsmanname  
order by avg_strike_rate desc limit 5;
```



Output :



batsmanname	avg_strike_rate
DavidWiese	194.4433333333336
MarkWood	191.665
JayantYadav	189.77
KrishnappaGowtham	189.01714285714283
HeinrichKlaasen	182.1727272727273

# PROBLEM STATEMENT 7:

list all matches where the winner margin was more than 50 runs?

Input :

```
select team1,team2, winner , margin  
from match_summary where won_by ='Run'  
and margin>50;
```



Output :

team1	team2	winner	margin
KKR	RR	KKR	86
RCB	MI	RCB	54
RR	SRH	RR	55
CSK	RCB	CSK	69
KKR	SRH	KKR	54
PK	RCB	PK	54
GT	LSG	GT	62
KKR	MI	KKR	52
CSK	DC	CSK	91
RCB	SRH	RCB	67
LSG	KKR	LSG	75
PK	CSK	PK	54
RR	SRH	RR	61
GT	MI	GT	62
MI	LSG	MI	81
CSK	DC	CSK	77
RCB	RR	RCB	112
GT	LSG	GT	56
LSG	PK	LSG	56
GT	MI	GT	55
RR	DC	RR	57
KKR	RCB	KKR	81
RR	SRH	RR	72

# PROBLEM STATEMENT 8:

Find the top 3 players with the highest strike rate in each season?

Input :

```
SELECT bs.batsmanname, bs.match_id,  
bs.SR, ms.year FROM batting_summary AS bs  
JOIN match_summary AS ms ON bs.match_id = ms.match_id  
ORDER BY bs.SR DESC LIMIT 3;
```



Output :

batsmanname	match_id	SR	year
KrishnappaGowtham	T208512	600	2023
DanielSams	T204259	600	2022
RavindraJadeja	T202233	600	2021

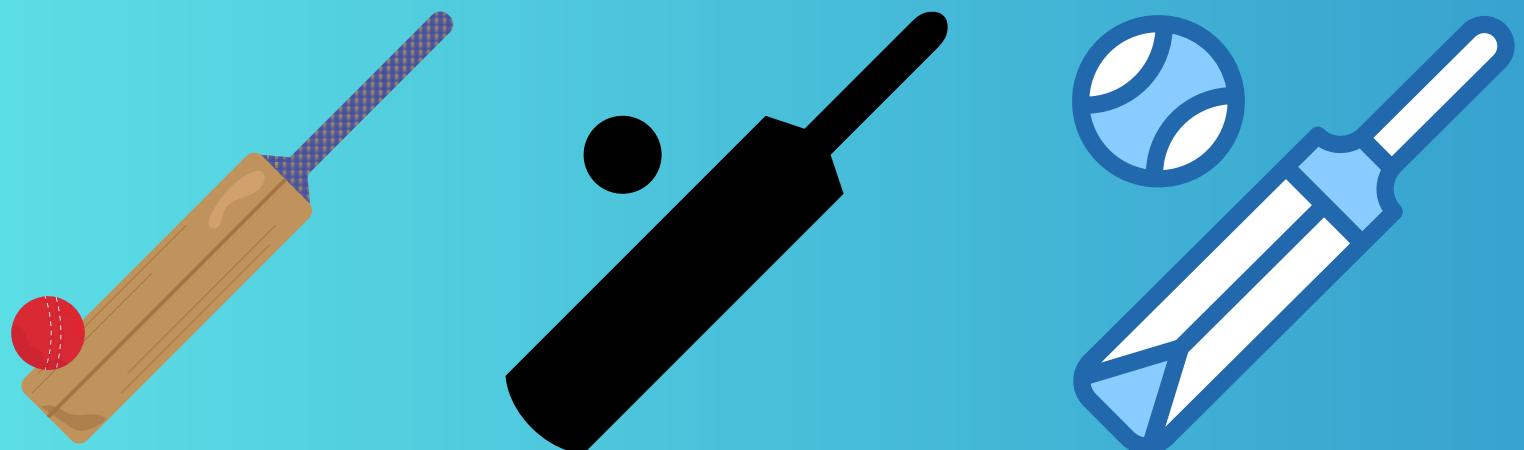


# PROBLEM STATEMENT 9:

Find the top 10 players who have both batting and bowling records in the dataset?

Input :

```
SELECT DISTINCT
    p.name
FROM
    players p
        JOIN
    batting_summary b ON p.name = b.batsmanname
        JOIN
    bowling_summary bw ON p.name = bw.bowlername
LIMIT 10;
```



Output :

name
MoeenAli
VenkateshIyer
NitishRana
SunilNarine
ShakibAlHasan
LockieFerguson
ShivamMavi
MarcusStoinis
ShreyasIyer
AxarPatel



# PROBLEM STATEMENT 10:



Find the number of matches each team has won?

Input :

```
SELECT winner, COUNT(*) AS wins  
FROM match_summary  
GROUP BY winner  
ORDER BY wins DESC;
```



Output :



	winner	wins
▶	CSK	25
	RCB	25
	GT	23
	RR	22
	KKR	21
	DC	21
	MI	20
	PK	19
	LSG	17
	SRH	13

# PROBLEM STATEMENT 11:

Player with Most Ducks (0 Runs) in the Last 3 Seasons?

Input :

```
SELECT b.batsmanname, p.team, COUNT(*) AS ducks
FROM batting_summary b
JOIN players p ON b.batsmanname = p.name
WHERE b.runs = 0 GROUP BY b.batsmanname, p.team
ORDER BY ducks DESC LIMIT 5;
```



Output :

	batsmanname	team	ducks
▶	SunilNarine	KKR	10
	RashidKhan	SRH	8
	NicholasPooran	PK	6
	DineshKarthik	KKR	6
	RahulChahar	MI	6

# PROBLEM STATEMENT 12:

Team with Highest Win Percentage?

Input :

```
SELECT m.winner AS team, COUNT(*) AS wins,  
(COUNT(*) * 100.0 / (SELECT COUNT(*))  
FROM match_summary)) AS win_percentage  
FROM match_summary m GROUP BY m.winner  
ORDER BY win_percentage DESC LIMIT 1;
```

Output :

	team	wins	win_percentage
▶	CSK	25	12.13592



# PROBLEM STATEMENT 13:

Find the Player with the Highest Contribution in a Winning Cause?

Input :

```
SELECT
    b.batsmanname, p.team, SUM(b.runs) AS total_runs_in_wins
FROM
    batting_summary b
        JOIN
    match_summary m ON b.match_id = m.match_id
        JOIN
    players p ON b.batsmanname = p.name
WHERE
    m.winner = p.team
GROUP BY b.batsmanname , p.team
ORDER BY total_runs_in_wins DESC
LIMIT 5;
```

Output :

batsmanname	team	total_runs_in_wins
RuturajGaikwad	CSK	1046
JosButtler	RR	858
ViratKohli	RCB	805
GlennMaxwell	RCB	762
YashasviJaiswal	RR	693



# PROBLEM STATEMENT 14:

Find the top 5 batsmen with the highest total runs across all matches?



Input :

```
SELECT b.batsmanname, SUM(b.runs) AS total_runs  
FROM batting_summary b GROUP BY b.batsmanname  
ORDER BY total_runs DESC LIMIT 5;
```

Output :



batsmanname	total_runs
ShubmanGill	1851
FafduPlessis	1831
RuturajGaikwad	1593
KLRahul	1516
JosButtler	1509

# PROBLEM STATEMENT 15:

Find the player with the highest strike rate who faced at least 50 balls?

Input :

```
SELECT  
    batsmanname, MAX(SR) AS highest_strike_rate  
FROM  
    batting_summary  
WHERE  
    balls >= 50  
GROUP BY batsmanname  
ORDER BY highest_strike_rate DESC  
LIMIT 3;
```

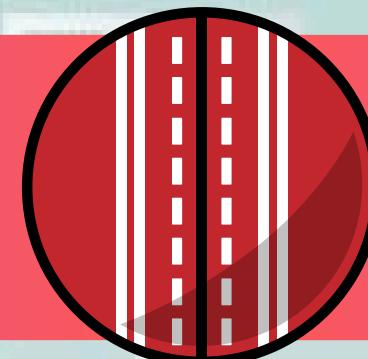
Output :

batsmanname	highest_strike_rate
ShubmanGill	215
RajatPatidar	207.4
HeinrichKlaasen	203.92





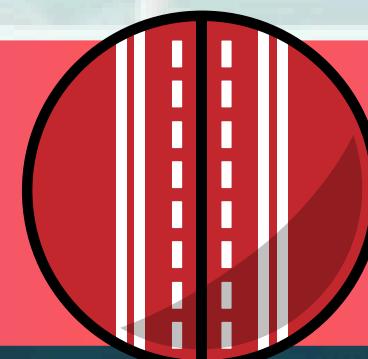
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