



AUCTION

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FINAL SQL PROJECT
INTERNSHALA

Motive

Developing auction strategy for new IPL franchise by analyzing past IPL data to create a strong and balanced squad.

Background story

Indian Premier League (IPL) is a professional Twenty20 cricket league in India contested during March or April and May of every year by eight teams representing eight different cities or states in India. The league was founded by the Board of Control for Cricket in India (BCCI) in 2007.

The IPL is the most-attended cricket league in the world and in 2014 ranked sixth by average attendance among all sports leagues. In 2010, the IPL became the first sporting event in the world to be broadcast live on YouTube. The brand value of IPL in 2020 was estimated to be around ₹475 billion (US\$6.7 billion), according to Duff & Phelps.

The IPL tournament involves each team playing every other team twice in a home-and-away, double round-robin format. At the conclusion of the double round-robin league, on the basis of aggregate points, the top four teams qualify for the playoffs. In this stage, the top two teams compete with each other (in a match titled "Qualifier 1"), as do the remaining two teams (in a match titled "Eliminator"). While the winner of Qualifier 1 directly qualifies for the final match, the losing team gets another chance to qualify for the final match by playing the winning team of the Eliminator match; this match is titled Qualifier 2. The winner of this subsequent Qualifier 2 match moves onto the final match. The team that wins the final match is crowned the Indian Premier League champion.

Altogether, thirteen teams have played in the past ten seasons of the IPL tournament.] Of these, five teams are no longer a part of the tournament. In 2011, BCCI terminated the franchise of Kochi Tuskers Kerala for contractual breach. Similarly, BCCI terminated the franchise of Deccan Chargers in 2012 for backing off from its commitments. In 2013, Pune Warriors India exited IPL after it had a franchise valuation disagreement with BCCI. Chennai Super Kings and Rajasthan Royals were suspended in 2015 & 2016 following a betting controversy. However, in July 2017, BCCI announced that both Chennai Super Kings and Rajasthan Royals would be allowed back into the IPL competition from the 2018 season. The tournament featured eight teams for the 2020 season, including Delhi Capitals, Punjab Kings, Kolkata Knight Riders, Royal Challengers Bangalore, Rajasthan Royals, Chennai Super Kings, Sunrisers Hyderabad and Mumbai Indians. Mumbai Indians have won five titles. Chennai Super Kings have won four titles and Kolkata Knight Riders have won two titles, Sunrisers Hyderabad, Gujarat Titans and Rajasthan Royals, apart from former team Deccan Chargers, are the other teams to have won the tournament title.

In a coming season a new team is being added to the Indian Premier League (IPL) and a mega auction is being held to build the team's squad, there are a few factors that the team's management and auction strategy would likely consider:

- 1. Budget:** The team would need to allocate a budget for the auction and decide how much money to spend on each player.
- 2. Team needs:** The team would need to identify the positions and types of players they need to fill out their squad and target those players in the auction.
- 3. Player availability:** The team would need to assess the availability of players, including their current contracts with other teams and their international commitments.
- 4. Player form:** The team would need to consider the recent form and performances of the players they are targeting.

CREATE IPL BALL Table

```
Create table IPL_Ball (  
id int ,  
inning int,  
over int,  
ball int,  
batsman varchar,  
non_striker varchar,  
bowler varchar,  
batsman_runs int,  
extra_runs int,  
total_runs int,  
is_wicket int,  
dismissal_kind varchar,  
player_dismissed varchar,  
fielder varchar,  
extras_type varchar,  
batting_team varchar,  
bowling_team varchar);
```

CREATE IPL MATCHES Table

```
Create table IPL_matches (  
id int primary key,  
city varchar,  
date date,  
player_of_match varchar,  
venue varchar,  
neutral_venue int,  
team1 varchar,  
team2 varchar,  
toss_winner varchar,  
toss_decision varchar,  
winner varchar,  
result varchar,  
result_margin int,  
eliminator varchar,  
method varchar,  
umpire1 varchar,  
umpire2 varchar);
```


COPY DATA from IPL_Ball Dataset

```
copy IPL_Ball from 'C:\Program Files\PostgreSQL\16\data\IPL_Dataset\IPL_Ball.csv' csv header;
```

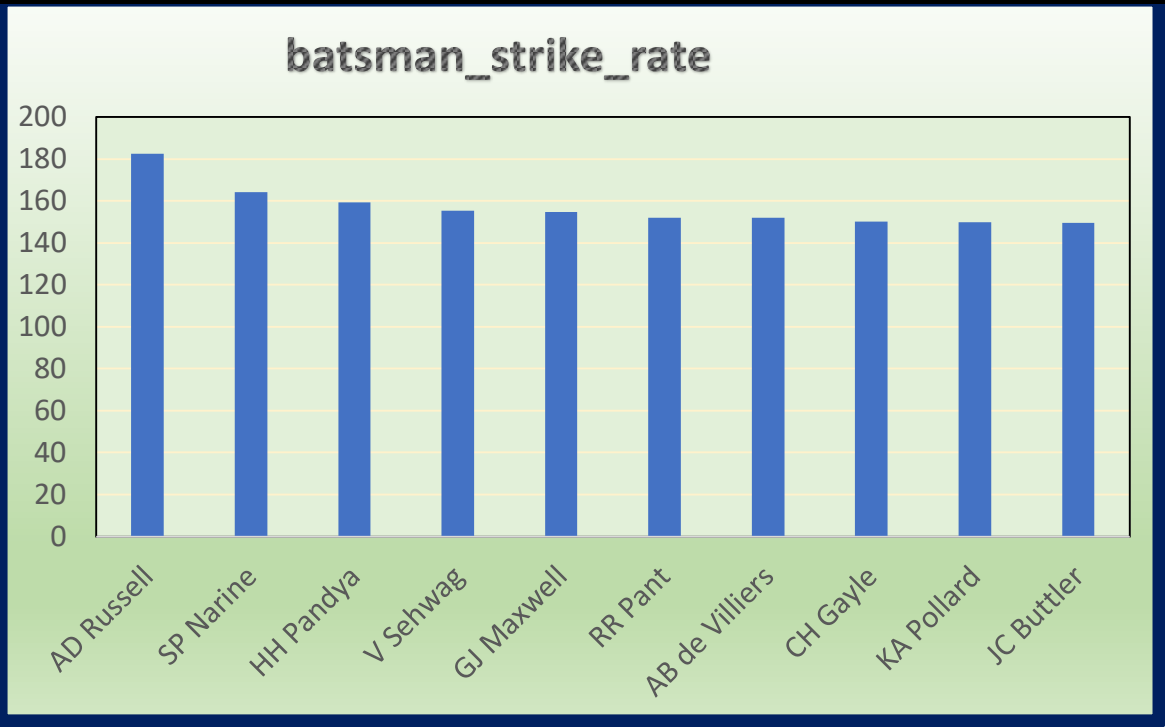
COPY DATA from IPL_matches Dataset

```
copy IPL_matches from 'C:\Program Files\PostgreSQL\16\data\IPL_Dataset\IPL_matches.csv' csv header;
```

List of 10 Players with high S.R(Strike Rate) who have faced at least 500 balls.

batsman	batsman_strike_rate
AD Russell	182.33
SP Narine	164.27
HH Pandya	159.27
V Sehwag	155.44
GJ Maxwell	154.68
RR Pant	151.97
AB de Villiers	151.91
CH Gayle	150.11
KA Pollard	149.88
JC Buttler	149.56

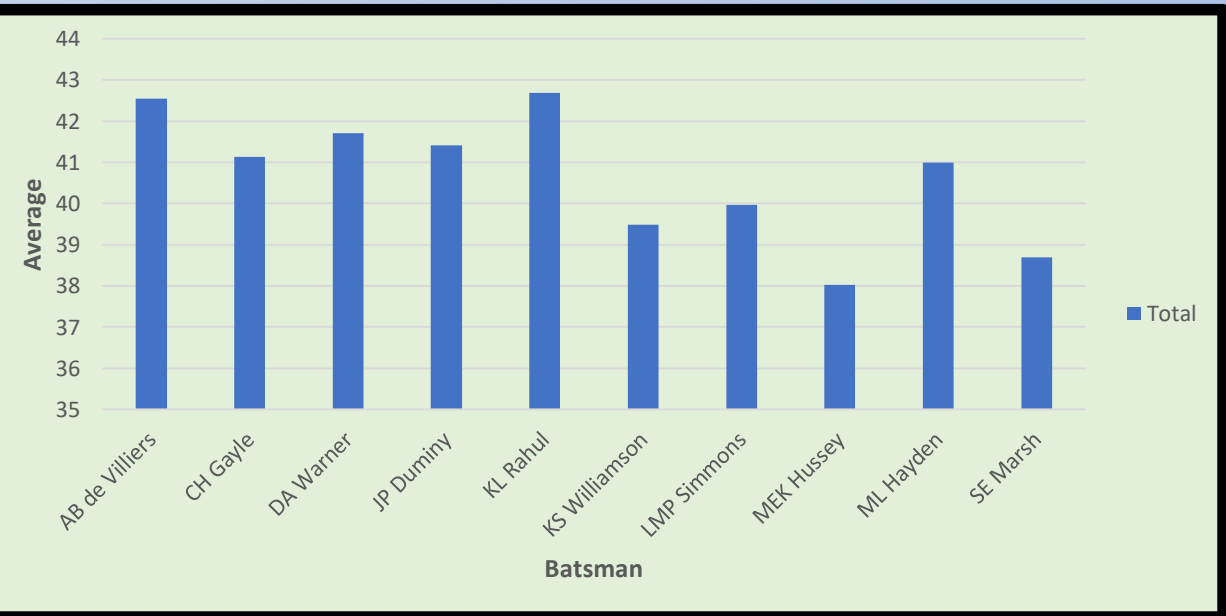
```
select batsman,
round(sum(batsman_runs)*1.0/count(ball)*100,2) as batsman_strike_rate
from ipl_ball
where extras_type not in ('wides')
group by batsman
having count(ball)>500
order by batsman_strike_rate desc
limit 10;
```



List of 10 players with good Average who have played more than 2 ipl seasons

batsman	runs	average
KL Rahul	2647	42.69
AB de Villiers	4849	42.54
DA Warner	5254	41.7
JP Duminy	2029	41.41
CH Gayle	4772	41.14
ML Hayden	1107	41
LMP Simmons	1079	39.96
KS Williamson	1619	39.49
SE Marsh	2477	38.7
MEK Hussey	1977	38.02

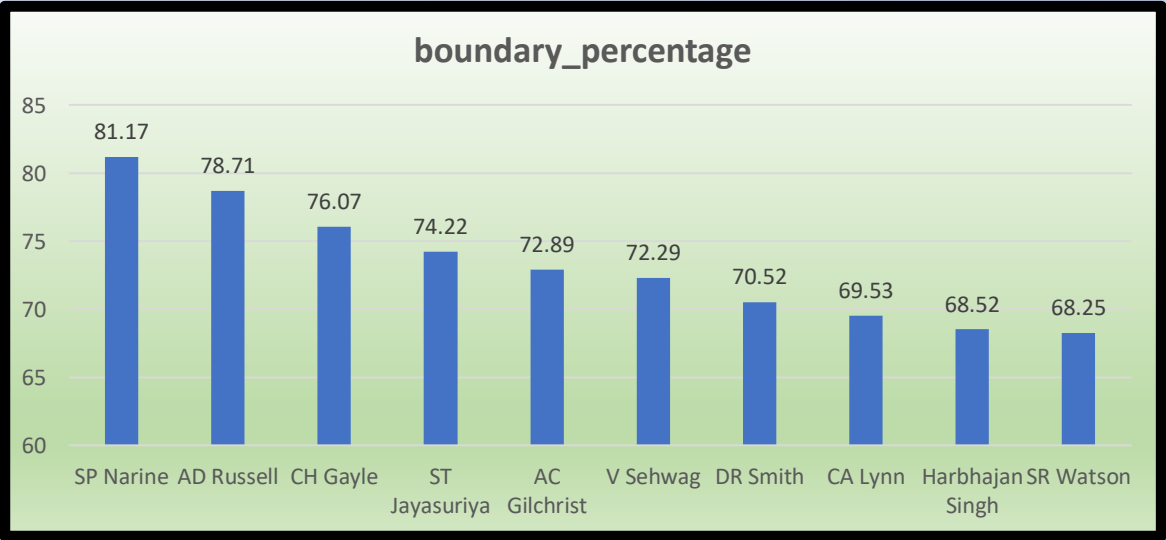
```
select batsman,
sum(batsman_runs) as runs,
round(sum(batsman_runs)*1.0/sum(is_wicket),2) as average
from ipl_ball
group by batsman
having sum(is_wicket)>0 and count(distinct id)>28
order by average desc
limit 10;
```



List of 10 Hard-hitting players who have scored most runs in boundaries and have played more the 2 ipl season.

batsman	boundary_percentage
SP Narine	81.17
AD Russell	78.71
CH Gayle	76.07
ST Jayasuriya	74.22
AC Gilchrist	72.89
V Sehwag	72.29
DR Smith	70.52
CA Lynn	69.53
Harbhajan Singh	68.52
SR Watson	68.25

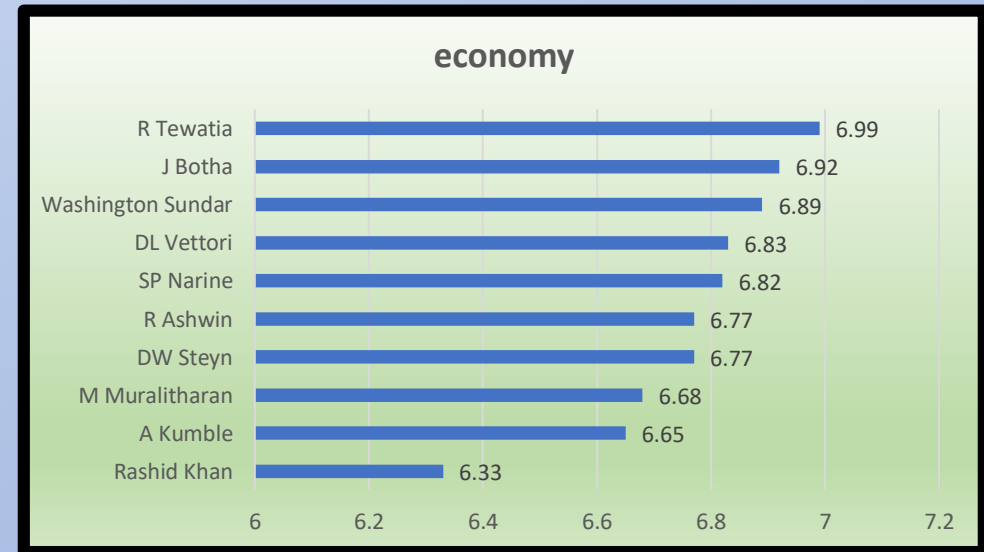
```
select batsman,
round(sum(case when batsman_runs in
(4,6) then batsman_runs
else 0 end)*1.0/
sum(batsman_runs)*100,2)as
boundary_percentage
from ipl_ball
where extras_type not in ('wides')
group by batsman
having count(distinct id)>28
order by boundary_percentage desc
limit 10;
```



List of 10 bowlers with good economy who have bowled at least 500 balls in IPL so far

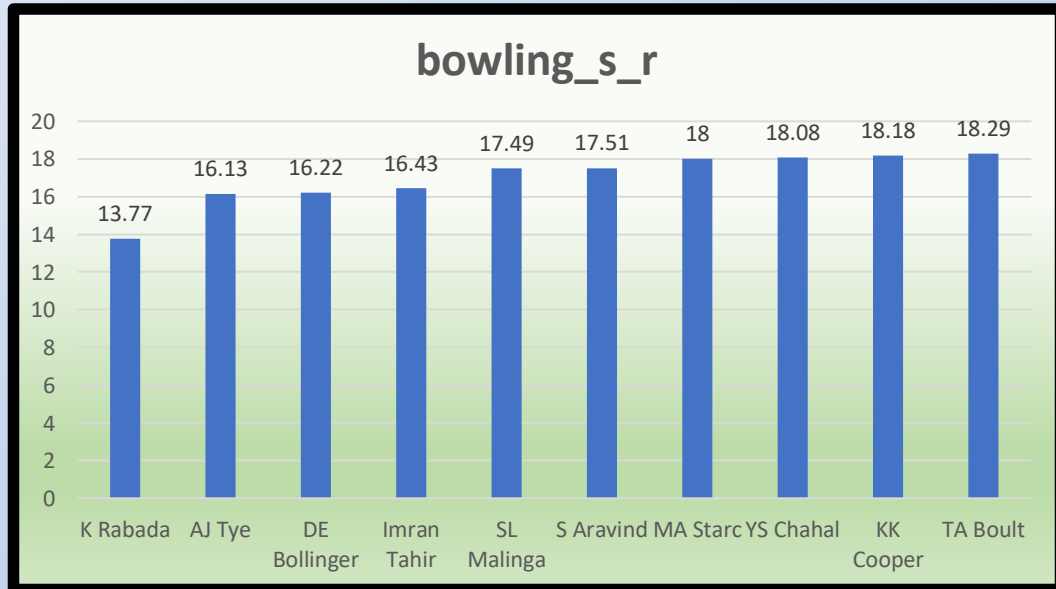
bowler	economy
Rashid Khan	6.33
A Kumble	6.65
M Muralitharan	6.68
DW Steyn	6.77
R Ashwin	6.77
SP Narine	6.82
DL Vettori	6.83
Washington Sundar	6.89
J Botha	6.92
R Tewatia	6.99

```
select bowler,
Round(sum(total_runs)/(count(over)/6.0), 2) as economy
from ipl_ball
group by bowler
having count(bowler) > 500
order by economy
limit 10;
```



List of 10 bowlers with the best strike rate and who have bowled at least 500 balls in IPL so far.

bowler	bowling_s_r
K Rabada	13.77
AJ Tye	16.13
DE Bollinger	16.22
Imran Tahir	16.43
SL Malinga	17.49
S Aravind	17.51
MA Starc	18
YS Chahal	18.08
KK Cooper	18.18
TA Boult	18.29



```
with ValidDismissals as (  
  select bowler,is_wicket,  
  case  
    when dismissal_kind in ('bowled', 'caught', 'caught  
and bowled', 'hit wicket', 'lbw', 'stumped')  
    then 1  
    else 0  
  end as is_valid_dismissal  
from ipl_ball  
)  
SELECT bowler,  
round(count(bowler) * 1.0 /  
sum(is_valid_dismissal),2) as bowling_s_r  
from ValidDismissals  
group by bowler  
having count(bowler) > 500  
order by bowling_s_r  
limit 10;
```

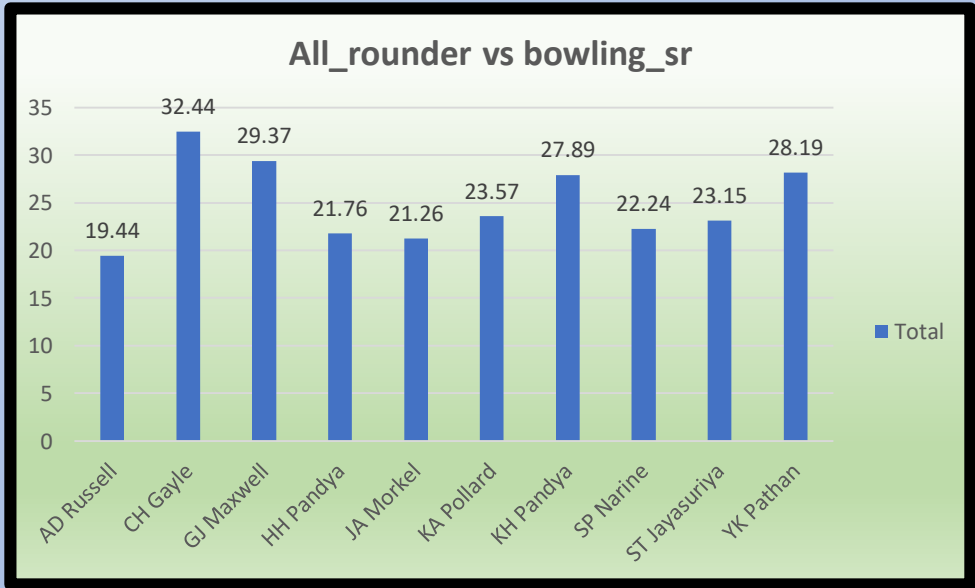
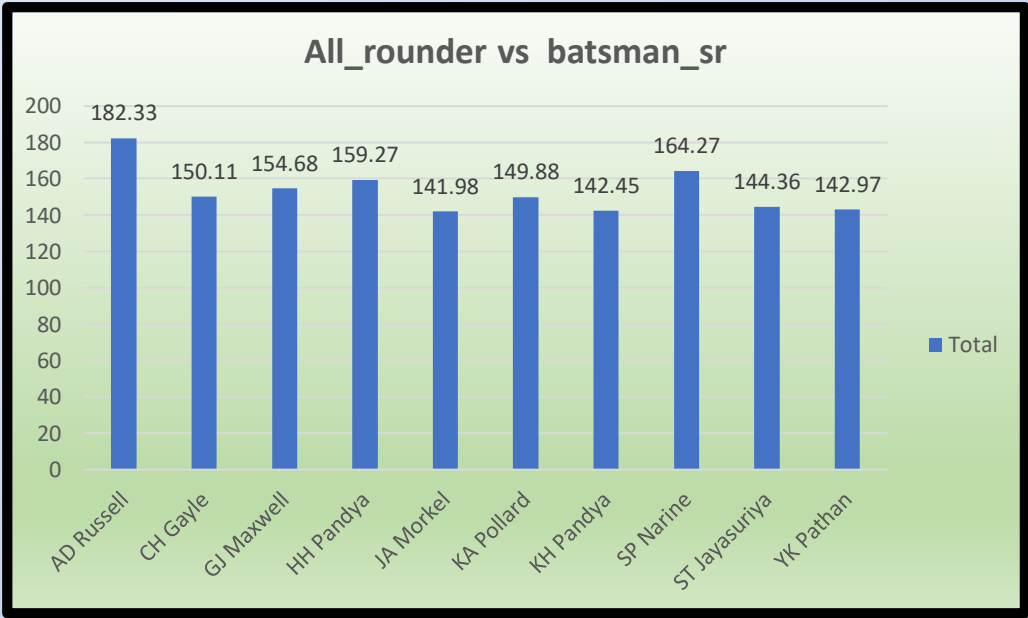
List of 10 All-rounders with the best batting as well as bowling strike rate and who have faced at least 500 balls in IPL so far and have bowled minimum 300 balls.

```
--BATTING STRIKE RATE table
create table batting_sr as (SELECT
batsman,
ROUND((SUM(batsman_runs)*1.0 / COUNT(ball)) *
100,2) AS batsman_sr
FROM ipl_ball
WHERE
extras_type not in ('wides')
GROUP BY
batsman
HAVING
COUNT(ball) > 500
ORDER BY
batsman_sr DESC);
```

```
--BOWLING STRIKE RATE table
create table bowling_sr as (WITH ValidDismissals AS (
SELECT
    bowler,
    is_wicket,
    CASE
        WHEN dismissal_kind IN ('bowled', 'caught', 'caught and bowled', 'hit wicket', 'lbw', 'stumped')
        THEN 1
        ELSE 0
    END AS is_valid_dismissal
FROM ipl_ball
)
SELECT
    bowler,
    ROUND(COUNT(bowler) * 1.0 / SUM(is_valid_dismissal),2) AS bowling_sr
FROM
    ValidDismissals
GROUP BY
    bowler
HAVING
    COUNT(bowler) >300
ORDER BY
    bowling_sr);
```

all_rounder	batsman_sr	bowling_sr
AD Russell	182.33	19.44
SP Narine	164.27	22.24
HH Pandya	159.27	21.76
GJ Maxwell	154.68	29.37
CH Gayle	150.11	32.44
KA Pollard	149.88	23.57
ST Jayasuriya	144.36	23.15
YK Pathan	142.97	28.19
KH Pandya	142.45	27.89
JA Morkel	141.98	21.26

```
--ALL rounder QUERY
SELECT
a.batsman AS all_rounder,
a.batsman_sr,
b.bowling_sr
FROM batting_sr a
INNER JOIN
bowling_sr b ON a.batsman = b.bowler
ORDER BY
a.batsman_sr DESC,
b.bowling_sr ASC
LIMIT 10;
```



Criteria best suited for a wicketkeeper required in IPL.

Batting Impact: The wicketkeeper should possess aggressive batting skills, capable of scoring quick runs and hitting boundaries consistently to contribute significantly to the team's run total.

Fielding Proficiency: Strong defensive skills are essential, including clean catching, sharp reflexes, and accurate stumpings, as the wicketkeeper plays a pivotal role in dismissing batsmen and preventing runs.

Versatility: The wicketkeeper should be adaptable to various match situations and batting positions, with the ability to adjust their game accordingly to support the team's needs effectively.

Leadership and Communication: A wicketkeeper who can lead the fielding unit effectively, provide guidance to bowlers and fielders, and maintain clear communication on the field is valuable for team coordination and strategy execution.

Experience and T20 Credentials: Prioritize wicketkeepers with significant T20 experience, particularly those who have demonstrated success in high-pressure situations, ensuring they can perform consistently throughout the tournament.

Fitness and Durability: Physical fitness and resilience are crucial for a wicketkeeper, as they need to maintain peak performance levels throughout the tournament and withstand the demands of the fast-paced T20 format.

Consistency: Look for wicketkeepers with a proven track record of consistent performances, both with the bat and behind the stumps, ensuring stability and reliability in crucial moments of the game.

Additional Questions

1. Get the count of cities that have hosted an IPL match

```
select count(distinct city) as city_counts  
from ipl_matches;
```

city_counts
33

2.Create table *deliveries_v02* with all the columns of the table '*deliveries*' and an additional column *ball_result* containing values *boundary*, *dot* or *other* depending on the *total_run* (boundary for ≥ 4 , dot for 0 and other for any other number)

```
create table deliveries_v02 as
select *,
       case
         when total_runs >= 4 then 'boundary'
         when total_runs = 0 then 'dot'
         else 'other'
       end as ball_result
from ipl_ball;

select * from deliveries_v02;
```

3-Write a query to fetch the total number of boundaries and dot balls from the *deliveries_v02* table.

```
select ball_result, count(*) from deliveries_v02 group by ball_result;
```

ball_result	count
boundary	31468
dot	67841
other	94159

4-Write a query to fetch the total number of boundaries scored by each team from the *deliveries_v02* table and order it in descending order of the number of boundaries scored.

```
select batting_team, count(ball_result)
as total_boundaries
from deliveries_v02
where ball_result = 'boundary'
group by batting_team
order by total_boundaries desc;
```

batting_team	total_boundaries
Mumbai Indians	4118
Royal Challengers Bangalore	3800
Kings XI Punjab	3780
Kolkata Knight Riders	3739
Chennai Super Kings	3496
Rajasthan Royals	3041
Delhi Daredevils	3022
Sunrisers Hyderabad	2306
Deccan Chargers	1387
Pune Warriors	733
Delhi Capitals	659
Gujarat Lions	624
Rising Pune Supergiant	290
Rising Pune Supergiants	242
Kochi Tuskers Kerala	231

5-Write a query to fetch the total number of dot balls bowled by each team and order it in descending order of the total number of dot balls bowled.

```
select batting_team,
count(ball_result) as
dot_ball_count from
deliveries_v02
where ball_result = 'dot'
group by batting_team
order by dot_ball_count desc;
```

batting_team	dot_ball_count
Mumbai Indians	8756
Kolkata Knight Riders	8017
Royal Challengers Bangalore	7988
Kings XI Punjab	7858
Chennai Super Kings	7389
Rajasthan Royals	6762
Delhi Daredevils	6592
Sunrisers Hyderabad	4944
Deccan Chargers	3227
Pune Warriors	2099
Delhi Capitals	1324
Gujarat Lions	1153
Rising Pune Supergiant	616
Kochi Tuskers Kerala	595
Rising Pune Supergiants	521

6-Write a query to fetch the total number of dismissals by dismissal kinds where dismissal kind is not NA

```
select count(dismissal_kind) as  
total_dismissals_not_NA  
from deliveries_v02  
where not dismissal_kind = 'NA';
```

total_dismissals_not_na
9495

7-Write a query to get the top 5 bowlers who conceded maximum extra runs from the *deliveries* table

```
select bowler,  
sum(extra_runs) as  
conceded_runs from  
deliveries_v02  
group by bowler  
order by conceded_runs  
desc  
limit 5;
```

bowler	conceded_runs
SL Malinga	293
P Kumar	236
UT Yadav	226
DJ Bravo	210
B Kumar	201

8-Write a query to create a table named *deliveries_v03* with all the columns of *deliveries_v02* table and two additional column (named *venue* and *match_date*) of *venue* and *date* from table *matches*

```
create table deliveries_v03 as
select a.*, b.venue, b.match_date
from deliveries_v02 as a
left join
(select max(venue) as venue,
max(date) as match_date,
    id from ipl_matches group by id) as b
on a.id = b.id;

select * from deliveries_v03;
```

9-Write a query to fetch the total runs scored for each venue and order it in the descending order of total runs scored.

```
select venue,  
sum(total_runs) as  
total_runs  
from deliveries_v03  
group by venue  
order by total_runs desc;
```

venue	total_runs
Eden Gardens	23658
Wankhede Stadium	23390
Feroz Shah Kotla	22947
M Chinnaswamy Stadium	20237
Rajiv Gandhi International Stadium, Uppal	19484
MA Chidambaram Stadium, Chepauk	17821
Sawai Mansingh Stadium	14264
Punjab Cricket Association Stadium, Mohali	10987
Dubai International Cricket Stadium	10402
Sheikh Zayed Stadium	8830
Punjab Cricket Association IS Bindra Stadium, Mohali	7021
Maharashtra Cricket Association Stadium	6780
Sharjah Cricket Stadium	5924
M.Chinnaswamy Stadium	5127
Dr DY Patil Sports Academy	4810
Subrata Roy Sahara Stadium	4755
Kingsmead	4353
Brabourne Stadium	3842
Dr. Y.S. Rajasekhara Reddy ACA-VDCA Cricket Stadium	3746
Sardar Patel Stadium, Motera	3746
SuperSport Park	3653
Saurashtra Cricket Association Stadium	3316
Himachal Pradesh Cricket Association Stadium	2897
Holkar Cricket Stadium	2872
New Wanderers Stadium	2292
Barabati Stadium	2278
JSCA International Stadium Complex	2056
St George's Park	2033
Newlands	1764
Shaheed Veer Narayan Singh International Stadium	1741
Nehru Stadium	1363
Green Park	1298
De Beers Diamond Oval	897
Vidarbha Cricket Association Stadium, Jamtha	882
Buffalo Park	799
OUTsurance Oval	529

10-Write a query to fetch the year-wise total runs scored at *Eden Gardens* and order it in the descending order of total runs scored.

```
select extract (year from match_date) as IPL_year,  
sum(total_runs) as edengarden_scores  
from deliveries_v03  
where venue = 'Eden Gardens'  
group by IPL_year  
order by edengarden_scores desc;
```

ipl_year	edengarden_scores
2018	2885
2019	2651
2015	2386
2013	2304
2017	2194
2010	2167
2016	2073
2012	2012
2011	1854
2008	1843
2014	1289

Thank
You!