

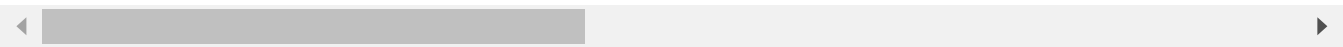
```
In [6]: import pandas as pd
import numpy as np
```

```
In [7]: df = pd.read_csv("Match.csv")
df.head()
```

Out[7]:

	match_id	inning	batting_team	bowling_team	over	ball	batsman	non_striker	bowler	is_si
0	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	1	DA Warner	S Dhawan	TS Mills	
1	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	2	DA Warner	S Dhawan	TS Mills	
2	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	3	DA Warner	S Dhawan	TS Mills	
3	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	4	DA Warner	S Dhawan	TS Mills	
4	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	5	DA Warner	S Dhawan	TS Mills	

5 rows × 21 columns



```
In [3]: df.shape
```

Out[3]: (69761, 21)

```
In [17]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 69761 entries, 0 to 69760
Data columns (total 21 columns):
#   Column                Non-Null Count  Dtype
---  -
0   match_id              69761 non-null  int64
1   inning                69761 non-null  int64
2   batting_team          69761 non-null  object
3   bowling_team          69761 non-null  object
4   over                  69761 non-null  int64
5   ball                  69761 non-null  int64
6   batsman               69761 non-null  object
7   non_striker           69761 non-null  object
8   bowler                69761 non-null  object
9   is_super_over         69761 non-null  int64
10  wide_runs             69761 non-null  int64
11  bye_runs              69761 non-null  int64
12  legbye_runs           69761 non-null  int64
13  noball_runs           69761 non-null  int64
14  penalty_runs          69761 non-null  int64
15  batsman_runs          69761 non-null  int64
16  extra_runs            69761 non-null  int64
17  total_runs            69761 non-null  int64
18  player_dismissed      3516 non-null   object
19  dismissal_kind        3516 non-null   object
20  fielder               2529 non-null   object
dtypes: int64(13), object(8)
memory usage: 11.2+ MB
```

In [4]: `df.info()`

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 69761 entries, 0 to 69760
Data columns (total 21 columns):
#   Column                Non-Null Count  Dtype
---  -
0   match_id              69761 non-null  int64
1   inning                69761 non-null  int64
2   batting_team          69761 non-null  object
3   bowling_team          69761 non-null  object
4   over                  69761 non-null  int64
5   ball                  69761 non-null  int64
6   batsman               69761 non-null  object
7   non_striker           69761 non-null  object
8   bowler                69761 non-null  object
9   is_super_over         69761 non-null  int64
10  wide_runs             69761 non-null  int64
11  bye_runs              69761 non-null  int64
12  legbye_runs           69761 non-null  int64
13  noball_runs           69761 non-null  int64
14  penalty_runs          69761 non-null  int64
15  batsman_runs          69761 non-null  int64
16  extra_runs            69761 non-null  int64
17  total_runs            69761 non-null  int64
18  player_dismissed      3516 non-null   object
19  dismissal_kind        3516 non-null   object
20  fielder               2529 non-null   object
dtypes: int64(13), object(8)
memory usage: 11.2+ MB
```

In [5]: `df[["player_dismissed"]].value_counts()`

```
Out[5]: player_dismissed
RG Sharma      59
SK Raina       59
AC Gilchrist   57
G Gambhir      56
Yuvraj Singh   55
..
A Choudhary    1
BAW Mendis     1
H Das          1
GR Napier      1
Jaskaran Singh 1
Length: 354, dtype: int64
```

```
In [6]: df[["fielder"]].value_counts()
```

```
Out[6]: fielder
RV Uthappa      61
KD Karthik      57
MS Dhoni        55
AC Gilchrist    54
KC Sangakkara   46
..
RA Jadeja (sub) 1
Misbah-ul-Haq   1
AD Mascarenhas  1
M Kaif (sub)    1
KS Williamson   1
Length: 352, dtype: int64
```

```
In [7]: df[["dismissal_kind"]].value_counts()
```

```
Out[7]: dismissal_kind
caught          2029
bowled          650
run out         379
lbw             223
stumped         121
caught and bowled 106
hit wicket       4
retired hurt     4
dtype: int64
```

```
In [10]: #Find Team wise runs scored.
m = df.groupby(['batting_team'])['total_runs'].sum()
m
```

```
Out[10]: batting_team
Chennai Super Kings      9253
Deccan Chargers          8931
Delhi Daredevils        10654
Gujarat Lions            2412
Kings XI Punjab         10763
Kochi Tuskers Kerala     1760
Kolkata Knight Riders    9924
Mumbai Indians          11202
Pune Warriors            1657
Rajasthan Royals         8039
Rising Pune Supergiant   2470
Royal Challengers Bangalore 10221
Sunrisers Hyderabad      2349
Name: total_runs, dtype: int64
```

```
In [11]: # Find Total Runs of Virat Kohli.
```

```
df[df["batsman"]=="V Kohli"][["total_runs"]].sum()
```

Out[11]: total\_runs 1499  
dtype: int64

In [13]: *# Find Total Runs of Your Fav Player.*  
df[df["batsman"]=="MS Dhoni"][["total\_runs"]].sum()

Out[13]: total\_runs 1650  
dtype: int64

In [14]: *# Extra Runs Given By ALL Bowlers in a League.*  
df.groupby(["bowler"])[["extra\_runs"]].sum()

Out[14]:

extra_runs	
bowler	
A Choudhary	7
A Flintoff	1
A Kumble	62
A Mishra	60
A Mithun	19
...	...
YA Abdulla	17
YK Pathan	50
YS Chahal	30
Yuvraj Singh	11
Z Khan	89

285 rows × 1 columns

In [15]: *# Extra Runs Given By TS Mills.*  
  
e = df[df["bowler"]=="TS Mills"][["extra\_runs"]]  
e.sum()

Out[15]: extra\_runs 13  
dtype: int64

In [15]: *# Catches Taken By Mandeep Singh.*  
  
p = df[df['dismissal\_kind']=='caught']  
p[p['fielder']=='Mandeep Singh'][['batsman','dismissal\_kind']]

Out[15]:

	batsman	dismissal_kind
11	DA Warner	caught
2728	MJ McClenaghan	caught
3922	DT Christian	caught
4691	DR Smith	caught
6355	CR Woakes	caught
9751	SE Marsh	caught
69340	IK Pathan	caught

In [16]: *# How Many Times DA Warner is dismissed by Mohammed Shami.*

```
x=(df['bowler']=='Mohammed Shami') & (df['player_dismissed']=='DA Warner')
x.value_counts()
```

Out[16]:

False	69760
True	1

dtype: int64

In [22]: *# Total Number of Wickets Taken by YS Chahal.*

```
y=df[df['bowler']=='YS Chahal']['player_dismissed']
y.count()
```

Out[22]: 14

In [33]: *# Find Number of Stump Out done by MS Dhoni.*

```
y=(df['fielder']=='MS Dhoni') & (df['dismissal_kind']=='stumped')

z = df[y][['fielder','batsman','dismissal_kind']]
z
```

Out[33]:

	fielder	batsman	dismissal_kind
3024	MS Dhoni	BB McCullum	stumped
4006	MS Dhoni	AB de Villiers	stumped
11944	MS Dhoni	CJ Anderson	stumped
28296	MS Dhoni	RV Uthappa	stumped
32944	MS Dhoni	DA Warner	stumped
35415	MS Dhoni	GC Smith	stumped
35445	MS Dhoni	AS Raut	stumped
49905	MS Dhoni	AT Rayudu	stumped
51089	MS Dhoni	MD Mishra	stumped
52411	MS Dhoni	CH Gayle	stumped
52422	MS Dhoni	DJ Hussey	stumped
52495	MS Dhoni	WP Saha	stumped
54962	MS Dhoni	MD Mishra	stumped
55630	MS Dhoni	MS Bisla	stumped
55677	MS Dhoni	EJG Morgan	stumped
55692	MS Dhoni	MK Tiwary	stumped
60699	MS Dhoni	AT Rayudu	stumped

In [34]: `z.count()`

Out[34]:

fielder	17
batsman	17
dismissal_kind	17
dtype:	int64

In [61]: `# How Many Times S Dhawan Got Out by Lbw.`

```
df[(df["batsman"]=="S Dhawan") & (df["dismissal_kind"]=="lbw")]
```

Out[61]:

	match_id	inning	batting_team	bowling_team	over	ball	batsman	non_striker	bowler
31390	135	2	Mumbai Indians	Kings XI Punjab	5	1	S Dhawan	JP Duminy	YA Abdulla
46812	199	1	Mumbai Indians	Deccan Chargers	4	3	S Dhawan	SR Tendulkar	Jaskaran Singh

2 rows × 21 columns

In [43]: `# Total number sixes hit by MS Dhoni.`

```
f=df[(df["batsman"]=="MS Dhoni") & (df["total_runs"]==6)]
[f.count()]
```

```
Out[43]: [match_id      62
inning        62
batting_team   62
bowling_team   62
over          62
ball          62
batsman        62
non_striker    62
bowler         62
is_super_over  62
wide_runs      62
bye_runs       62
legbye_runs    62
noball_runs    62
penalty_runs   62
batsman_runs   62
extra_runs     62
total_runs     62
player_dismissed 0
dismissal_kind  0
fielder        0
dtype: int64]
```

```
In [24]: # Total numbers of balls faced by MI Players.
```

```
df[df["batting_team"]=="Mumbai Indians"][["ball"]].sum()
```

```
Out[24]: ball      31672
dtype: int64
```

```
In [25]: # Total numbers of balls faced by KKR Players.
```

```
df[df["batting_team"]=="Kolkata Knight Riders"][["ball"]].sum()
```

```
Out[25]: ball      28638
dtype: int64
```

```
In [26]: # Find the total number of runs scored by Sachin Tendulkar.
```

```
df[df["batsman"]=="SR Tendulkar"][["total_runs"]].sum()
```

```
Out[26]: total_runs    1730
dtype: int64
```

```
In [44]: # Find the total number of balls faced by Schin Tendulkar.
```

```
df[df["batsman"]=="SR Tendulkar"][["ball"]].count()
```

```
Out[44]: ball      1388
dtype: int64
```

```
In [45]: # Find Sachin Tendulkar's dismissal types in IPL.
```

```
df[df["batsman"]=="SR Tendulkar"][["dismissal_kind"]].value_counts()
```

```
Out[45]: dismissal_kind
caught          23
bowled          7
lbw             5
run out         3
caught and bowled 1
stumped         1
dtype: int64
```

In [46]: *# Find the bowlers who dismissed SR Tendulkar.*

```
df[df["player_dismissed"]=="SR Tendulkar"]["bowler"].value_counts()
```

Out[46]:

PP Chawla	2
IK Pathan	2
R Sharma	2
R Vinay Kumar	2
PJ Sangwan	2
RP Singh	2
A Mishra	2
Joginder Sharma	1
JH Kallis	1
T Thushara	1
DW Steyn	1
SB Jakati	1
DE Bollinger	1
AL Menaria	1
RJ Harris	1
Yuvraj Singh	1
P Kumar	1
L Balaji	1
R Bhatia	1
AD Mascarenhas	1
Shoaib Akhtar	1
SK Raina	1
SK Warne	1
D du Preez	1
AB Agarkar	1
VS Malik	1
LR Shukla	1
PP Ojha	1
SK Trivedi	1
VY Mahesh	1
Shahid Afridi	1
Anand Rajan	1

Name: bowler, dtype: int64

In [50]: *# How many times was Suresh Raina dismissed.*

```
df[df["player_dismissed"]=="SK Raina"]["batsman"].count()
```

Out[50]: 59

In [51]: *df[df["player\_dismissed"]=="SK Raina"]["batsman"].value\_counts() # player name wise*

Out[51]:

SK Raina	55
KD Karthik	1
MEK Hussey	1
JA Morkel	1
PA Patel	1

Name: batsman, dtype: int64

In [31]: *# Display player details who hit the maximum no of sixes in the current IPL tournament*

```
df[df["total_runs"]==6]["batsman"]
```



```
Out[31]: 10      DA Warner
         47      MC Henriques
         75      Yuvraj Singh
         89      Yuvraj Singh
         91      MC Henriques
         ...
        69653    MR Marsh
        69657    WD Parnell
        69690      S Sohal
        69693      S Sohal
        69748    KC Sangakkara
Name: batsman, Length: 2920, dtype: object
```

```
In [74]: # What is the Overall No Balls Runs for each team in the dataset?

q= df.groupby(["noball_runs"])
q
for i in q:
    print(i)
```

(0,	match_id	inning	batting_team	bowling_team	\
0	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	
1	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	
2	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	
3	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	
4	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	
...	...	...	...	...	
69756	295	2	Deccan Chargers	Pune Warriors	
69757	295	2	Deccan Chargers	Pune Warriors	
69758	295	2	Deccan Chargers	Pune Warriors	
69759	295	2	Deccan Chargers	Pune Warriors	
69760	295	2	Deccan Chargers	Pune Warriors	

	over	ball	batsman	non_striker	bowler	is_super_over	\
0	1	1	DA Warner	S Dhawan	TS Mills	0	
1	1	2	DA Warner	S Dhawan	TS Mills	0	
2	1	3	DA Warner	S Dhawan	TS Mills	0	
3	1	4	DA Warner	S Dhawan	TS Mills	0	
4	1	5	DA Warner	S Dhawan	TS Mills	0	
...	...	...	...	...	...	...	
69756	16	4	JP Duminy	DT Christian	R Sharma	0	
69757	16	5	JP Duminy	DT Christian	R Sharma	0	
69758	16	6	JP Duminy	DT Christian	R Sharma	0	
69759	16	7	JP Duminy	DT Christian	R Sharma	0	
69760	17	1	DT Christian	JP Duminy	Yuvraj Singh	0	

	...	bye_runs	legbye_runs	noball_runs	penalty_runs	batsman_runs	\
0	...	0	0	0	0	0	
1	...	0	0	0	0	0	
2	...	0	0	0	0	4	
3	...	0	0	0	0	0	
4	...	0	0	0	0	0	
...	...	...	...	...	...	...	
69756	...	0	0	0	0	0	
69757	...	0	0	0	0	2	
69758	...	0	0	0	0	0	
69759	...	0	0	0	0	0	
69760	...	0	0	0	0	4	

	extra_runs	total_runs	player_dismissed	dismissal_kind	fielder
0	0	0	NaN	NaN	NaN
1	0	0	NaN	NaN	NaN
2	0	4	NaN	NaN	NaN
3	0	0	NaN	NaN	NaN
4	2	2	NaN	NaN	NaN
...	...	...	...	...	...
69756	0	0	NaN	NaN	NaN
69757	0	2	NaN	NaN	NaN
69758	1	1	NaN	NaN	NaN
69759	0	0	NaN	NaN	NaN
69760	0	4	NaN	NaN	NaN

[69431 rows x 21 columns])

(1,	match_id	inning	batting_team	\
9	1	1	Sunrisers Hyderabad	
182	1	2	Royal Challengers Bangalore	
1440	7	1	Kolkata Knight Riders	
1443	7	1	Kolkata Knight Riders	
1545	7	1	Kolkata Knight Riders	
...	...	...	...	
68014	288	1	Rajasthan Royals	
68110	288	1	Rajasthan Royals	
68322	289	1	Chennai Super Kings	
69490	294	2	Kochi Tuskers Kerala	

69493                      294                      2                      Kochi Tuskers Kerala

	bowling_team	over	ball	batsman	non_striker	\
9	Royal Challengers Bangalore	2	3	DA Warner	S Dhawan	
182	Sunrisers Hyderabad	10	1	KM Jadhav	TM Head	
1440	Mumbai Indians	3	3	CA Lynn	G Gambhir	
1443	Mumbai Indians	3	6	CA Lynn	G Gambhir	
1545	Mumbai Indians	20	2	MK Pandey	SP Narine	
...	...	...	...	...	...	
68014	Royal Challengers Bangalore	4	1	R Dravid	SR Watson	
68110	Royal Challengers Bangalore	19	5	DH Yagnik	AS Raut	
68322	Delhi Daredevils	17	3	S Badrinath	MS Dhoni	
69490	Rajasthan Royals	1	2	BB McCullum	DPMD Jayawardene	
69493	Rajasthan Royals	1	5	BB McCullum	DPMD Jayawardene	

	bowler	is_super_over	...	bye_runs	legbye_runs	noball_runs	\
9	A Choudhary	0	...	0	0	1	
182	MC Henriques	0	...	0	0	1	
1440	JJ Bumrah	0	...	0	0	1	
1443	JJ Bumrah	0	...	0	0	1	
1545	MJ McClenaghan	0	...	0	0	1	
...	...	...	...	...	...	...	
68014	CK Langeveldt	0	...	0	0	1	
68110	CH Gayle	0	...	0	0	1	
68322	IK Pathan	0	...	0	0	1	
69490	SW Tait	0	...	0	0	1	
69493	SW Tait	0	...	0	0	1	

	penalty_runs	batsman_runs	extra_runs	total_runs	player_dismissed	\
9	0	0	1	1	NaN	
182	0	1	1	2	NaN	
1440	0	1	1	2	NaN	
1443	0	1	1	2	NaN	
1545	0	4	1	5	NaN	
...	...	...	...	...	...	
68014	0	0	1	1	NaN	
68110	0	1	1	2	NaN	
68322	0	2	1	3	NaN	
69490	0	0	1	1	NaN	
69493	0	0	1	1	NaN	

	dismissal_kind	fielder
9	NaN	NaN
182	NaN	NaN
1440	NaN	NaN
1443	NaN	NaN
1545	NaN	NaN
...	...	...
68014	NaN	NaN
68110	NaN	NaN
68322	NaN	NaN
69490	NaN	NaN
69493	NaN	NaN

[320 rows x 21 columns])

	match_id	inning	batting_team	bowling_team	over	\
3421	15	1	Delhi Daredevils	Kings XI Punjab	17	
7958	34	1	Gujarat Lions	Mumbai Indians	19	
30663	132	2	Kolkata Knight Riders	Mumbai Indians	2	
56972	241	1	Delhi Daredevils	Rajasthan Royals	20	
61978	262	2	Pune Warriors	Chennai Super Kings	5	
63626	269	1	Delhi Daredevils	Kochi Tuskers Kerala	16	

ball	batsman	non_striker	bowler	is_super_over	...	\
------	---------	-------------	--------	---------------	-----	---

3421	2	CJ Anderson	CH Morris	MM Sharma	0	...
7958	2	AJ Tye	JP Faulkner	JJ Bumrah	0	...
30663	3	BB McCullum	CH Gayle	SL Malinga	0	...
56972	3	IK Pathan	RE van der Merwe	SW Tait	0	...
61978	2	RV Uthappa	MK Pandey	JA Morkel	0	...
63626	1	TR Birt	V Sehwag	B Akhil	0	...

	bye_runs	legbye_runs	noball_runs	penalty_runs	batsman_runs	\
3421	0	0	2	0	0	
7958	0	0	2	0	0	
30663	0	0	2	0	0	
56972	0	0	2	0	0	
61978	0	0	2	0	0	
63626	0	0	2	0	0	

	extra_runs	total_runs	player_dismissed	dismissal_kind	fielder
3421	2	2	NaN	NaN	NaN
7958	2	2	NaN	NaN	NaN
30663	2	2	NaN	NaN	NaN
56972	2	2	NaN	NaN	NaN
61978	2	2	NaN	NaN	NaN
63626	2	2	NaN	NaN	NaN

[6 rows x 21 columns])

(5,	match_id	inning	batting_team	bowling_team	\
30510	131	2	Deccan Chargers	Chennai Super Kings	
42590	181	2	Royal Challengers Bangalore	Kings XI Punjab	
47878	203	1	Delhi Daredevils	Rajasthan Royals	
54477	230	2	Kolkata Knight Riders	Mumbai Indians	

	over	ball	batsman	non_striker	bowler	is_super_over	...	\
30510	17	2	HH Gibbs	AA Bilakhia	JA Morkel	0	...	
42590	4	2	JH Kallis	MK Pandey	S Sreesanth	0	...	
47878	18	2	KD Karthik	AB McDonald	SW Tait	0	...	
54477	13	3	BB McCullum	SC Ganguly	CRD Fernando	0	...	

	bye_runs	legbye_runs	noball_runs	penalty_runs	batsman_runs	\
30510	0	0	5	0	0	
42590	0	0	5	0	0	
47878	0	0	5	0	0	
54477	0	0	5	0	0	

	extra_runs	total_runs	player_dismissed	dismissal_kind	fielder
30510	5	5	NaN	NaN	NaN
42590	5	5	NaN	NaN	NaN
47878	5	5	NaN	NaN	NaN
54477	5	5	NaN	NaN	NaN

[4 rows x 21 columns])

In [76]: # Which player scored the most runs in the dataset?

```

cmax=df["total_runs"].max()

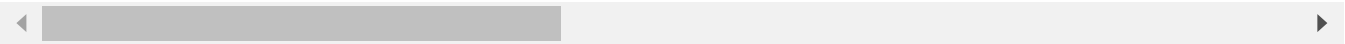
df[df["total_runs"]==cmax]

```

Out[76]:

	match_id	inning	batting_team	bowling_team	over	ball	batsman	non_striker		
	2443	11	1	Kings XI Punjab	Kolkata Knight Riders	14	5	DA Miller	WP Saha	Grand
	5853	25	1	Sunrisers Hyderabad	Rising Pune Supergiant	15	3	DA Warner	MC Henriques	Imr
	11616	50	1	Kings XI Punjab	Mumbai Indians	4	2	MJ Guptill	WP Saha	SL I
	11691	50	1	Kings XI Punjab	Mumbai Indians	16	1	SE Marsh	WP Saha	McCle
	15401	66	1	Deccan Chargers	Delhi Daredevils	20	6	WPUJC Vaas	RP Singh	VY
	18537	79	2	Delhi Daredevils	Chennai Super Kings	7	3	V Sehwag	G Gambhir	J
	23170	99	2	Mumbai Indians	Kolkata Knight Riders	6	3	ST Jayasuriya	DJ Thornely	I
	24676	106	2	Mumbai Indians	Kings XI Punjab	20	1	SD Chitnis	CRD Fernando	VR
	25658	110	2	Chennai Super Kings	Rajasthan Royals	19	5	JA Morkel	MS Gony	M
	29251	126	2	Kolkata Knight Riders	Rajasthan Royals	16	6	SC Ganguly	Yashpal Singh	M
	36547	156	2	Royal Challengers Bangalore	Kolkata Knight Riders	18	6	MV Boucher	LRPL Taylor	I
	38632	165	1	Delhi Daredevils	Rajasthan Royals	19	2	AB de Villiers	KD Karthik	M
	40704	173	2	Royal Challengers Bangalore	Chennai Super Kings	19	1	LRPL Taylor	V Kohli	JD
	47116	200	1	Delhi Daredevils	Kolkata Knight Riders	14	6	DA Warner	PD Collingwood	AB.
	47770	202	2	Chennai Super Kings	Royal Challengers Bangalore	19	6	SK Raina	C Ganapathy	
	55967	237	1	Kochi Tuskers Kerala	Royal Challengers Bangalore	6	2	VVS Laxman	BB McCullum	A
	58900	249	1	Deccan Chargers	Kings XI Punjab	18	2	DT Christian	MS Gony	R M
	64885	274	2	Kochi Tuskers Kerala	Delhi Daredevils	4	6	BB McCullum	M Klinger	U
	67014	283	2	Royal Challengers Bangalore	Kochi Tuskers Kerala	3	2	CH Gayle	TM Dilshan	Param

19 rows × 21 columns



In [56]: *# mumbai indian data*

```
w= df[(df["batting_team"]=="Mumbai Indians") | (df["bowling_team"]=="Mumbai Indians")]  
w.count()
```

Out[56]:

match_id	17294
inning	17294
batting_team	17294
bowling_team	17294
over	17294
ball	17294
batsman	17294
non_striker	17294
bowler	17294
is_super_over	17294
wide_runs	17294
bye_runs	17294
legbye_runs	17294
noball_runs	17294
penalty_runs	17294
batsman_runs	17294
extra_runs	17294
total_runs	17294
player_dismissed	896
dismissal_kind	896
fielder	632
dtype:	int64

In [57]: *# Calculate total run are acheive the all player*  
df[["total\_runs"]].sum()

Out[57]:

total_runs	89635
dtype:	int64

In [61]: *#Find the 20 player out in zero run*  
zero=df[df['batsman\_runs']==0]  
zero.head(20)

Out[61]:

	match_id	inning	batting_team	bowling_team	over	ball	batsman	non_striker	bowler
<b>0</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	1	DA Warner	S Dhawan	TS Mills
<b>1</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	2	DA Warner	S Dhawan	TS Mills
<b>3</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	4	DA Warner	S Dhawan	TS Mills
<b>4</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	5	DA Warner	S Dhawan	TS Mills
<b>5</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	6	S Dhawan	DA Warner	TS Mills
<b>6</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	7	S Dhawan	DA Warner	TS Mills
<b>9</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	2	3	DA Warner	S Dhawan	A Choudhary
<b>11</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	2	5	DA Warner	S Dhawan	A Choudhary
<b>12</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	2	6	MC Henriques	S Dhawan	A Choudhary
<b>15</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	3	2	MC Henriques	S Dhawan	TS Mills
<b>16</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	3	3	MC Henriques	S Dhawan	TS Mills
<b>20</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	4	1	MC Henriques	S Dhawan	YS Chahal
<b>22</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	4	3	S Dhawan	MC Henriques	YS Chahal
<b>31</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	5	6	MC Henriques	S Dhawan	S Aravind
<b>34</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	6	3	S Dhawan	MC Henriques	SR Watson
<b>39</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	7	2	MC Henriques	S Dhawan	YS Chahal

	match_id	inning	batting_team	bowling_team	over	ball	batsman	non_striker	bowler
<b>56</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	10	1	S Dhawan	MC Henriques	A Choudhary
<b>61</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	10	6	S Dhawan	MC Henriques	A Choudhary
<b>64</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	11	3	S Dhawan	MC Henriques	STR Binny
<b>69</b>	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	12	2	Yuvraj Singh	MC Henriques	S Aravind

20 rows × 21 columns

```
In [65]: # Top 5 player scoring max 4 & 6 run
player=df.groupby("batsman")['batsman_runs'].max()
player.head(5)
```

```
Out[65]: batsman
A Chopra      4
A Choudhary   6
A Flintoff    6
A Kumble      4
A Mishra      6
Name: batsman_runs, dtype: int64
```

```
In [66]: #top 5 player scored the most runs in the dataset?
top_bats=df.groupby("batsman")['batsman_runs'].sum()
top_bats.head(5)
```

```
Out[66]: batsman
A Chopra      53
A Choudhary   25
A Flintoff    62
A Kumble      35
A Mishra     219
Name: batsman_runs, dtype: int64
```

```
In [72]: #no ball runs in this data set
Noball=df.groupby('batting_team')['noball_runs']
Noball.value_counts()
```



```
Out[72]:
```

batting_team	noball_runs
Chennai Super Kings	0
	1
Deccan Chargers	0
	1
	5
Delhi Daredevils	0
	1
	2
	5
Gujarat Lions	0
	1
	2
Kings XI Punjab	0
	1
Kochi Tuskers Kerala	0
	1
Kolkata Knight Riders	0
	1
	2
	5
Mumbai Indians	0
	1
Pune Warriors	0
	1
	2
Rajasthan Royals	0
	1
Rising Pune Supergiant	0
	1
Royal Challengers Bangalore	0
	1
	5
Sunrisers Hyderabad	0
	1

Name: noball\_runs, dtype: int64

```
In [85]: # 5 bowler they are dismissed the player
df.groupby('bowler')['player_dismissed'].count().head(5)
```

```
Out[85]:
```

bowler	player_dismissed
A Choudhary	5
A Flintoff	2
A Kumble	49
A Mishra	70
A Mithun	5

Name: player\_dismissed, dtype: int64

```
In [91]: #Find the bowlers who dismissed TM Head.

df[df["player_dismissed"]=="TM Head"]["bowler"].value_counts()
```

```
Out[91]:
```

bowler	player_dismissed
Rashid Khan	1
AJ Tye	1
JD Unadkat	1
KH Pandya	1
Z Khan	1

Name: bowler, dtype: int64

```
In [92]: # Total numbers of balls faced by Royal Challengers Bangalore.

df[df["batting_team"]=="Royal Challengers Bangalore"]["ball"].sum()
```

```
Out[92]:
```

ball
29562

dtype: int64

In [93]: *# How many times was S Dhawan dismissed.*

```
df[df["player_dismissed"]=="S Dhawan"]["batsman"].count()
```

Out[93]: 48

In [94]: *# Find Yuvraj Singh's dismissal types in IPL.*

```
df[df["batsman"]=="Yuvraj Singh"]["dismissal_kind"].value_counts()
```

Out[94]:

dismissal_kind	
caught	39
bowled	7
run out	3
caught and bowled	2
lbw	2
stumped	1

dtype: int64

In [95]: *# Extra Runs Given By A Choudhary.*

```
e = df[df["bowler"]=="A Choudhary"]["extra_runs"]
e.sum()
```

Out[95]:

extra_runs	
7	

dtype: int64

In [96]: *#Find V Kohli four and six against all teams*

```
team=df[(df['batsman']=='V Kohli') & ((df['batsman_runs']==4) | (df['batsman_runs']
team.groupby('bowling_team')['batsman_runs'].count()
```

Out[96]:

bowling_team	
Chennai Super Kings	25
Deccan Chargers	31
Delhi Daredevils	23
Gujarat Lions	9
Kings XI Punjab	23
Kochi Tuskers Kerala	7
Kolkata Knight Riders	8
Mumbai Indians	27
Pune Warriors	8
Rajasthan Royals	8
Rising Pune Supergiant	9

Name: batsman\_runs, dtype: int64

In [ ]: