

In [1]: 1 **import** pandas **as** pd

In [ ]: 1

```
In [33]: 1 df=pd.read_csv('Datasets/ipl-matches.csv')  
        2 df
```

Out[33]:

	ID	City	Date	Season	MatchNumber	Team1	Team2	Venue	TossWinner	TossDecision	SuperOver	WinningTeam
0	1312200	Ahmedabad	2022-05-29	2022	Final	Rajasthan Royals	Gujarat Titans	Narendra Modi Stadium, Ahmedabad	Rajasthan Royals	bat	N	Gujarat Titans
1	1312199	Ahmedabad	2022-05-27	2022	Qualifier 2	Royal Challengers Bangalore	Rajasthan Royals	Narendra Modi Stadium, Ahmedabad	Rajasthan Royals	field	N	Rajasthan Royals
2	1312198	Kolkata	2022-05-25	2022	Eliminator	Royal Challengers Bangalore	Lucknow Super Giants	Eden Gardens, Kolkata	Lucknow Super Giants	field	N	Royal Challengers Bangalore
3	1312197	Kolkata	2022-05-24	2022	Qualifier 1	Rajasthan Royals	Gujarat Titans	Eden Gardens, Kolkata	Gujarat Titans	field	N	Gujarat Titans
4	1304116	Mumbai	2022-05-22	2022	70	Sunrisers Hyderabad	Punjab Kings	Wankhede Stadium, Mumbai	Sunrisers Hyderabad	bat	N	Punjab Kings
...	...	...	...	...	...	...	...	...	...	...	...	...
945	335986	Kolkata	2008-04-20	2007/08	4	Kolkata Knight Riders	Deccan Chargers	Eden Gardens	Deccan Chargers	bat	N	Kolkata Knight Riders
946	335985	Mumbai	2008-04-20	2007/08	5	Mumbai Indians	Royal Challengers Bangalore	Wankhede Stadium	Mumbai Indians	bat	N	Royal Challengers Bangalore
947	335984	Delhi	2008-04-19	2007/08	3	Delhi Daredevils	Rajasthan Royals	Feroz Shah Kotla	Rajasthan Royals	bat	N	Delhi Daredevils

	ID	City	Date	Season	MatchNumber	Team1	Team2	Venue	TossWinner	TossDecision	SuperOver	WinningTeam
948	335983	Chandigarh	2008-04-19	2007/08	2	Kings XI Punjab	Chennai Super Kings	Punjab Cricket Association Stadium, Mohali	Chennai Super Kings	bat	N	Chennai Super Kings
949	335982	Bangalore	2008-04-18	2007/08	1	Royal Challengers Bangalore	Kolkata Knight Riders	M Chinnaswamy Stadium	Royal Challengers Bangalore	field	N	Kolkata Knight Riders

950 rows × 20 columns

In [4]: 1 df.info()

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 950 entries, 0 to 949
Data columns (total 20 columns):
#   Column                Non-Null Count  Dtype  
---  -
0   ID                    950 non-null   int64  
1   City                  899 non-null   object  
2   Date                  950 non-null   object  
3   Season                950 non-null   object  
4   MatchNumber           950 non-null   object  
5   Team1                 950 non-null   object  
6   Team2                 950 non-null   object  
7   Venue                 950 non-null   object  
8   TossWinner            950 non-null   object  
9   TossDecision          950 non-null   object  
10  SuperOver             946 non-null   object  
11  WinningTeam           946 non-null   object  
12  WonBy                 950 non-null   object  
13  Margin                932 non-null   float64 
14  method                19 non-null    object  
15  Player_of_Match       946 non-null   object  
16  Team1Players           950 non-null   object  
17  Team2Players           950 non-null   object  
18  Umpire1               950 non-null   object  
19  Umpire2               950 non-null   object  
dtypes: float64(1), int64(1), object(18)
memory usage: 148.6+ KB
```

In [8]: 1 df.shape

Out[8]: (950, 20)

```
In [10]: 1 df.nunique()
```

```
Out[10]: ID                950  
City                   33  
Date                  706  
Season                 15  
MatchNumber            80  
Team1                  18  
Team2                  18  
Venue                  49  
TossWinner             18  
TossDecision           2  
SuperOver              2  
WinningTeam            18  
WonBy                   4  
Margin                 94  
method                  1  
Player_of_Match        262  
Team1Players            932  
Team2Players            937  
Umpire1                 58  
Umpire2                 60  
dtype: int64
```

```
In [14]: 1 df.Team1.unique()
```

```
Out[14]: array(['Rajasthan Royals', 'Royal Challengers Bangalore',  
                'Sunrisers Hyderabad', 'Delhi Capitals', 'Chennai Super Kings',  
                'Gujarat Titans', 'Lucknow Super Giants', 'Kolkata Knight Riders',  
                'Punjab Kings', 'Mumbai Indians', 'Kings XI Punjab',  
                'Delhi Daredevils', 'Rising Pune Supergiant', 'Gujarat Lions',  
                'Rising Pune Supergiants', 'Pune Warriors', 'Deccan Chargers',  
                'Kochi Tuskers Kerala'], dtype=object)
```

```
In [12]: 1 d={'Delhi Daredevils':'Delhi Capitals','Kings XI Punjab':'Punjab Kings',  
2         'Rising Pune Supergiants':'Pune Warriors','Gujarat Titans':'Gujarat Lions'}  
3 df=df.replace(d.keys(),d.values)
```

```
In [26]: 1 teams=df.Team1.unique()
2 l=[]
3 for team in teams:
4     played = df[(df['Team1'] == team) | (df['Team2'] == team)].shape[0]
5     l.append([team,played])
6 new=pd.DataFrame(l)
7 print(new)
```

	0	1
0	Rajasthan Royals	192
1	Royal Challengers Bangalore	226
2	Sunrisers Hyderabad	152
3	Delhi Capitals	63
4	Chennai Super Kings	208
5	Gujarat Titans	16
6	Lucknow Super Giants	15
7	Kolkata Knight Riders	223
8	Punjab Kings	28
9	Mumbai Indians	231
10	Kings XI Punjab	190
11	Delhi Daredevils	161
12	Rising Pune Supergiant	16
13	Gujarat Lions	30
14	Rising Pune Supergiants	14
15	Pune Warriors	46
16	Deccan Chargers	75
17	Kochi Tuskers Kerala	14

```
In [34]: 1 teams=df.Team1.unique()
2 l=[]
3 for team in teams:
4     played=df[(df.Team1==team) | (df.Team2==team)].shape[0]
5     win=df[df.WinningTeam==team].shape[0]
6     home_win=df[(df.WinningTeam==team) & (df.Team1==team)].shape[0]
7     home_play=df[df.Team1==team].shape[0]
8     away_win=df[(df.WinningTeam==team) & (df.Team2==team)].shape[0]
9     away_play=df[df.Team2==team].shape[0]
10    l.append([team,played,(win*100/played),((home_win*100)/home_play),((away_win*100)/away_play)])
11 x=pd.DataFrame(l)
12 print(x)
```

		0	1	2	3	4
0	Rajasthan Royals	192	50.000000	55.056180	45.631068	
1	Royal Challengers Bangalore	226	48.230088	48.412698	48.000000	
2	Sunrisers Hyderabad	152	49.342105	52.173913	46.987952	
3	Delhi Capitals	63	57.142857	51.724138	61.764706	
4	Chennai Super Kings	208	58.173077	58.558559	57.731959	
5	Gujarat Titans	16	75.000000	57.142857	88.888889	
6	Lucknow Super Giants	15	60.000000	87.500000	28.571429	
7	Kolkata Knight Riders	223	51.121076	53.333333	49.152542	
8	Punjab Kings	28	46.428571	38.888889	60.000000	
9	Mumbai Indians	231	56.709957	58.035714	55.462185	
10	Kings XI Punjab	190	46.315789	46.739130	45.918367	
11	Delhi Daredevils	161	41.614907	44.705882	38.157895	
12	Rising Pune Supergiant	16	62.500000	71.428571	55.555556	
13	Gujarat Lions	30	43.333333	31.250000	57.142857	
14	Rising Pune Supergiants	14	35.714286	28.571429	42.857143	
15	Pune Warriors	46	26.086957	26.086957	26.086957	
16	Deccan Chargers	75	38.666667	33.333333	44.444444	
17	Kochi Tuskers Kerala	14	42.857143	42.857143	42.857143	

```
In [29]: 1 df.WinningTeam.isna().sum()
```

```
Out[29]: 4
```



```
In [39]: 1 df=df[df['Season']=='2022']
2 teams=df.Team1.unique()
3 l=[]
4 for team in teams:
5     played=df[(df.Team1==team) | (df.Team2==team) & (df.Season=='2022')].shape[0]
6     win=df[(df.WinningTeam==team) & (df.Season=='2022')].shape[0]
7     l.append([team,played,win,win*2])
8 x=pd.DataFrame(l)
9 print(x)
```

		0	1	2	3
0	Rajasthan Royals	17	10	20	
1	Royal Challengers Bangalore	16	9	18	
2	Sunrisers Hyderabad	14	6	12	
3	Delhi Capitals	14	7	14	
4	Chennai Super Kings	14	4	8	
5	Gujarat Titans	16	12	24	
6	Lucknow Super Giants	15	9	18	
7	Kolkata Knight Riders	14	6	12	
8	Punjab Kings	14	7	14	
9	Mumbai Indians	14	4	8	

```
In [40]: 1 df=df[df['Season']=='2022']
2 teams=df.Team1.unique()
3 l=[]
4 for team in teams:
5     played=df[(df.Team1==team) | (df.Team2==team) & (df.Season=='2022')].shape[0]
6     win=df[(df.WinningTeam==team) & (df.Season=='2022')].shape[0]
7     df[df['TossWinner']==df['WinningTeam']].shape[0]
8     l.append([team,played,win,win*2])
9 x=pd.DataFrame(l)
10 print(x)
```

		0	1	2	3
0	Rajasthan Royals	17	10	20	
1	Royal Challengers Bangalore	16	9	18	
2	Sunrisers Hyderabad	14	6	12	
3	Delhi Capitals	14	7	14	
4	Chennai Super Kings	14	4	8	
5	Gujarat Titans	16	12	24	
6	Lucknow Super Giants	15	9	18	
7	Kolkata Knight Riders	14	6	12	
8	Punjab Kings	14	7	14	
9	Mumbai Indians	14	4	8	

```
In [ ]: 1
```