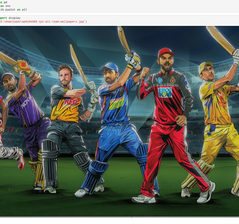
Importing library

```
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
```

```
from PIL import Image
display.Image("/content/ipl-2022-wallpaper-scaled-1024x576.jpg")
```



Import Dataset

```
!gdl 1-ipl.csv
```

```
!ls -lh *.csv
```

```
-rw-r--r-- 1 root root 1.1M Jun 19 18:42 ipl_matches.csv
```

```
print(ipl.shape)
ipl.info()
```

```
(12095, 20)
<class'pandas.DataFrame'>
RangeIndex: 12095 entries, 0 to 12094
Data columns (total 20):
 #   Column          Non-Nulls  Type
---  ------          ---------  ----
 0   id              12095      int64
 1   City            11802      object
 2   Date            12095      object
 3   Season          12095      object
 4   MatchNumber     12095      object
 5   Team1           12095      object
 6   Team2           12095      object
 7   Venue           12095      object
 8   TossWinner      12095      object
 9   TossDecision    12095      object
 10  SuperOver       12069      object
 11  WinningTeam     12080      object
 12  WonBy           12095      object
 13  Margin          11973      float64
 14  method          457        object
 15  Player_of_Match 12087      object
 16  TeamOne         12095      object
 17  TeamTwo         12095      object
 18  TeamBattiFirst  12095      object
 19  TeamBallFirst   12095      object
dtypes: int64(1), object(19)
memory usage: 1.8MB
None
```

```
ipl.head(1)
```

	id	City	Date	Season	MatchNumber	Team1	Team2	Venue	TossWinner	TossDecision	SuperOver	WinningTeam	WonBy	Margin	method	Player_of_Match	TeamOne	TeamTwo	TeamBattiFirst	TeamBallFirst
0	335982	Bangalore	2008-04-18	2008	1	Royal Challengers Bangalore	Kolkata Knight Riders	M Chinnaswamy Stadium	Royal Challengers Bangalore	field	N	Royal Challengers Bangalore	runs	140	NaN	BB McCullum	Royal Challengers Bangalore	Kolkata Knight Riders	Royal Challengers Bangalore	Kolkata Knight Riders

```
ipl.shape
```

```
(12095, 20)
```

Which team wins Most

```
ipl['WinningTeam'].value_counts().head(1)
```

```
Mumbai Indians    120
Name: WinningTeam, dtype: int64
```

```
from IPython.display import display
display.Image("/content/ipl-2022-wallpaper-scaled-1024x576.jpg")
```

```
ipl.head(5)
```

	id	City	Date	Season	MatchNumber	Team1	Team2	Venue	TossWinner	TossDecision	SuperOver	WinningTeam	WonBy	Margin	method	Player_of_Match	TeamOne	TeamTwo	TeamBattiFirst	TeamBallFirst
0	335982	Bangalore	2008-04-18	2008	1	Royal Challengers Bangalore	Kolkata Knight Riders	M Chinnaswamy Stadium	Royal Challengers Bangalore	field	N	Royal Challengers Bangalore	runs	140	NaN	BB McCullum	Royal Challengers Bangalore	Kolkata Knight Riders	Royal Challengers Bangalore	Kolkata Knight Riders
1	335983	Chandigarh	2008-04-19	2008	1	Kings XI Punjab	Chennai Super Kings	Punjab Cricket Association Stadium, Mohali	Chennai Super Kings	field	N	Kings XI Punjab	runs	33	NaN	K C Sangakkara	Kings XI Punjab	Chennai Super Kings	Chennai Super Kings	Kings XI Punjab
2	335984	Delhi	2008-04-19	2008	1	Delhi Daredevils	Rajasthan Royals	Feroz Shah Kotla	Rajasthan Royals	field	N	Delhi Daredevils	runs	92	NaN	SK Warne	Delhi Daredevils	Rajasthan Royals	Rajasthan Royals	Delhi Daredevils
3	335985	Mumbai	2008-04-20	2008	1	Mumbai Indians	Royal Challengers Bangalore	Wankhede Stadium	Mumbai Indians	bat	N	Royal Challengers Bangalore	runs	23	NaN	JH Kallis	Mumbai Indians	Royal Challengers Bangalore	Royal Challengers Bangalore	Mumbai Indians
4	335986	Kolkata	2008-04-20	2008	1	Kolkata Knight Riders	Deccan Chargers	Eden Gardens	Deccan Chargers	bat	N	Kolkata Knight Riders	runs	75	NaN	SHB Joshi	Kolkata Knight Riders	Deccan Chargers	Deccan Chargers	Kolkata Knight Riders

```
ipl.shape
```

```
(12095, 20)
```

Which team wins Most

```
ipl['WinningTeam'].value_counts().head(1)
```

```
Mumbai Indians    120
Name: WinningTeam, dtype: int64
```

```
from IPython.display import display
display.Image("/content/ipl-2022-wallpaper-scaled-1024x576.jpg")
```

```
ipl.head(5)
```

	id	City	Date	Season	MatchNumber	Team1	Team2	Venue	TossWinner	TossDecision	SuperOver	WinningTeam	WonBy	Margin	method	Player_of_Match	TeamOne	TeamTwo	TeamBattiFirst	TeamBallFirst
0	335982	Bangalore	2008-04-18	2008	1	Royal Challengers Bangalore	Kolkata Knight Riders	M Chinnaswamy Stadium	Royal Challengers Bangalore	field	N	Royal Challengers Bangalore	runs	140	NaN	BB McCullum	Royal Challengers Bangalore	Kolkata Knight Riders	Royal Challengers Bangalore	Kolkata Knight Riders
1	335983	Chandigarh	2008-04-19	2008	1	Kings XI Punjab	Chennai Super Kings	Punjab Cricket Association Stadium, Mohali	Chennai Super Kings	field	N	Kings XI Punjab	runs	33	NaN	K C Sangakkara	Kings XI Punjab	Chennai Super Kings	Chennai Super Kings	Kings XI Punjab
2	335984	Delhi	2008-04-19	2008	1	Delhi Daredevils	Rajasthan Royals	Feroz Shah Kotla	Rajasthan Royals	field	N	Delhi Daredevils	runs	92	NaN	SK Warne	Delhi Daredevils	Rajasthan Royals	Rajasthan Royals	Delhi Daredevils
3	335985	Mumbai	2008-04-20	2008	1	Mumbai Indians	Royal Challengers Bangalore	Wankhede Stadium	Mumbai Indians	bat	N	Royal Challengers Bangalore	runs	23	NaN	JH Kallis	Mumbai Indians	Royal Challengers Bangalore	Royal Challengers Bangalore	Mumbai Indians
4	335986	Kolkata	2008-04-20	2008	1	Kolkata Knight Riders	Deccan Chargers	Eden Gardens	Deccan Chargers	bat	N	Kolkata Knight Riders	runs	75	NaN	SHB Joshi	Kolkata Knight Riders	Deccan Chargers	Deccan Chargers	Kolkata Knight Riders

```
ipl.shape
```

```
(12095, 20)
```

Find out No of Toss Wins w.r.t. Each Team

```
!pip install matplotlib-venn
```

```
Requirement already satisfied: matplotlib-venn in /usr/local/lib/python3.10/dist-packages (0.11.9)
Requirement already satisfied: numpy in /usr/local/lib/python3.10/dist-packages (1.22.4)
Requirement already satisfied: matplotlib in /usr/local/lib/python3.10/dist-packages (3.7.1)
Requirement already satisfied: scipy in /usr/local/lib/python3.10/dist-packages (1.10.1)
Requirement already satisfied: contourpy>=1.0.1 in /usr/local/lib/python3.10/dist-packages (1.0.7)
Requirement already satisfied: cycler>=0.10 in /usr/local/lib/python3.10/dist-packages (0.11.0)
Requirement already satisfied: fonttools>=4.22.0 in /usr/local/lib/python3.10/dist-packages (4.39.3)
Requirement already satisfied: kiwisolver>=1.0.1 in /usr/local/lib/python3.10/dist-packages (1.4.4)
Requirement already satisfied: packaging>=20.0 in /usr/local/lib/python3.10/dist-packages (23.1)
Requirement already satisfied: pillow>=6.2.0 in /usr/local/lib/python3.10/dist-packages (8.4.0)
Requirement already satisfied: pyparsing>=2.3.1 in /usr/local/lib/python3.10/dist-packages (3.0.9)
Requirement already satisfied: dateutil>=2.7 in /usr/local/lib/python3.10/dist-packages (2.8.2)
Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.10/dist-packages (1.16.0)
```

```
ipl.head(1)
```

	id	City	Date	Season	MatchNumber	Team1	Team2	Venue	TossWinner	TossDecision	SuperOver	WinningTeam	WonBy	Margin	method	Player_of_Match	TeamOne	TeamTwo	TeamBattiFirst	TeamBallFirst
0	335982	Bangalore	2008-04-18	2008	1	Royal Challengers Bangalore	Kolkata Knight Riders	M Chinnaswamy Stadium	Royal Challengers Bangalore	field	N	Royal Challengers Bangalore	runs	140	NaN	BB McCullum	Royal Challengers Bangalore	Kolkata Knight Riders	Royal Challengers Bangalore	Kolkata Knight Riders

```
ipl.shape
```

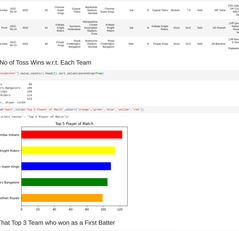
```
(12095, 20)
```

Which team wins Most

```
ipl['WinningTeam'].value_counts().head(1)
```

```
Mumbai Indians    120
Name: WinningTeam, dtype: int64
```

```
from IPython.display import display
display.Image("/content/ipl-2022-wallpaper-scaled-1024x576.jpg")
```




```
ipl.head(5)
```

	id	City	Date	Season	MatchNumber	Team1	Team2	Venue	TossWinner	TossDecision	SuperOver	WinningTeam	WonBy	Margin	method	Player_of_Match	TeamOne	TeamTwo	TeamBattiFirst	TeamBallFirst
0	335982	Bangalore	2008-04-18	2008	1	Royal Challengers Bangalore	Kolkata Knight Riders	M Chinnaswamy Stadium	Royal Challengers Bangalore	field	N	Royal Challengers Bangalore	runs	140	NaN	BB McCullum	Royal Challengers Bangalore	Kolkata Knight Riders	Royal Challengers Bangalore	Kolkata Knight Riders
1	335983	Chandigarh	2008-04-19	2008	1	Kings XI Punjab	Chennai Super Kings	Punjab Cricket Association Stadium, Mohali	Chennai Super Kings	field	N	Kings XI Punjab	runs	33	NaN	K C Sangakkara	Kings XI Punjab	Chennai Super Kings	Chennai Super Kings	Kings XI Punjab
2	335984	Delhi	2008-04-19	2008	1	Delhi Daredevils	Rajasthan Royals	Feroz Shah Kotla	Rajasthan Royals	field	N	Delhi Daredevils	runs	92	NaN	SK Warne	Delhi Daredevils	Rajasthan Royals	Rajasthan Royals	Delhi Daredevils
3	335985	Mumbai	2008-04-20	2008	1	Mumbai Indians	Royal Challengers Bangalore	Wankhede Stadium	Mumbai Indians	bat	N	Royal Challengers Bangalore	runs	23	NaN	JH Kallis	Mumbai Indians	Royal Challengers Bangalore	Royal Challengers Bangalore	Mumbai Indians
4	335986	Kolkata	2008-04-20	2008	1	Kolkata Knight Riders	Deccan Chargers	Eden Gardens	Deccan Chargers	bat	N	Kolkata Knight Riders	runs	75	NaN	SHB Joshi	Kolkata Knight Riders	Deccan Chargers	Deccan Chargers	Kolkata Knight Riders

```
ipl.shape
```

```
(12095, 20)
```

Find out No of Toss Wins w.r.t. Each Team

```
!pip install matplotlib-venn
```

```
Requirement already satisfied: matplotlib-venn in /usr/local/lib/python3.10/dist-packages (0.11.9)
Requirement already satisfied: numpy in /usr/local/lib/python3.10/dist-packages (1.22.4)
Requirement already satisfied: matplotlib in /usr/local/lib/python3.10/dist-packages (3.7.1)
Requirement already satisfied: scipy in /usr/local/lib/python3.10/dist-packages (1.10.1)
Requirement already satisfied: contourpy>=1.0.1 in /usr/local/lib/python3.10/dist-packages (1.0.7)
Requirement already satisfied: cycler>=0.10 in /usr/local/lib/python3.10/dist-packages (0.11.0)
Requirement already satisfied: fonttools>=4.22.0 in /usr/local/lib/python3.10/dist-packages (4.39.3)
Requirement already satisfied: kiwisolver>=1.0.1 in /usr/local/lib/python3.10/dist-packages (1.4.4)
Requirement already satisfied: packaging>=20.0 in /usr/local/lib/python3.10/dist-packages (23.1)
Requirement already satisfied: pillow>=6.2.0 in /usr/local/lib/python3.10/dist-packages (8.4.0)
Requirement already satisfied: pyparsing>=2.3.1 in /usr/local/lib/python3.10/dist-packages (3.0.9)
Requirement already satisfied: dateutil>=2.7 in /usr/local/lib/python3.10/dist-packages (2.8.2)
Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.10/dist-packages (1.16.0)
```

```
ipl.head(1)
```

	id	City	Date	Season	MatchNumber	Team1	Team2	Venue	TossWinner	TossDecision	SuperOver	WinningTeam	WonBy	Margin	method	Player_of_Match	TeamOne	TeamTwo	TeamBattiFirst	TeamBallFirst
0	335982	Bangalore	2008-04-18	2008	1	Royal Challengers Bangalore	Kolkata Knight Riders	M Chinnaswamy Stadium	Royal Challengers Bangalore	field	N	Royal Challengers Bangalore	runs	140	NaN	BB McCullum	Royal Challengers Bangalore	Kolkata Knight Riders	Royal Challengers Bangalore	Kolkata Knight Riders

```
ipl.shape
```

```
(12095, 20)
```

Finding That Top 3 Team who won as a First Batter

```
temp = ipl[ipl['TossWinner'] == ipl['Team1'] & (ipl['TossWinner'] == ipl['WinningTeam'])].sort_values('id',ascending=False)
a = temp['WinningTeam'].head(3)
p = list(temp['WinningTeam'].head(3))
```

```
plt.figure(figsize=(8,6))
sns.countplot(x='WinningTeam',data=temp,order=p)
plt.xlabel('Name of Team',color='blue')
plt.ylabel('Number of Times Winning Toss',color='blue')
plt.title('Top 3 Team Statistics',color='red')
plt.show()
```

Winnig Percentage of top IPL teams after Batting first in a PIE chart

```
ipl = ipl[ipl['WinningTeam'].isin(p)]
```

```
ipl.shape
```

```
(1025, 20)
```

```
ipl['WinningTeam'].value_counts()
```

```
Mumbai Indians                 120
Chennai Super Kings            121
Kolkata Knight Riders          122
Royal Challengers Bangalore    140
Rajasthan Royals               150
Kings XI Punjab                 96
Delhi Capitals                  98
Delhi Daredevils                99
Sunrisers Hyderabad             53
Deccan Chargers                 29
Gujarat Lions                   15
Pune Warriors                   12
Kochi Tuskers Kerala            11
Rising Pune Supergiant          10
Lucknow Super Giants            10
Gujarat Titans                  10
Rising Pune Supergiants          6
Deccan Blues                     5
Name: WinningTeam, dtype: int64
```

```
temp = ipl[ipl['WinningTeam'].value_counts()
```

```
temp.shape
```

```
(15,)
```

```
temp.value_counts()
```

```
1    15
Name: count, dtype: int64
```

```
plt.figure(figsize=(8,6))
plt.pie(temp,labels=temp.index,autopct='%1.1f%%')
plt.title('Winnig Percentage of IPL teams after Batting first in a PIE chart',color='blue')
plt.show
```

```
ipl.iloc[ipl['Player_of_Match'].value_counts().head(1)
```

```
Player_of_Match
AB de Villiers    25
CH Gayle          20
SK Raina          20
Name: count, dtype: int64
```

```
p = list(ipl)
```

```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19]
```

```
p = ipl[ipl.Match]
```

```
[0rows x 20 columns]
```

```
temp = ipl[ipl['Player_of_Match'] == 'SR Watson'].sort_values('id',ascending=False)
a = temp['WinningTeam'].head(3)
p = list(temp['WinningTeam'].head(3))
```

```
plt.figure(figsize=(8,6))
sns.countplot(x='WinningTeam',data=temp,order=p)
plt.xlabel('Name of Team',color='blue')
plt.ylabel('Number of Times Winning Toss',color='blue')
plt.title('Top 3 Team Statistics',color='red')
plt.show()
```

No of matches played each season

```
ipl.Season.value_counts()
```

```
Season
2012    74
2013    76
2014    76
2015    76
2016    76
2017    59
2018    60
2019    60
2020    60
2021    60
2022    74
2008    58
2009    57
2010    60
2011    73
Name: count, dtype: int64
```

```
ipl[ipl.'Match'].value_counts()
```

```
Series([], Name: Match, dtype: int64)
```

```
Eden Gardens                                    11
Wankhede Stadium                                10
M Chinnaswamy Stadium                           10
Feroz Shah Kotla                                 9
Rajiv Gandhi International Stadium, Uppal        9
Sawai Mansingh Stadium                           8
Sawai Mansingh Stadium                           8
Punjab Cricket Association Stadium               8
Punjab Cricket Association Stadium, Mohali       7
Dr DY Patil Sports Academy                       7
Brabourne Stadium                                7
Sharjah Cricket Stadium                          7
Dr DY Patil Sports Academy, Mumbai               6
Sharjah Cricket Stadium                          6
Dubai International Cricket Stadium              6
Eden Gardens                                     6
Rajiv Gandhi International Stadium, Uppal        6
M Chinnaswamy Stadium                            5
M. A. Chidambaram Stadium                        5
Maharashtra Cricket Association Stadium          5
Saurashtra Cricket Association Stadium           5
Punjab Cricket Association IS Bindra Stadium, Mohali  5
Punjab Cricket Association IS Bindra Stadium, Mohali  4
M Chinnaswamy Stadium, Chinnaswamy               4
Punjab Cricket Association Stadium               4
Brabourne Stadium                                4
Eden Gardens                                     4
Dr DY Patil Sports Academy                       4
Maharashtra Cricket Association Stadium          4
New Wanderers Stadium                            4
Sheikh Zayed Stadium, Abu Dhabi                  4
Sk Jaisingh Stadium                              4
Narendra Modi Stadium, Ahmedabad                 4
Kingsmead                                        4
Holkar Cricket Stadium                           4
Kingsmead                                        3
Shaheed Veer Narayan Singh International Stadium 3
Kingsmead                                        3
Green Park                                       3
Punjab Cricket Association Stadium, Mohali       3
Vidarbha Cricket Association Stadium, Jamtha     3
Feroz Shah Kotla                                 3
Kingsmead                                        3
Sawai Mansingh Stadium                           3
Wankhede Stadium                                 3
Sharjah Cricket Stadium                          3
Name: count, dtype: int64
```

```
ipl.iloc[ipl['Venue'].value_counts()
```

```
Series([], Name: Venue, dtype: int64)
```

```
Eden Gardens                                    11
Wankhede Stadium                                10
M Chinnaswamy Stadium                           10
Feroz Shah Kotla                                 9
Rajiv Gandhi International Stadium, Uppal        9
Sawai Mansingh Stadium                           8
Sawai Mansingh Stadium                           8
Punjab Cricket Association Stadium               8
Punjab Cricket Association Stadium, Mohali       7
Dr DY Patil Sports Academy                       7
Brabourne Stadium                                7
Sharjah Cricket Stadium                          7
Dr DY Patil Sports Academy, Mumbai               6
Sharjah Cricket Stadium                          6
Dubai International Cricket Stadium              6
Eden Gardens                                     6
Rajiv Gandhi International Stadium, Uppal        6
M Chinnaswamy Stadium                            5
M. A. Chidambaram Stadium                        5
Maharashtra Cricket Association Stadium          5
Saurashtra Cricket Association Stadium           5
Punjab Cricket Association IS Bindra Stadium, Mohali  5
Punjab Cricket Association IS Bindra Stadium, Mohali  4
M Chinnaswamy Stadium, Chinnaswamy               4
Punjab Cricket Association Stadium               4
Brabourne Stadium                                4
Eden Gardens                                     4
Dr DY Patil Sports Academy                       4
Maharashtra Cricket Association Stadium          4
New Wanderers Stadium                            4
Sheikh Zayed Stadium, Abu Dhabi                  4
Sk Jaisingh Stadium                              4
Narendra Modi Stadium, Ahmedabad                 4
Kingsmead                                        4
Holkar Cricket Stadium                           4
Kingsmead                                        3
Shaheed Veer Narayan Singh International Stadium 3
Kingsmead                                        3
Green Park                                       3
Punjab Cricket Association Stadium, Mohali       3
Vidarbha Cricket Association Stadium, Jamtha     3
Feroz Shah Kotla                                 3
Kingsmead                                        3
Sawai Mansingh Stadium                           3
Wankhede Stadium                                 3
Sharjah Cricket Stadium                          3
Name: count, dtype: int64
```

```
ipl.shape
```

```
(12095, 20)
```

```
ipl.iloc[ipl['Season'].value_counts()
```

```
Series([], Name: Season, dtype: int64)
```

```
2012    74
2013    76
2014    76
2015    76
2016    76
2017    59
2018    60
2019    60
2020    60
2021    60
2022    74
2008    58
2009    57
2010    60
2011    73
Name: count, dtype: int64
```

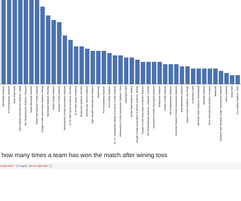
```
ipl.head(1)
```

	id	City	Date	Season	MatchNumber	Team1	Team2	Venue	TossWinner	TossDecision	SuperOver	WinningTeam	WonBy	Margin	method	Player_of_Match	TeamOne	TeamTwo	TeamBattiFirst	TeamBallFirst
0	335982	Bangalore	2008-04-18	2008	1	Royal Challengers Bangalore	Kolkata Knight Riders	M Chinnaswamy Stadium	Royal Challengers Bangalore	field	N	Royal Challengers Bangalore	runs	140	NaN	BB McCullum	Royal Challengers Bangalore	Kolkata Knight Riders	Royal Challengers Bangalore	Kolkata Knight Riders

```
ipl.shape
```

```
(12095, 20)
```

Find out how many times a team has won the match after wining toss

```
ipl.iloc[ipl['TossWinner'] [true]['WinningTeam']]
```

```
Series([], dtype: object)
```