```
In [1]:    #Loading the required libraries
           import pandas as pd
           import numpy as np
           import matplotlib.pyplot as plt
           %matplotlib inline
           import seaborn as sns
           sns.set(color_codes=True)
```

```
In [3]:    #Loading the ipl matches dataset
           ipl=pd.read_csv("ipl data.csv")
```

```
In [4]:    #having a glance at the first five records of the dataset
           ipl.head()
```

Out[4]:

	id	season	city	date	team1	team2	toss_winner	toss_decision	result	dl_applied	
0	1	2017	Hyderabad	2017-04-05	Sunrisers Hyderabad	Royal Challengers Bangalore	Royal Challengers Bangalore	field	normal	0	Su Hyd
1	2	2017	Pune	2017-04-06	Mumbai Indians	Rising Pune Supergiant	Rising Pune Supergiant	field	normal	0	Risin Sup
2	3	2017	Rajkot	2017-04-07	Gujarat Lions	Kolkata Knight Riders	Kolkata Knight Riders	field	normal	0	
3	4	2017	Indore	2017-04-08	Rising Pune Supergiant	Kings XI Punjab	Kings XI Punjab	field	normal	0	K
4	5	2017	Bangalore	2017-04-08	Royal Challengers Bangalore	Delhi Daredevils	Royal Challengers Bangalore	bat	normal	0	Chall Bar

```
In [5]:    #Looking at the number of rows and columns in the dataset
           ipl.shape
```

Out[5]:   (756, 18)

```
In [6]:    #Getting the frequency of most man of the match awards
           ipl['player_of_match'].value_counts()
```

```
Out[6]:    CH Gayle          21
           AB de Villiers    20
           RG Sharma         17
           MS Dhoni          17
           DA Warner         17
                             ..
           PD Collingwood     1
           NV Ojha            1
           AC Voges           1
           J Theron           1
           S Hetmyer          1
           Name: player_of_match, Length: 226, dtype: int64
```

```
In [7]:    #Getting the top 10 players with most man of the match awards
```

```python
ipl['player_of_match'].value_counts()[0:10]
```

Out[7]:
```
CH Gayle           21
AB de Villiers     20
RG Sharma          17
MS Dhoni           17
DA Warner          17
YK Pathan          16
SR Watson          15
SK Raina           14
G Gambhir          13
MEK Hussey         12
Name: player_of_match, dtype: int64
```
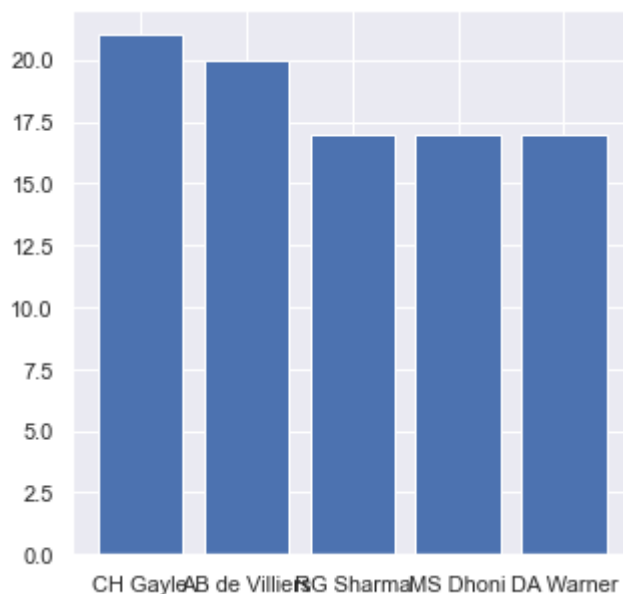
In [8]:
```python
#Getting the top 5 players with most man of the match awards
ipl['player_of_match'].value_counts()[0:5]
```

Out[8]:
```
CH Gayle           21
AB de Villiers     20
RG Sharma          17
MS Dhoni           17
DA Warner          17
Name: player_of_match, dtype: int64
```

In [31]:
```python
list(ipl['player_of_match'].value_counts()[0:5].keys())
```

Out[31]:
```
['CH Gayle', 'AB de Villiers', 'RG Sharma', 'MS Dhoni', 'DA Warner']
```

In [10]:
```python
#making a bar-plot for the top 5 players with most man of the match awards
plt.figure(figsize=(5,5))
plt.bar(list(ipl['player_of_match'].value_counts()[0:5].keys()),list(ipl['player_of_m
plt.show()
```


In [11]:
```python
#Getting the frequency of result column
ipl['result'].value_counts()
```

Out[11]:
```
normal        743
tie             9
no result       4
Name: result, dtype: int64
```

In [12]:
```python
#Finding out the number of toss wins w.r.t each team
ipl['toss_winner'].value_counts()
```

```
Mumbai Indians                 98
```

```
Out[12]:  Kolkata Knight Riders          92
          Chennai Super Kings            89
          Royal Challengers Bangalore    81
          Kings XI Punjab                81
          Delhi Daredevils               80
          Rajasthan Royals               80
          Sunrisers Hyderabad            46
          Deccan Chargers                43
          Pune Warriors                  20
          Gujarat Lions                  15
          Delhi Capitals                 10
          Kochi Tuskers Kerala            8
          Rising Pune Supergiants         7
          Rising Pune Supergiant          6
          Name: toss_winner, dtype: int64
```

In [13]:
```python
#Extracting the records where a team won batting first
batting_first=ipl[ipl['win_by_runs']!=0]
```

In [14]:
```python
#Looking at the head
batting_first.head()
```
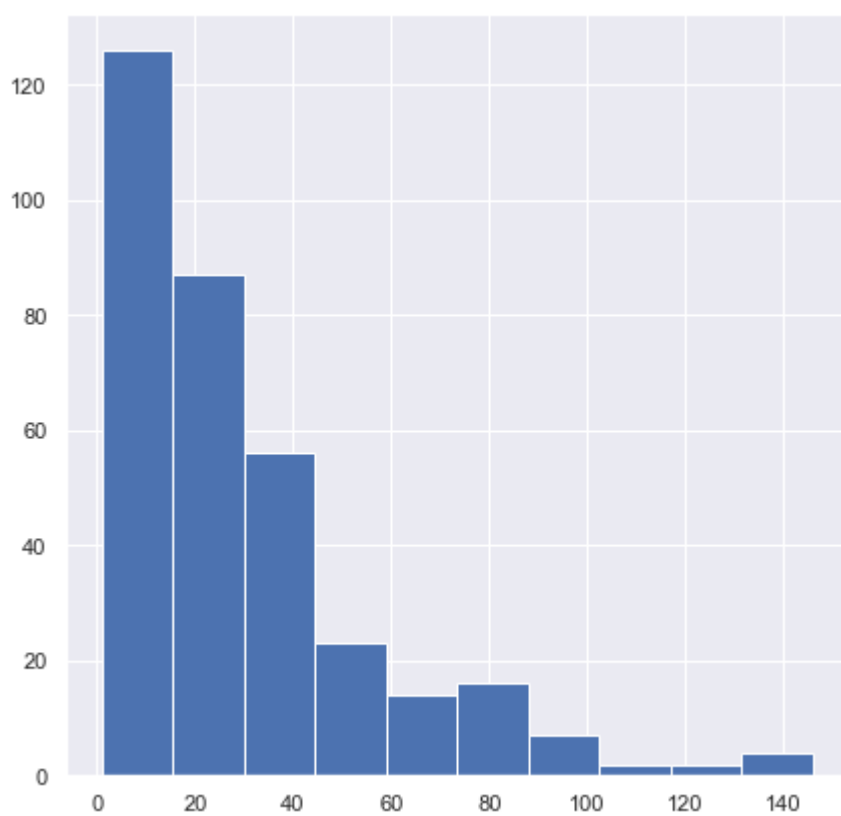
Out[14]:

	id	season	city	date	team1	team2	toss_winner	toss_decision	result	dl_applied	
0	1	2017	Hyderabad	2017-04-05	Sunrisers Hyderabad	Royal Challengers Bangalore	Royal Challengers Bangalore	field	normal	0	S Hy
4	5	2017	Bangalore	2017-04-08	Royal Challengers Bangalore	Delhi Daredevils	Royal Challengers Bangalore	bat	normal	0	Cha B
8	9	2017	Pune	2017-04-11	Delhi Daredevils	Rising Pune Supergiant	Rising Pune Supergiant	field	normal	0	D
13	14	2017	Kolkata	2017-04-15	Kolkata Knight Riders	Sunrisers Hyderabad	Sunrisers Hyderabad	field	normal	0	
14	15	2017	Delhi	2017-04-15	Delhi Daredevils	Kings XI Punjab	Delhi Daredevils	bat	normal	0	D

In [15]:
```python
#Making a histogram
plt.figure(figsize=(7,7))
plt.hist(batting_first['win_by_runs'])
```

Out[15]:
```
(array([126.,  87.,  56.,  23.,  14.,  16.,   7.,   2.,   2.,   4.]),
 array([  1. ,  15.5,  30. ,  44.5,  59. ,  73.5,  88. , 102.5, 117. ,
        131.5, 146. ]),
 <BarContainer object of 10 artists>)
```
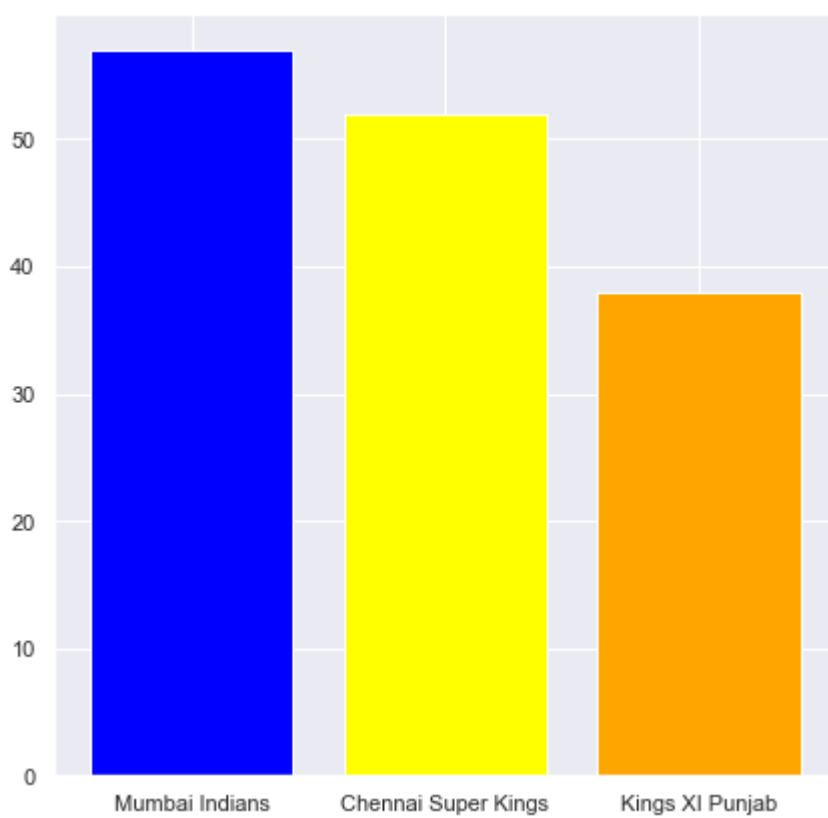
```python
#Finding out the number of wins w.r.t each team after batting first
batting_first['winner'].value_counts()
```

Out[16]:
```
Mumbai Indians                57
Chennai Super Kings           52
Kings XI Punjab               38
Kolkata Knight Riders         36
Royal Challengers Bangalore   35
Sunrisers Hyderabad           30
Rajasthan Royals              27
Delhi Daredevils              25
Deccan Chargers               18
Pune Warriors                  6
Rising Pune Supergiant         5
Delhi Capitals                 3
Kochi Tuskers Kerala           2
Rising Pune Supergiants        2
Gujarat Lions                  1
Name: winner, dtype: int64
```
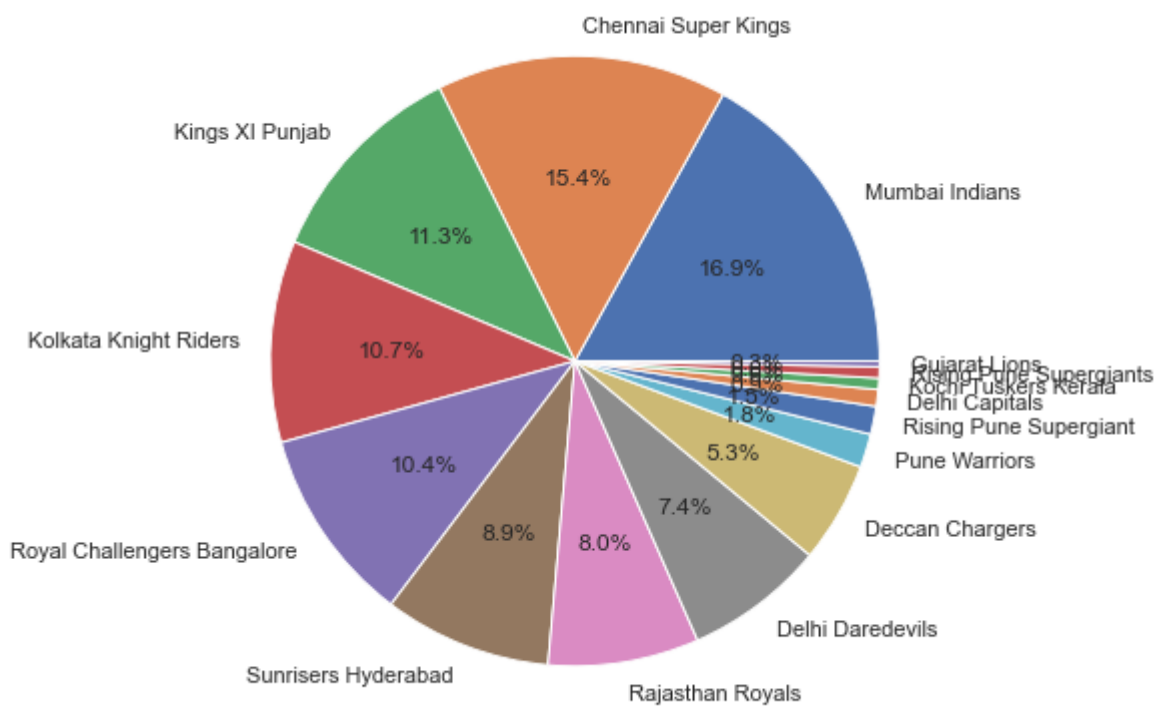
In [17]:
```python
#Making a bar-plot for top 3 teams with most wins after batting first
plt.figure(figsize=(7,7))
plt.bar(list(batting_first['winner'].value_counts()[0:3].keys()),list(batting_first['
```

Out[17]: <BarContainer object of 3 artists>

```python
#Making a pie chart
plt.figure(figsize=(7,7))
plt.pie(list(batting_first['winner'].value_counts()),labels=list(batting_first['winne
plt.show()
```


In [20]:

```python
#extracting those records where a team has won after batting second
batting_second=ipl[ipl['win_by_wickets']!=0]
```

In [21]:

```python
#looking at the head
batting_second.head()
```
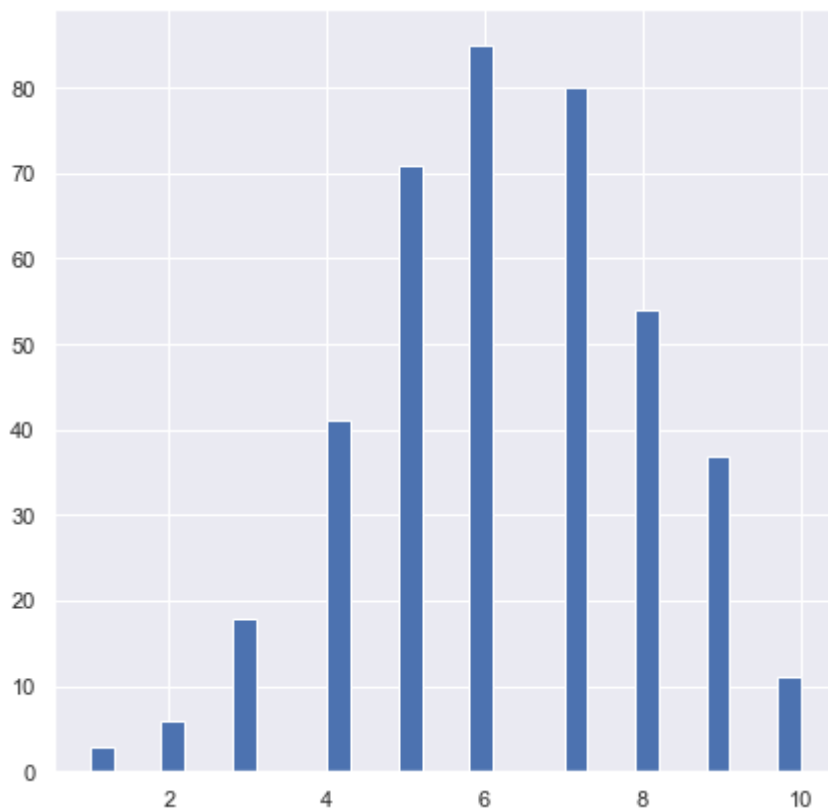
Out[21]:

	id	season	city	date	team1	team2	toss_winner	toss_decision	result	dl_applied	wi
1	2	2017	Pune	2017-	Mumbai	Rising	Rising Pune	field	normal	0	R

				04-06	Indians	Pune Supergiant	Supergiant				Super
2	3	2017	Rajkot	2017-04-07	Gujarat Lions	Kolkata Knight Riders	Kolkata Knight Riders	field	normal	0	Ko K R
3	4	2017	Indore	2017-04-08	Rising Pune Supergiant	Kings XI Punjab	Kings XI Punjab	field	normal	0	Kin Pu
5	6	2017	Hyderabad	2017-04-09	Gujarat Lions	Sunrisers Hyderabad	Sunrisers Hyderabad	field	normal	0	Sun Hyder
6	7	2017	Mumbai	2017-04-09	Kolkata Knight Riders	Mumbai Indians	Mumbai Indians	field	normal	0	Mu Ind

In [23]:

```python
#Making a histogram for frequency of wins w.r.t number of wickets
plt.figure(figsize=(7,7))
plt.hist(batting_second['win_by_wickets'],bins=30)
plt.show()
```

In [24]:

```python
#Finding out the frequency of number of wins w.r.t each time after batting second
batting_second['winner'].value_counts()
```

Out[24]:
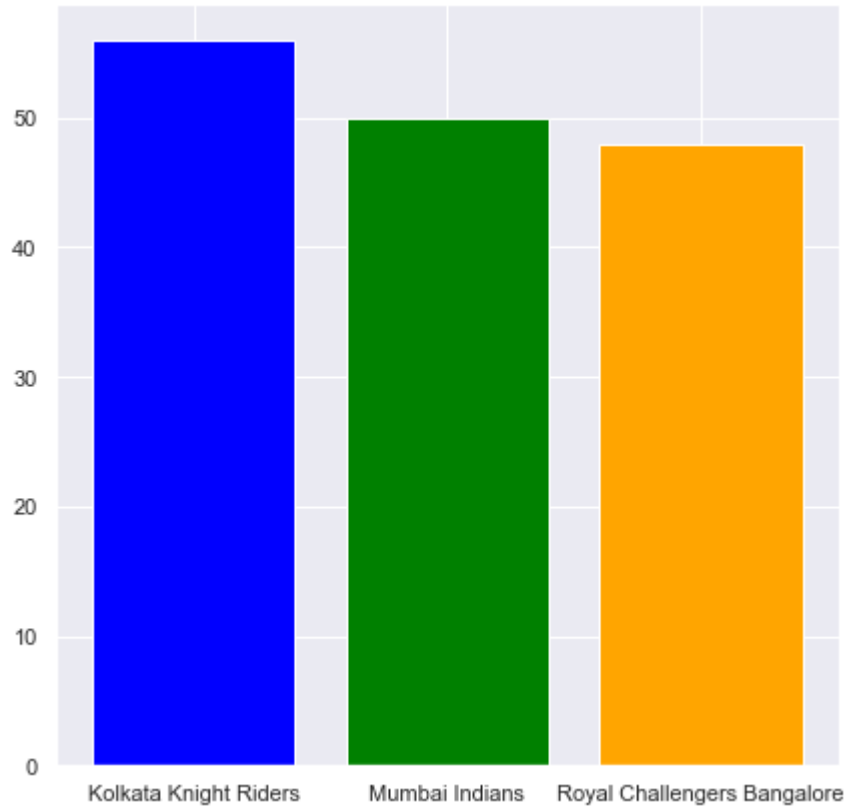
```
Kolkata Knight Riders          56
Mumbai Indians                 50
Royal Challengers Bangalore    48
Chennai Super Kings            48
Rajasthan Royals               46
Kings XI Punjab                42
Delhi Daredevils               42
Sunrisers Hyderabad            27
Gujarat Lions                  12
Deccan Chargers                11
Pune Warriors                   6
```

```
Delhi Capitals                    6
Rising Pune Supergiant            5
Kochi Tuskers Kerala              4
Rising Pune Supergiants           3
Name: winner, dtype: int64
```
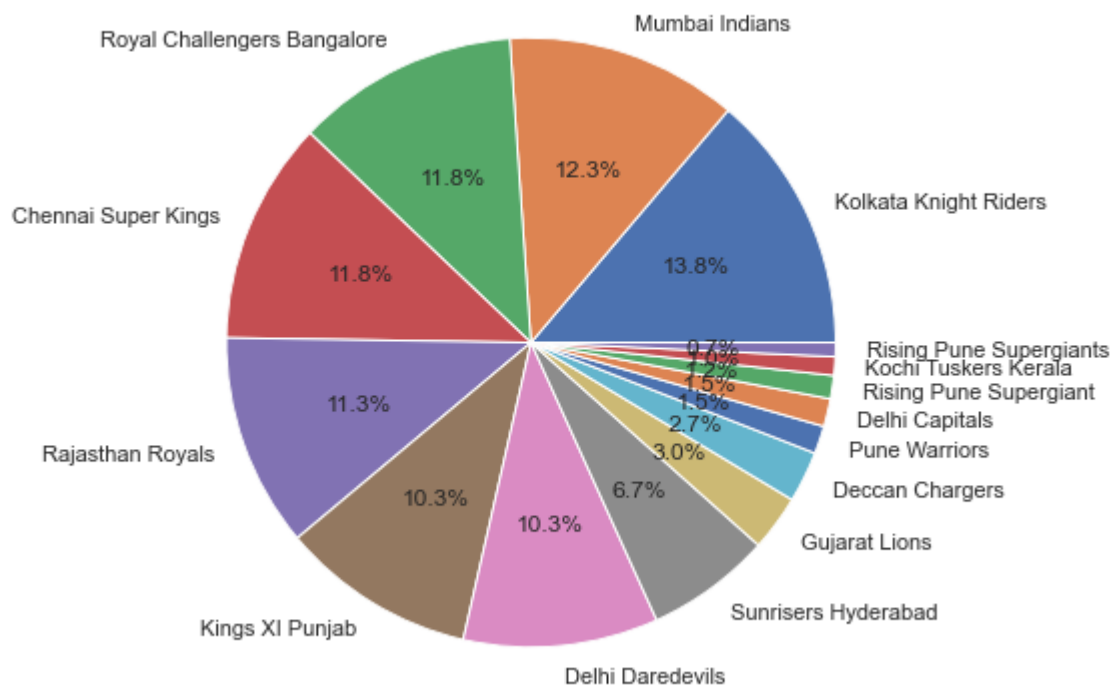
In [32]:
```python
#Making a bar plot for top-3 teams with most wins after batting second\n",
plt.figure(figsize=(7,7))
plt.bar(list(batting_second['winner'].value_counts()[0:3].keys()),list(batting_second
plt.show()
```


In [25]:
```python
#Making a pie chart for distribution of most wins after batting second
plt.figure(figsize=(7,7))
plt.pie(list(batting_second['winner'].value_counts()),labels=list(batting_second['win
plt.show()
```

```
In [26]:    #Looking at the number of matches played each season
            ipl['season'].value_counts()

Out[26]:    2013    76
            2012    74
            2011    73
            2010    60
            2014    60
            2016    60
            2018    60
            2019    60
            2017    59
            2015    59
            2008    58
            2009    57
            Name: season, dtype: int64

In [27]:    #Looking at the number of matches played in each city
            ipl['city'].value_counts()

Out[27]:    Mumbai            101
            Kolkata            77
            Delhi              74
            Bangalore          66
            Hyderabad          64
            Chennai            57
            Jaipur             47
            Chandigarh         46
            Pune               38
            Durban             15
            Bengaluru          14
            Visakhapatnam      13
            Centurion          12
            Ahmedabad          12
            Rajkot             10
            Mohali             10
            Indore              9
            Dharamsala          9
            Johannesburg        8
            Cuttack             7
            Ranchi              7
            Port Elizabeth      7
            Cape Town           7
            Abu Dhabi           7
            Sharjah             6
            Raipur              6
            Kochi               5
            Kanpur              4
            Nagpur              3
            Kimberley           3
            East London         3
            Bloemfontein        2
            Name: city, dtype: int64

In [28]:    #Finding out how many times a team has won the match after winning the toss
            import numpy as np
            np.sum(ipl['toss_winner']==ipl['winner'])

Out[28]:    393

In [29]:    393/756

Out[29]:    0.5198412698412699

In [ ]:
```